

Table A-6 List of geological maps around mineral occurrences of the survey area

Index No.	No. of Mineral Occurrences	Original title of the map (in Mongolian or Russian)	Name of the area (in English)	Scale	Published Year	Remarks
3-1	1	Геологический атлас района Замар Хүдрийн Зангилаа (М)	Zaamar ore knot (Sundal N177)	1:50,000	1994	in Mongolian
3-2	1	Хүдэр Агуулагч Бичигтийн Баулаан Э нгэрийн Бүс	Bichigt and Ulaan enger	1:50,000	1994	in Mongolian
3-3	1	Геологийн Зураг: Заамарын Дүүрэг	Zaamar	1:50,000	unknown	
3-4	1	Геологийн Зураг: Хүдэр Агуулагч Цагаа н Чулуутын Бүс	Tsagaan chuluut	1:5,000	1994	in Mongolian
3-5	1	Геологийн Зураг: Нарийн Голын Алтны Хү дрийн Талбай	Naringol	1:10,000	1994	in Mongolian
3-6	1	Геологийн Зураг: Хүдэр Агуулагч Дэл Сү длын Бүс	Ore bearing dyke zone	1:10,000	1994	in Mongolian
3-7	1	Геологийн Зураг: Нарийн Голын Алтны Хү дрийн Талбай	Naringol gold field	1:10,000	unknown	in Mongolian
3-8	1	Нарийн Голын Алтны Хүдрийн Талбайд 1992-1993 Онуудад Явуулсан Зрлийн Ажлын ур Дүнгийн Тайлан	Naringol gold ore field's result	1:10,000	1994	in Mongolian
3-9	2	Учаасток Учээйтү-обо: Схематическая Геологическая Карта	Uljzit ovoo	1:10,000	1987	in Russian
3-10	4	Учаасток Оуут-Хонхор: Схематическая Г еологическая Карта	Ouyt-Khonkhor	1:10,000	1987	in Russian
3-11	8	Участка Могойи-гол: МГ и ГРПНР Мурэн ая Карта	Mogoin gol	1:5,000	unknown	in Russian
3-12	8	Эрдэнтуйнског Рудный Район, Учаск а Могойи-гол: Схематическая Геологич еская Карта	Mogoin gol	1:25,000	1981	in Russian
3-13	9	Результаты Наземных Геолого-Геофиз ических Работ На Учаске Холбо-Обо	Kholboo ovoo	1:10,000	1990	in Russian
3-14	10	Схематическая Геологическая Карта: Участка г. Хо-Улаан-Ула	Kho-ulaan	1:10,000	1974	in Russian
3-15	11	Схематическая Геологическая Карта/ Геолого-Геофизические Разрезы: Учас тк Цэосоту-Тологой	Zost tolgoi	1:10,000	1984	in Russian
3-16	12	Схематическая Геологическая Карта Р удпроявления Меди Яргаит	Yargait	1:10,000	1984	in Russian
3-17	13	Схематическая Геологическая Карта: Участка Донхор-булак	Donkhor bulag	1:10,000	1974	in Russian
3-18	14	Схематическая Геологическая Карта: Молибденовго Рудопроявления "Алтга	Altgana gol	1:5,000	1986	in Russian
3-19	17	Схематический Геологический План: У частка "Дэлгэр-ул"	Delger uul	不明	1986	in Russian

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Index No.	No. of Mineral Occurrences	Original title of the map (in Mongolian or Russian)	Name of the area (in English)	Scale	Published Year	Remarks
3-20	18	МГИ ГРП МНР: Муренская Геологосъемочная Зкспедиция Геологический План: Участка "Кварцевый"	Quartz	1:10,000	1982	in Russian
3-21	19	МГИ ГРП МНР: Муренская Геологосъемочная Зкспедиция Схематический Геологический План и План Опробования Горных Выработок Участка "Скарновы"	Skarn	1:500	unknown	in Russian
3-22	20	Геологическая Карта, Свинцоворудное Местоорождения, Хурилту Гол	Khurilty gol	1:200,000	1942	in Russian
3-23	24	Салхитын Голын Алт-Сульфидын Илрэлийн Геологийн Тойм Зураг	Salkhitiin gol	1:250,000	unknown	in Russian
3-24	27	Монголо-Советская Геологическая Экспедиция "Дархан" Сайхайская Карта	Zairan	1:10,000	1987	in Russian
3-25	29	Схематическая Геологическая Карта: Участка "Бургэд Кяр"	Burged khyar	1:10,000	1990	in Russian
3-26	30	unknown	Urmiin tsagaan nuur	1:10,000	unknown	in Russian
3-27	32	Схематическая Геологическая Карта: Участка "Унбрах"	Undrakh	1:10,000	1990	in Russian
3-28	33	Схематический Карта: Кварцевой Жилы Врайоне	Tsookhor morit	1:500/1:1,000	unknown	in Russian
3-29	34	Схематическая Геологическая Карта: Участка "Джасаны Буц"	Zhassin buurts	1:10,000	1982	in Russian
3-30	35	Схематическая Геологическая Карта: Результаты татамц Пойскбых Работ: Участка Харуул	Khar uul	1:10,000	1990	in Russian
3-31	38	Схематическая Геологическая Карта: Участок Хучжирыйн	Khujirin gol	1:25,000	1985	in Russian
3-32	39	Участок Цзоухын	Zhuukhiin gol	1:10,000	1985	in Russian
3-33	42	unknown	Tourmaline	1:10,000	unknown	in Russian
3-34	43	unknown	Under	1:10,000	unknown	in Russian
3-35	43	Эрдэнэтский Рудный Район Участок Болотный: Схематическая Геологическая Карта С Результаты татами Пойсковых Работ	Under/bolotni	1:25,000	1981	in Russian
3-36	44	unknown	Shand	1:10,000	1981	in Russian
3-37	45	Местоорождение Эрдэнтуин-Обо Участок Оюут: Схематическая Геологическая	Ouyt	1:2,000	1985	in Russian

Table A-7 List of geological, geochemical, and geophysical maps around the Erdenet mine

Index No.	Original title of the map (in Russian)	Name of the area (in English)	Kind of the map	Scale	Published Year
4-1	Геологическая Карта: У частк а Хучжирыйн-Централ ьный	Hujirjin Gol	Geology (central)	1:5,000	1990
4-2	У часток Хучжирыйн: Схематическая Геологическая Карта	Hujirjin Gol	Geology	1:10,000	1985
4-3	У часток Хучжирыйн: Схематическая Геологическая Карта	Hujirjin Gol	Geology	1:25,000	1985
4-4	У часток Хучжирыйн: Карта Аномалий Свинца, Цинка и Серебра	Hujirjin Gol	Geochemical anomaly (Pb, Zn, Ag)	1:25,000	1985
4-5	У часток Хучжирыйн: Карта Полей Величин Мультипликати вного Показателя и Коэффициента Зональности	Hujirjin Gol	Geochemical association and coefficient zonation	1:25,000	1985
4-6	У часток Хучжирыйн: Карта Аномалий Меди и Молибдена	Hujirjin Gol	Geochemical anomaly (Cu, Mo)	1:25,000	1985
4-7	У часток Хучжирыйн: Карта Аномалий Меди и Молибдена	Hujirjin Gol	Geochemical anomaly (Cu, Mo)	1:10,000	1985
4-8	У часток Хучжирыйн: Карта Аномалий Свинца, Цинка и Серебра	Hujirjin Gol	Geochemical anomaly (Pb, Zn, Ag)	1:10,000	1985
4-9	У часток Хучжирыйн: Карта Полей Величин Мультипликати вного Показателя и Коэффициента Зональности	Hujirjin Gol	Geochemical association and coefficient zonation	1:10,000	1985
4-10	У часток Хучжирыйн: Геологические (unknown) Профилям II-I	Hujirjin Gol	Geological section (I-I line, II - II line)	1:2,000	1985
4-11	У часток Шанд: Схематическая Геологическая Карта	Shand	Geology	1:25,000	1985
4-12	У часток Шанд: Карта Фактического Материала	Shand	Actual material	1:25,000	1985
4-13	У часток Шанд: Результаты Геофизических Работ Методом ВП-СГ, Магниторазведки	Shand	IP (B П-С Г method) & magnetics	1:10,000	1985
4-14	У часток Шанд: Результаты Электроразведочных Работ Методом ВЭЗ-ВП	Shand	IP (B ЭЗ-В П method), η К isoline & ρ К isoline	1:10,000	1985
4-15	Рудопроявление Шанд: Схематическая Геологическая Карта, Разрез по Линиям I, II, III, IV	Shand	Geology & Geological section (I-I line, II - II line, III - III line, IV - IV line)	1:5,000/1:2,000	1985
4-16	У часток Цзалугийн: I. Карта Фактического Материала II. Схематическая Геологическая Карта	Zaluu	Geology	1:25,000	1985
4-17	У часток Цзалугийн: Карта Полей Величин Мультипликати вного Показателя и Коэффициента Зональности	Zaluu	Geochemical association and coefficient zonation	1:25,000	1985
4-18	У часток Цзалугийн: Результаты Геофизических Работ Методом Домбацэрин: I. Карта Фактического Материала II. Схематическая Геологическая Карта	Zaluu	IP (B П-С Г method) & magnetics	1:25,000	1985
4-19	У часток Домбацэрин: I. Карта Фактического Материала II. Схематическая Геологическая Карта	Dambasteren	Geology	1:25,000	1985
4-20	У часток Халиун: Схематическая Геологическая Карта и Карта Фактического Материала	Haliun	Geology	1:25,000	1985
4-21	У часток Халиун: Результаты Геофизических Работ Методом ВП-СГ, Магниторазведки	Haliun	IP (B П-С Г method) & magnetics	1:25,000	1985
4-22	У часток Ингэтуин: I. Карта Литохимического Опробования II. Карта Аномалий Меди и Молибдена	Inget	Litho-geochemical sampling and anomaly (Cu, Mo)	1:25,000	1985
4-23	У часток Ингэтуин: I. Карта Аномалий Свинца, Цинка и Серебра II. Карта Полей Величин Мультипликативного Показателя и Коэффициента Зональности	Inget	Geochemical anomaly (Pb, Zn, Ag) & geochemical association and coefficient zonation	1:25,000	1985
4-24	У часток Ингэтуин: Результаты Геофизических Работ Методом ВП-СГ, Магниторазведки	Inget	IP (B П-С Г method) & magnetics	1:25,000	1985
4-25	У часток Турмалиновья: I. Карта Фактического Материала II. Схематическая Геологическая Карта	Tourmaline	Geology	1:25,000	1985
4-26	У часток Турмалиновья: Схематическая Геологическая Карта Аномалий ВП-СГ, Магниторазведки	Tourmaline	Geology, η К-В П anomaly & section by drillings	1:2,000	1985
4-27	У часток Турмалиновья: Результаты Геофизических Работ Методом ВП-СГ, Магниторазведки	Tourmaline	IP (B П-С Г method) & magnetics	1:25,000	1985
4-28	У часток Могойи: Схема Геологического Строения, План Из олений Кажущейся Поляризуемости (лр), План Из олений Кажущейся Удельной Сопротивляемости (рк), План Графиков (лр) и Коэффициента Зональности	Mogoin	Geological structure & IP (η К, ρ К)	1:10,000	1985
4-29	У часток Турмалиновья и Могойн: Результаты Электроразведочных Работ Методом ВЭЗ-ВП	Tourmaline & Mogoi	IP (B ЭЗ-В П method)	1:10,000	1985
4-30	У часток Могойн: Карта Аномалий: I. Cu, Mo; II. Pb, Zn, Ag; III. Карта Полей Величин Мультипликативного Показателя и Коэффициента Зональности	Mogoin	Geochemical anomaly (I. Cu, Mo; II. Pb, Zn, Ag) & geochemical association and coefficient zonation	unknown	1985

* Descriptions of all the maps are written in Russian.

Table A-7 List of geological, geochemical, and geophysical maps around the Erdenet mine

Index No.	Original title of the map (in Russian)	Name of the area (in English)	Kind of the map	Scale	Published Year
4-31	Участок Цзоухуэй: Геологические Разрезы По Профилям 12	Zohiin	Geological section (Section 12, 9, 5)	1:2,000	1985
4-32	Участок Цзоухуэй: I. Карта Аномалий Меди и Молибдена, II. Карта Аномалий Свинца, Цинка и Серебра, III. Карта Полей Величин Мультипликативного Показателя Коэффициента Зональности	Zohiin	Geochemical anomaly (I. Cu, Mo; II. Pb, Zn, Ag) & geochemical association and coefficient zonation	1:25,000	1985
4-33	Участок Цзоухуэй: Результаты Электроразведочных Работ от Методом ВЭЗ-ВП	Zohiin	IP (ВЭЗ-ВП method)	1:10,000	1985
4-34	Участок Цаган-Чулууту: Результаты Геофизических Работ Методом ВП-СГ, Магниторазведки	Tsugaan Chuluut	IP (ВП-СГ method) & magnetics	1:25,000	1985
4-35	Участок Цаган-Чулууту: Карта Полей Величин Мультипликативного Показателя и Коэффициента Зональности	Tsugaan Chuluut	Geochemical association and coefficient zonation	1:25,000	1985
4-36	Северной Части, Эрдэнтуинского Рудного Района ВМНР: Геофизическая Карта	North of Erdenet Ovoo NW deposit	Geology	1:50,000	1973
4-37	Северной Части, Эрдэнтуинского Рудного Района ВМНР: Карта Результатов Литогеохимического Опробования	North of Erdenet Ovoo NW deposit	Litho-geochemical sampling	1:50,000	1973
4-38	Карта Фактического Материала По Поисковым Маршрутам	North of Erdenet Ovoo NW deposit	Actual data for geological prospecting	1:50,000	1973
4-39	Участок Цаган-Чулууту: Карта Фактического Материала, Схематическая Геологическая Карта	Tsugaan Chuluut	Actual data & geology	1:25,000	1985
4-40	Рудной Зоны Эрдэнтуин-обо ВМНР: Геологическая Карта	Erdenet Ovoo NW deposit	Geology	1:25,000	1973
4-41	Рудной Зоны Эрдэнтуин-обо ВМНР: Карта Изодинам Магнитного Поля (ΔZ)	Erdenet Ovoo NW deposit	Magnetics	1:25,000	1973
4-42	Северо-Западного Участка Месторождения Эрдэнэтийн-Овоо: Геологическая Карта	Erdenet Ovoo NW deposit	Geology (6 sets)	1:2,000	1988
4-43	Схематическая Геологическая Карта Района Работ	Erdenet Ovoo NW deposit	Geology	1:50,000	1988
4-44	Карта Изолиний ΔZ Эрдэнэтийн-Овоо Рудной Зоны	Erdenet Ovoo NW deposit	Magnetics (3 sets)	1:10,000	1988
4-45	Рудной Зоны Кажушейся Поляризуемости Эрдэнэтийн-Овоо	Erdenet Ovoo NW deposit	IP (3sets)	1:10,000	1988
4-46	Карта Изоом Кажушегося Сопротивления Эрдэнэтийн-Овоо Рудной Зоны	Erdenet Ovoo NW deposit	Resistivity (2sets)	1:10,000	1988
4-47	Карта Результатов Литохимического Опробования: Моноэлементные Аномалии Меди и Молибдена	Erdenet Ovoo NW deposit	Geochemical anomaly (Cu, Mo) (6 sets)	1:50,000	1985
4-48	Карта Результатов Литохимического Опробования: Моноэлементные Аномалии Свинца, Цинка, Серебра	Erdenet Ovoo NW deposit	Geochemical anomaly (Pb, Zn, Ag) (6 sets)	1:50,000	1985
4-49	Карта Результатов Литохимического Опробования: Мультипликативные Аномалии, Коэффициент Зональности	Erdenet Ovoo NW deposit	Geochemical association and coefficient zonation (6 sets)	1:50,000	1985

* Descriptions of all the maps are written in Russian.

Table A-8 List of geophysical surveys of the survey area

	1	2	3
1	Number	4788	4622
2	Report number	5031	4622
3	Area	M-48-67AB,66AB,65B,56C,55CD,54CD;	M-48-104-B,C,D.
4	Coordinate		
5	Year of the survey	1994-1996	1990-1992
6	Method	Vertical electrical sounding (80 point's).	Magnetic survey, Induced polarization, Vertical electrical sounding.
7	specification	Geological mapping (at scale 1:50,000).	Geological mapping (at scale 1:50,000).
8	Objective	Determine the depth of the Quaternary sediments.	Select prospective fields.
9	Results	Made the 10 geological section of the Quaternary sediments.	Selected following fields Tsomt tolgoi, Tsagaan chuluut, Tumur tolgoi, Saitan, Tsats tolgoi.
10	Follow-up drillings	Non	Rotary percussion drilling.
11	Total length of drill hole		1466.2m.

	4	5	6
1	Number	4403	4633
2	Report number	4597	4633
3	Area	M-48-125-D,137,138, L-48-5-A,B.	M-47-82ACD,M-47-81CD,M-47-92BD,M-47-93,M-47-94,M-47-95AC;
4	Coordinate		
5	Year of the survey	1987-1991	1986-1991
6	Method	Vertical electrical sounding, route-magnetic and induced polarization, gamma-spectrometer, logging (magnetic, induced polarization, gamma).	Vertical electrical sounding, route-magnetic and induced polarization, gamma-spectrometer, logging (magnetic, induced polarization, gamma).
7	specification	Geological mapping (at scale 1:50,000).	Geological mapping (at scale 1:50,000).
8	Objective	Determine the deep of the Quaternary sediments.	Determine the depth of the Quaternary sediments.
9	Results	Made the geological section of the Quaternary sediments.	Made the geological section of the Quaternary sediments.
10	Follow-up drillings	Core drilling.	Core drilling.
11	Total length of drill hole	2,563m.	2,563m.

	7	8	9
1	Number	3979	3283
2	Report number	4428	3283
3	Area	M-47-77:B,D, M-47-78-A,B, M-47-98-B, M-47-90-A.	M-48-137-D,138-CD,139-AC,L-48-6-AB,7-A;
4	Coordinate		(103.00'-105.30')-(48.00'-49.40')
5	Year of the survey	1987-1989	1982-1985
6	Method	Magnetic, Vertical electrical sounding, Induced polarization survey (at scale 1:10,000).	Vertical electrical sounding, Self-potential, Electric-magnetic, Radiometric, Logging.
7	specification	Geological mapping (at scale 1:50,000).	Geological mapping (at scale 1:50,000).
8	Objective	Select prospective fields.	Select prospective fields.
9	Results	Selected following fields: Jinst, Tsagaan uul.	Selected Erdene(I.north-west, 2.central, 3.south-east), Tsagaan chuluut, Aguin davaa fields.
10	Follow-up drillings	Jinst(98.17°10'-98.22°30'x(49.33'20"-49.36'45"); Tsagaan uul(98.40'40"-98.44'30'x(49.52'15"-54'20"));	
11	Total length of drill hole	Core drilling.	Drilling.
12		Total 2,987m Tsagaan uul (11-16 holes, deep 90-210m), Jinst (1-10 holes, deep 45-150m).	2069.6m

Table A-8 List of geophysical surveys of the survey area

1	Number	10	11	12
2	Report number	2924	4552	605
3	Area	M-48-109-C		
4	Coordinate		(101.30'00"-106.00'00")X(49.15'00"-50.30'00")	(94.00'00"-98.00'00")X(48.30'00"-frontier)
5	Year of the survey	1977-1978	1986-1990	1952
6	Method	Magnetic, Vertical electrical sounding, electrical profiling, radiometer, natural electric field	Magnetic (at scale 1:10,000-1:5,000), Electric profiling (at scale 1:5,000), Vertical electrical sounding, Gamma spectrometer by the foot.	Aeroradiometer-Aeromagnetic survey at scale 1:50,000.
7	specification	Geological mapping (at scale 1:50,000).	Geological mapping (scale at 1:200,000).	Aerogeophysical survey at scale 1:50,000.
8	Objective	Select prospective fields.	Select prospective fields.	Select prospective fields.
9	Results	Selected following fields: Sarain bundii, Zun Orsog uul, Hustain oboo, Mogoin gol, Oshig uul, Huijin gol.	Selected following fields: 1. Ereen, 2. Duui gol, 3. Taagaan shar, 4. Uvur bayasgalan.	Selected following fields: 1. Bayan uul, 2. Ust nuur, 3. Oigon nuur, and not name's fields in the M-47-75-85-86-88.
10	Follow-up drillings	Drilling.	Drilling	No
11	Total length of drill hole	52.5m	7,121m.	
1	Number	13	14	15
2	Report number	2429	2432	2433
3	Area			
4	Coordinate	(45.20'00"-50.00'00")X(103.30'00"-109.00'00")	(102.00"-106.00")X(46.20"-50.20")	(92.00"-102.00")X(47.30"-fortier)
5	Year of the survey	1982	1983	1984
6	Method	Aerogeophysical survey (magnetic, gamma-ray spectrometer) at scale 1:200,000; auto gamma spectrometer, foot gamma spectrometer, electric profiling, magnetic survey (at scale 1:10,000), gamma logging.	Aerogeophysical survey (magnetic, gamma-ray spectrometer) at scale 1:200,000; Autogamma and foot gamma-spectrometer, electric profiling (at scale 1:10,000), gamma logging.	Aero gamma-spectrometer at scale 1:200,000, Autogamma and foot gamma-spectrometer, electric profiling (at scale 1:10,000).
7	specification	Aerogeophysical survey at scale 1:200,000.	Aerogeophysical survey at scale 1:200,000 (for Uranium).	Aerogeophysical survey at scale 1:200,000 (for Uranium).
8	Objective	Select prospective fields.	Select prospective fields.	Select prospective fields.
9	Results	did not select prospective fields.	Selected 18 aeromagnetic anomalies and 25 aeroradiometric anomalies.	Selected 8 ray anomalies and Dagin gol, Bayar, Sui, Songin, Chuluut, Ushig gol, Balbar, Yariths gol, Ar gol, Alag-erdene, Ih uul fields.
10	Follow-up drillings	Drilling	No	Drilling (deep is to 50m).
11	Total length of drill hole	593m.		3,615m.
1	Number	16	17	
2	Report number	3199	3492	
3	Area			
4	Coordinate	Erdenet (103.30'-48.40'; 104.50'-48.40'; 103.30'-49.02'; 104.50'-49.10'); Murun (99.45'-49.38'; 100.07'-49.38'; 99.45'-49.55'; 100.18'-49.49'; 100.00'-50.02'; 100.18'-50.00')	1. Huvsgul (99.21'-49.30'; 99.45'-49.38'; 99.45'-49.55'; 100.18'-50.00'; 100.18'-50.00'; 100.18'-50.00') 2. Bulgan (103.05'-48.32'; 103.30'-48.40'; 103.30'-49.02'; 103.05'-48.58'; 3.	49.49', 100.07'-49.38', 100.30'-49.38', 100.30'-50.32', 100.00'-50.29', 99.21'-50.16'). Erdenet (103.46'-49.02'; 104.16'-49.05'; 104.16'-49.28'; 103.46'-49.27').
5	Year of the survey	1980	1981-1982	
6	Method	Aeromagnetic gamma-spectrometer survey at scale 1:50,000 and magnetic, gamma-spectrometer survey at scale 1:25,000-1:10,000.	Aeromagnetic gamma-spectrometer survey at scale 1:50,000.	
7	specification	Aerogeophysical survey at scale 1:50,000.	Aerogeophysical survey at scale 1:50,000.	
8	Objective	Select prospective fields.	Select prospective fields.	
9	Results	Selected following fields: 1. Ehmii, 2. Undur, 3. Murun, 4. 5 fields of the around Erdenet (Dugan, Shand, Zuhjin gol).	Selected 34 anomalies in the Huvsgul area and 20 anomalies in the Bulgan-Erdenet area.	
11	Follow-up drillings	No	No	

Table A-8 List of geophysical surveys of the survey area

1	Number	18	19	20
2	Report number	3988	4240	4396
3	Area			M-48-109,110,111,121,122,123,134,135,L-48-3,4,5,6,7,15,16,17,18,19,29, (102.00'-103.15')X(48.00'-49.00') and (103.15'-105.30')X(47.20'-48.00').
4	Coordinate	(103.10'-106.50')X(47.50'-48.40').	(102.40'-103.10')X(48.35'-48.55') and (104.20'-106.00')X(48.30'-50.10').	
5	Year of the survey	1984-1985	1986-1987	1988-1990
6	Method	Aeromagnetic electric gamma-spectrometer survey at scale 1:50,000, and Magnetic, gamma spectrometer, induced polarization-average gradient at scale 1:25,000-1:5,000.	Aeromagnetic electric gamma-spectrometer survey at scale 1:50,000. Magnetic, Gamma spectrometric, induced polarization at scale 1:25,000- 1:5,000.	Aerogeophysical survey scale at 1:50,000 (follow-up geophysical survey at scale 1:10,000).
7	specification	Aerogeophysical survey at scale 1:50,000.	Aerogeophysical survey at scale 1:50,000.	Aerogeophysical survey at scale 1:50,000.
8	Objective	Select prospective fields.	Select prospective fields.	Select prospective fields.
9	Results	Selected following fields: 1.Argai, 2. Baraan hudag, 3. Burgaltai, 4. Oyuut ovoo, 5. Tsabchir bulag, 6. Ujziit ovoo, 7. Tsengge us, 8. Tsagaan hooloi, 9. Bulagt gol. No	Selected following fields: Ar bulag, Tsaltan uul, Uvur teelin gol, Sant tolgoi, Baruun teel, Nuhen, Huh hadat, Bulagt gol, Burgaltai, Lun, Huh belt uul, Ulaan uul, Chuluun horoot tolgoi, Hairthan, Jargalant, Narst tolgoi, Baruun ded. No	Selected following fields: 1. Lamzah tolgoi, 2. Shubut, 3. Huh chuluut, 4. Hotel, 5. Barchgar, 6. Ar bulag, 7. Uushig, 8. Hoid outsoog, 9. Ugalz, 10. Uran hoshuu, 11. Shar had, 12. Tsagaan govgor, 13. Holboo ovoо, 14. Ilt hush, 15. Mogod. No
10	Follow-up drillings	No	No	No
11	Total length of drill hole			
1	Number	21	22	23
2	Report number	3865	3172	3940
3	Area	M-48-XX,XXL,XXVI,XXVIII		M-46-47,L-47,48-49.
4	Coordinate		(48.00'-99.00')-(50.00'-99.00')-(50.00':102.00')-(50.35':102.00')- (48.00':102.00')- (47.00':102.00')-(50.10':104.00')-(47.00':104.00').	
5	Year of the survey	1981-1985	1979-1980	1985-1990
6	Method	Magnetic(1:5,000-1:10,000), Electric (induced polarization-average gradient, vertical electrical sounding-induced polarization), ray radiometric.	Aeromagnetic and magnetic survey.	Aeromagnetic, aerogamma spectrometric survey at scale 1:500,000, 1:200,000 and 1:50,000.
7	specification	Copper and moludinium.	Aerogeophysical survey at scale 1:200,000.	Aerogeophysical survey at scale 1:500,000.
8	Objective	Select prospective fields.	Select prospective fields.	Select prospective fields.
9	Results	Selected following fields: 1. Nurain, 2. Tarimalin, 3. Jitim, 4. Havchuu, 5. Buhain, 6. Hujirjin, 7. Mogoin, 8. Inget, 9. Zabhin, 10. Tsagaan chuluut, 11. Zaluugin, 12. Dambatseren, 13. Haluin, 14. Chuluut, 15. Oyuut, 16. Turmalin, 17. Shand.	Selected 28 fields: Following: Egin gol, Saihan, Het, Murun, Burentogoh, Tamirin gol, lh bumbut, Uizit, Arc hargan, Dejidin, Ar bulag, Bulgan, Erin gol, Jargalant, Tsagaan tolgoi, Bayan zurh, Tsadam nur, Hadagin gol, Burenhaan, Holigrsatin, Ulaan durulj, Tsagaan burgas, Zalaat, Chuluut, Tsahir, Gurvan bulag, Burd, Har horin. No.	Not reports but maps have been stored in GIC.
10	Follow-up drillings	Drilling.		No information.
11	Total length of drill hole	41,020m.		
12				

Table A-9 List of survey points in eastern part of the survey area

Occurrence No.	Reference No.	Name of occurrence	Survey district	Location		Mineralization Type/Factor/Form	Size	Geology	Country rock	Age of Mineralization	Alteration	Mineralization	Major/Sub commodity	Ore reserve		Grade Geochemical anomaly (maximum)					Remarks			
				Latitude	Longitude									Aug(%)	Ag(%)	Cu(%)	Mo(%)	Pb(%)	Zn(%)	Cr(%)				
1	---	Sudal N177	Zaamar	N48°06'11.0"	E104°20'10.0"	epithermal? vein	1-200m x W0.5m-0.9m	---	---	---	pyritization	---	Au	---	0.20	---	---	---	---	---	---	---	---	---
2	679	Lidai ovoo	Zaamar	N48°15'50.7"	E104°09'57.3"	skarn / small skarn body	---	Carbonian metamorphic rock, Triassic granite	granite?	---	skarnization	sphalerite, chalcopyrite	Zn, Cu, Fe, Au	Cu:45,000	0.20	---	0.070	---	---	---	---	---	---	high magnetic anomaly
3	5390	Khushkhuut kol	Bulgan SW	N48°14'15.4"	E103°10'01.4"	metasomatic fracture control/	300m x 50m	metasomatic fracture control/	---	---	pyritization	chalcopyrite, malachite, azurite	Cu	---	---	10,000	---	---	---	---	---	---	---	
4	317	Oyuut khonhor	Bulgan SW	N48°10'24.4"	E102°56'10.8"	porphyry? (epithermal?) / alteration zone? / fault	recent open pit: 35 x 25 x 346m (depth), 150m (E-W) x 150m (N-S)	Mesozoic thiolite, intermediate composition tuff with andesite lava	---	---	silicification and kaolinization (rarely intensive leached pyrite), leaching and sulfidation zone (55m depth)	oxidized zone(20m): malachite, azurite, chalcopyrite, pyrite, hematite, hematite, malachite, azurite, chalcopyrite	Cu/(Au)	---	8.80	0.20	0.100 (chip)	0.020 (core)	---	---	---	---	---	
5	---	line No.9	Bulgan SW	N48°06'53.8"	E102°38'14.3"	hydrothermal/ tectonic fault/ vein	100m x 1-3m	Carboniferous sandstone	---	---	---	---	Au	---	30.00	---	---	---	---	---	---	---	---	
6	407	Tsagaan sengor	Lubulan	N48°38'59.7"	E102°13'02.5"	metasomatic/fault control/ vein	5m width, dyke: 1-5m width	granite, granodiorite	---	---	calcification	---	Cu/Pb, Ag	---	---	50.00	1.000	---	0.200	---	---	---	---	
7	2137, 3427	Sarin bundi	Lubulan	N48°40'35.7"	E102°08'07.8"	hydrothermal/ contact zone/	---	Jurassic granite, alkali granite	---	---	---	chalcopyrite, malachite, azurite	Cu/Pb, Mo	---	---	---	0.002	0.002	0.003	---	---	---	---	
8	463	Mogoin gol	Lubulan	N48°44'58.0"	E102°03'58.0"	metasomatic? / dyke	70m x 50m (max)	diorite dyke(12m width)	---	---	---	---	Cu/Zn, Pb, Ag	---	---	100.00	0.010	---	0.080	0.100	---	---		
9	406	Hoboo ovoo	Lubulan	N48°37'57.9"	E102°07'13.5"	metasomatic? / contact secretion zone	---	Permian-Devonian diorite	---	---	skarnization	---	Cu/Pb, Zn, Mo, Ag	---	---	0.50	0.050	0.005	0.200	---	---	---		
10	1585	Gua ulan null	Lubulan	N48°54'53.4"	E101°53'19.0"	metasomatic? / NW-oriented tectonic weak zone	1-4,500m x W:200m	syenite porphyry(foxt), Permian acidic volcanic rocks	---	---	silicification, argillization	Cu dissemination	Cu/Mo, Pb, Au, Ag, Sn, W	---	---	0.100	0.250 (channel samples)	0.05	---	---	---	---		
11	837, 1586?	Zest telgin	Khuja	N48°43'38.2"	E101°25'54.1"	porphyry? / fault control	1.25m x W:1km	Permian granite and syenite porphyry, Permian tuff and volcanic rocks, Jurassic granite (small body)	Permian granite and syenite porphyry	---	silicification, kaolinization, epidotization, sericitization, limonitization	pyrite, chalcopyrite, sphalerite, galena, malachite	Cu/Mo, Pb, Au, Ag, Sn, W	---	---	0.10	0.20 (py zone), 0.15 (core)	---	---	---	---	IP anomaly (No. 9 1 x 0.6km)		
12	827, 1587?	Yargai	Khuja	N48°47'39.1"	E101°18'54.5"	porphyry? / fault control/ veins/ and stockwork	NW-oriented line(100m x 40m), 1200m x W:40m	Permian granite (porphyry)	keocentric granite porphyry	---	silicification, sericitization, (tourmalinization, epidotization, leached silifies, quartz vein	malachite, azurite, bornite, chalcocite, magnetite, pyrite	Cu/Mo	---	---	---	0.300	<0.012	---	---	---	---		
13	1494	Denkhor bulak	Murun South	N49°22'17.6"	E100°09'55.0"	metasomatic? / alteration zone	---	Permian acidic tuff, trachyhyolite porphyry	acidic tuff, trachyhyolite porphyry	---	silicification	---	Cu/Pb, Au, Zn	---	---	---	0.003	---	0.002	0.003	---	---		
14	1491	Airgana gol	Airgana	N49°50'58.5"	E100°24'12.9"	fault control/ stockwork	1.850m x W:550m	Permian dolomite, basalt, granite	keocentric granite porphyry	Jurassic	silicification, stockwork	molibdenite	Mo/Ag	Mo:14,700	---	1.50	---	0.035	---	---	---	---		
16	1449	Tsagan bulgas gol	Airgana	N49°56'02.6"	E100°20'59.9"	metasomatic? / deep fault control/ vein?	1.1,200m x W:500m	Paleozoic sedimentary rocks, serpentinite, carbonate	serpentinite, carbonate	Paleozoic	quartz vein?	fluorite	Ni, Cr, Cu, Pb, Zn	---	---	---	---	---	---	---	---	0.6		
18	1442	Quartz	Airgana gol NW	N50°14'09.7"	E100°16'53.7"	hydrothermal/ fracture control/ vein	vein 1.50m x W:1.5m	Riphean sandstone, shale	sandstone, shale	Riphean	quartz vein	gold, silver	Au	---	7.60	3.20	---	---	---	---	---	---		
19	181	Skarn	Airgana gol NW	N50°09'20.3"	E100°00'58.9"	metasomatic? / skarn	L34.2m x W:8m	Carbonian limestone, granodiorite	Devonian granodiorite	---	skarnization	---	Cu/(Zn)	---	---	10.00	1.000	---	0.700	0.300	---	---		
20	1567	Hunt gol	Khokhoo	N50°38'18.5"	E100°46'37.7"	hydrothermal? / Metasomatic fault control/ vein?	1.80m x W:0.35m	crystalline shale, Paleozoic diorite	crystalline shale, Paleozoic diorite	---	quartz & carbonate vein	galena, chalcopyrite, hematite, pyrite	Pb, Cu	---	---	---	0.720	---	5.040	0.970	---	---		
20a	---	---	Khokhoo	N50°26'13.9"	E100°52'50.3"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
20b	---	---	Khokhoo	N50°31'6.3"	E101°05'23.2"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
20c	---	---	Khokhoo	N50°34'25.4"	E101°06'18.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
20d	---	---	Khokhoo	N50°39'17.1"	E100°45'37.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
25a	---	---	South Camp	N50°06'23.3"	E101°36'06.8"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
25b	---	---	South Camp	N50°12'45.5"	E101°31'29.3"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
25c	---	---	South Camp	N50°12'17.2"	E101°37'16.3"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
25d	---	---	South Camp	N50°14'13.8"	E101°36'16.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
25e	---	---	South Camp	N50°16'33.2"	E101°44'13.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
25f	---	---	South Camp	N50°13'31.6"	E101°39'22.3"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
26	419	Ereen ikher	Bulgan West	N48°19'10.5"	E102°34'19.0"	alteration zone	200m	Devonian acidic volcanic rocks	acidic volcanic rocks	---	---	molibdenite	Ag? Cu?	---	0.50	0.007	---	---	---	---	---			
27	423	Zaamar	Bulgan West	N48°19'17.5"	E102°42'08.7"	vein	---	Permian-Jurassic conglomerate, andesite porphyry, subvolcanic rocks, granite, diorite	subvolcanic rocks, granite, diorite	---	---	chalcopyrite, hematite, bornite	Cu	---	---	---	3.000	---	---	---	---	---		
28	415	Namgnin	Bulgan West	N48°45'39.0"	E102°46'39.7"	alteration zone	---	Permian-Jurassic syenite-diorite	syenite-diorite	---	---	---	Cu	---	---	---	0.001	---	---	---	---	---		

Table A-9 List of survey points in eastern part of the survey area

Occurrence No.	Refer. area No.	Name of occurrence	Survey district	Location		Mineralization Type/Factor/Form	Size	Geology	Country rock	Age of Mineralization	Alteration	Mineralization	Main/Sub commodity	Ore reserve	Grade Geochemical anomaly (maximum)					Remarks		
				latitude	longitude										Ag (%)	Ag (ppm)	Cu (%)	Mo (%)	Pb (%)		Zn (%)	Cr (%)
29	424	Burged Khyt West	Bulgan West	N48 52'04.2"	E102 49'41.4"	stockwork	20m x 600m	Permian-Jurassic conglomerate, basalt, andesite porphyry, Permian-Triassic granite, diorite	granite, diorite	---	stockwork	---	Cu/Mo, Mo:15,000	---	---	0.360	0.020	---	---	---	---	---
30	5403	Lumin Isghar Nur West	Bulgan West	N48 48'11.2"	E102 55'51.7"	vein	vein:1m x 0.5m	Lower Permian rhyolite-dacite, rhyolite porphyry	rhyolite dacite, rhyolite porphyry	---	quartz vein	malachite, azurite	Cu	---	---	---	---	---	---	---	---	---
31	421	Agut West	Bulgan West	N48 47'00.0"	E102 57'00.0"	alteration zone	1000m x 15m	Devonian acidic volcanic rocks, Permian-Triassic granite	acidic volcanic rocks	---	---	chalcoprytic, malachite, lazurite	Cu/Au	---	0.10	---	0.005	---	---	---	---	---
32	420	Ludrakh West	Bulgan West	N48 42'03.8"	E102 45'44.4"	vein	vein:300m x 150m	subvolcanic rocks, Permian-Triassic diorite	diorite, subvolcanic rocks	---	quartz vein	---	Cu/Ag	---	---	10.00	0.700	0.700	---	---	---	---
33	416	Tsookher mert	Bulgan	N48 45'28.1"	E103 16'00.9"	vein	vein:700m x 2m	Permian-Triassic granite, syenite porphyry	granite, syenite porphyry	---	quartz vein	---	Au/Ag/Cu	Au:1.1, Ag:18.4t	10.00	500.00	0.300	---	---	---	---	---
34	165	Jasin buuts	Bulgan	N48 47'06.5"	E103 26'54.2"	alteration zone	2km x 0.5km	Permian acidic volcanic rocks	acidic volcanic rocks	---	---	---	Cu	---	---	---	0.007	---	---	---	---	---
35	417	Khar uul	Bulgan	N48 42'06.7"	E103 16'21.3"	dyke	6km x 200-300m	Triassic-Jurassic volcanogenic sedimentary rocks	volcanogenic sedimentary rocks	---	---	chalcoprytic, bornite, gold	Cu/Au	---	3.00	---	0.500	---	---	---	---	---
36	(3137), (19367)	Tabulak, Tsagan chuluut	Erdene	N49 05'05.4"	E103 59'00.0"	---	---	---	---	---	---	---	Cu?	---	---	---	---	---	---	---	---	---
37	89	Megen kol	Erdene	N49 10'03.7"	E103 45'13.5"	alteration zone	1.5km x 1km	Permian volcanogenic sedimentary rocks	volcanogenic sedimentary rocks	---	---	---	Cu	---	---	---	0.070	---	---	---	---	---
38	5400	Khujrin kol	Erdene	N49 07'52.1"	E103 38'52.4"	vein	vein:6m x 2km	Jurassic granodiorite, granosyenite	granodiorite, granosyenite	---	quartz vein	Chalcoprytic, malachite	Cu	---	---	---	0.740	---	---	---	---	---
39	82	Zaukhin gol	Erdene	N49 13'51.1"	E104 14'05.0"	stockwork, dyke	2km x 1.3km x 3.5km	Permian-Triassic volcanogenic sedimentary rocks, Jurassic granite, granodiorite	granite, granodiorite	Permian-Triassic stockwork	stockwork	chalcoprytic, molybdenite, galena, sphalerite, pyrite	Cu/Mo	Cu:2,825.00	---	0.200	0.003	---	---	---	---	---
40	34	Erdene NW	Erdene	N49 01'18.1"	E104 07'44.1"	stockwork	stockwork:2.8km x 1.3km	Triassic-Jurassic intrusive rocks	intrusive rocks	---	stockwork	Chalcoprytic, bornite, pyrite	Cu	0	---	0.900	---	---	---	---	---	---
41	24	Erdene Central	Erdene	N48 59'51.5"	E104 09'27.5"	stockwork	stockwork:1.33km x 0.3km	Permian-Triassic granodiorite, diorite	granodiorite, diorite	---	stockwork, oxidation zone	chalcoprytic, chalcocite, malachite, azurite, covellite	Cu/Mo	Cu:598,790; Mo:21,864	---	0.410	0.016	---	---	---	---	---
42	---	Tourmaline	Erdene	N48 56'33.5"	E104 17'19.5"	---	---	---	---	---	---	---	Cu	---	---	---	---	---	---	---	---	---
43	---	Linder	Erdene	N48 49'57.2"	E104 13'19.6"	---	---	---	---	---	---	---	Cu	---	---	---	---	---	---	---	---	---
44	---	Shand	Erdene	N48 45'39.5"	E104 11'45.8"	---	---	---	---	---	---	---	Cu/Mo	Cu:500,000; Mo:5,000t	0.200 (core)	0.001 (core)	---	---	---	---	---	---
45	33	Oyut (SE)	Erdene	N48 57'43.2"	E104 11'52.3"	stockwork	stockwork:4km x 0.6km	Triassic-Jurassic intrusive rocks	intrusive rocks	---	stockwork	chalcoprytic, molybdenite, covellite, chalcocite, pyrite	Cu	Cu:1,086.80; Mo:15,000t	---	0.400	---	---	---	---	---	---
46	(1672)	Zaluu	Erdene	N48 54'50.0"	E103 55'50.3"	vein	quartz vein:1.5m x 0.2m	Lower Permian andesite-basaltic tuff	andesite-basaltic tuff	---	quartz vein	---	---	---	---	1.000	0.01	---	---	---	---	---
47	---	Danbarsuren	Erdene	N48 50'06.0"	E103 48'13.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
48	---	Mt. Zain gosau	Bulgan	N48 53'39.8"	E103 37'44.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
49	---	Eagle Mt. North West	Zaanaar West	N48 17'46.6"	E104 13'54.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR127	---	---	Erdene	N49 20'07.1"	E104 09'57.3"	---	500m x 400m	---	---	---	---	---	---	---	---	---	0.120	0.003	---	---	---	---
SAR136	---	---	Erdene	N49 13'32.6"	E104 01'23.1"	---	400m x 500-1000m	---	---	---	---	---	---	---	---	---	0.200	0.020	---	0.010	---	---
SAR138	---	---	Erdene	N49 13'01.4"	E104 29'00.9"	---	1500m x 50-70m	---	---	---	---	---	---	---	---	---	0.600	---	---	---	---	---
SAR139	---	---	Erdene	N49 13'07.7"	E104 36'40.1"	---	40m x 0.5m	---	---	---	---	---	---	---	---	---	1.100	---	---	---	---	---
SAR144	---	---	Erdene	N49 11'16.8"	E104 02'14.4"	---	---	---	---	---	---	---	---	---	---	---	1.179	---	---	---	---	---
SAR169	---	---	Erdene	N48 59'45.0"	E104 23'20.0"	---	---	---	---	---	---	---	---	---	---	---	0.100	---	---	---	---	---
SAR181	---	---	Bulgan	N48 52'39.0"	E103 34'45.5"	---	---	---	---	---	---	---	---	---	---	---	0.200	---	---	---	---	---
SAR182	---	---	Bulgan	N48 52'47.1"	E103 38'34.4"	---	---	---	---	---	---	---	---	---	---	---	0.460	---	---	---	---	---
SAR183	---	---	Bulgan	N48 52'47.1"	E103 38'34.4"	---	---	---	---	---	---	---	---	---	---	---	0.460	---	---	---	---	---
SAR185	---	---	Erdene	N48 53'02.3"	E104 02'53.7"	---	depth 0.5m & 3.5m	---	---	---	---	---	---	---	---	---	0.060	0.002	---	---	---	---

Table A-9 List of survey points in eastern part of the survey area

Occurrence No	Name of occurrence	Survey district	Topography/vegetation	Mineralization Type/salter/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAF data analysis	Rock samples	Geochemical analysis (maximum)						Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks			
												As(ppm)	Ag(ppm)	Co(ppm)	Mn(ppm)	Pb(ppm)	Zn(ppm)			Cd(ppm)		
29	Burgud khyr	Bulgan West	hill/grass	hydrothermal?/alteration zone	Permian-Trassic granite, Jurassic conglomerate	granite, conglomerate	---	silicification, argillization, limonization	---	---	M2054-056	---	0.5	40.0	---	50	120	---	Quz, Abite, K-fel, Sericite	---		
30	Urmint Tsagan nuur	Bulgan West	mountain forest	hydrothermal?/alteration zone	Trassic trachytic tuff, granite, apfite	Trassic trachytic tuff	spontic apfite	silicification	---	---	M2052-53, RK045-47	---	Trace	Trace	36.0	Trace	28	80	24	---		
31	Audul	Bulgan West	hill/grass-forest	hydrothermal?/alteration zone	Devonian acidic volcanic rocks, Permian-Trassic granite	acidic volcanic rocks, granite	---	silicification	---	---	NK074-81, HH024-026	---	0.015	9.0	37.0	45.0	466	172	15	Quz, Abite, K-fel	---	
32	Undrah	Bulgan West	hill/grass	porphyry?/alteration zone	granite, apfite, granite, Quaternary sediments	granite	---	potassic alteration, quartz vein, limonization	chalcopryite, malachite	---	M2060, RK054-057	---	0.215	33.6	18300.0	208.0	50	26	7	---	---	
33	Tsookher mert	Bulgan	mountain grass	hydrothermal?/vein	granite	granite	---	quartz vein (width: 1-10cm), argillization (sericite)	malachite, azurite, hematite, goethite anomaly (Au)	---	M2061-065	---	6.290	554.0	1940.0	16.0	119000	396	18	Quz, Abite, K-fel, Sericite	---	
34	Jasin butis	Bulgan	mountain forest	hydrothermal?/vein-alteration zone	andesite, dacite, granite, micro diorite	andesite, dacite	granite, micro diorite	silicification, argillization (sericite), quartz vein, dissemination of pyrite	---	---	HH032-035, RK058-062	---	Trace	0.2	17.0	7.0	30	70	15	Quz, Abite, Sericite	---	
35	Kher uul	Bulgan	hill/grass	hydrothermal?/vein	andesite, basalt, diorite dyke	andesite, basalt	diorite	quartz and chlorite vein	malachite	---	NK083, M2066-067	---	0.010	6.6	13000.0	Trace	720	28	93	---	---	
36	Talbulug, Tasagan chubut	Erdenei Central	mountain/grass-forest	porphyry?/alteration zone	Mesozoic andesite, dacite	andesite, dacite	---	silicification, quartz veinlet, silica sinter	---	---	NK040-046, M2022-023, M2026-027	---	Trace	0.2	50.0	4.0	28	70	55	Quz, Abite, K-fel, Andalusite	alterd granite: 202 ± 4Ma	
37	Megen gol	Erdenei Central	mountain/grass-forest	porphyry?/alteration zone	granite, andesite, dacite	granite, andesite, dacite	---	silicification	---	---	NK033-038, M2049	---	Trace	Trace	2.0	Trace	18	8	4	---	---	
38	Khyujin gol	Erdenei Central	mountain/grass-forest	porphyry?/alteration zone	granodiorite, syenite, andesite, dacite	granodiorite, syenite, andesite, dacite	---	potassic alteration, quartz vein	weak geochemical anomaly (Cu, Pb, Zn)	---	M2018-021, RK021-023	---	Trace	Trace	113.0	Trace	106	460	49	---	---	
39	Zuukhin gol	Erdenei Central	mountain/grass-forest	hydrothermal?/alteration zone	granodiorite, andesite-dacite, porphyry	granodiorite, andesite-dacite, porphyry	andesite, dacite porphyry	silicification, limonization	malachite, weak geochemical anomaly (Au, Ag)	---	M2028-029, RK028	---	0.010	14.8	8750.0	1.0	506	120	13	---	---	
40	Erdenei NW	Erdenei Central	hill/grass	porphyry?/alteration zone	granite, granodiorite, diorite, andesite dyke	granite, granodiorite	diorite, granodiorite, andesite	silicification, argillization (sericite), potassic alteration, oxidation, limonization, quartz-pyrite vein	chalcopryite, chlorite, malachite, azurite (along creek)	conjunction of lineaments (NW-SE and N-S)	HH1008-012, M2015-017, M2050-051, RK020-021	---	Trace	5.0	5670.0	110.0	0	600	10	10	Chlorite, Pyrite	alterd granite: 202 ± 4Ma, 223 ± 6Ma
41	Erdenei Central	Erdenei Central	hill/grass	porphyry?/alteration zone	granite, diorite	granite	diorite	silicification, argillization (sericite), (tourmalinization), potassic alteration	malachite	conjunction of lineaments (NW-SE and N-S)	RK029-032	---	0.010	0.8	5510.0	21.0	12	94	9	---	---	
42	Turnamine	Erdenei Central	hill/grass	porphyry?/alteration zone	granodiorite, syenite, andesite dyke	granodiorite, syenite	andesite dyke	silicification, tourmalinization	---	---	NK059-061, M2030-033	---	Trace	0.2	47.0	8.0	120	82	13	Quz, Abite, K-fel, Sericite, Andalusite	---	
43	Under	Erdenei Central	mountain/grass-forest	porphyry?/alteration zone	granitic rocks, quartz porphyry, andesite	granitic rocks, andesite	quartz porphyry	silicification, argillization (sericite), (tourmalinization), limonization	---	lineament trending N-S	M2036-040	---	Trace	Trace	50.0	Trace	16	54	18	---	---	
44	Shand	Erdenei Central	hill-mountain/grass-forest	porphyry?/alteration zone	granite, granodiorite, micro diorite, andesite porphyry dyke	granite, granodiorite	micro diorite, andesite porphyry	potassic alteration	malachite, azurite	conjunction of lineaments (NW-SE and N-S)	RK039-040	---	0.050	2.2	9490.0	17.0	198	130	10	---	---	
45	Oyul (S3)	Erdenei Central	hill/grass	porphyry?/alteration zone	granodiorite, granodiorite porphyry, andesite, syenite, diorite	granodiorite, granodiorite porphyry	andesite, syenite, diorite	argillization (sericite), limonization, acid leaching zone	dissemination of chalcopryite (core)	---	M2041-044	---	---	Trace	500.0	---	10	115	---	---	---	
46	Zaau	Erdenei Central	hill/grass-forest	hydrothermal?/vein	granite, monzonite, Trassic-Jurassic andesite	granite	monzonite, andesite	quartz and epidote vein	---	---	NK066-67, HH020	---	Trace	Trace	55.0	---	25	125	---	Sericite	basalt: 195 ± 4Ma	
47	Dambatsuren	Erdenei Central	hill/hill	hydrothermal?/alteration zone	granite, Jurassic dacite	granite, Jurassic dacite	---	silicification, quartz veinlets, (tourmalinization), limonization	---	lineament trending NNE-SSW	NK068-073, HH021	---	Trace	1.2	27.0	3.0	22	42	79	Quz, K-fel, Sericite, Andalusite	---	
48	Mt. Zan ghanav	Bulgan	hill/grass	hydrothermal?/alteration zone	andesite	andesite	---	weak silicification, argillization, dissemination of pyrite (limonite), propylitic alteration	malachite	---	RK069-078	---	Trace	4.8	3100.0	Trace	100	54	118	Quz, K-fel, Sericite, Pyrophyllite, Kaolin	---	
49	Eagle Mt. North	Zavkhan West	mountain/grass	hydrothermal?/alteration zone	Paleozoic granite, Rhyolite, limestone, tuff, basalt dyke	tuff	basalt	silicification, epidotization, calcite vein	---	---	M2076	---	Trace	Trace	25.0	Trace	4	18	74	---	---	
SAR127	---	Erdenei Central	hill/forest	---	granodiorite	---	---	---	---	high density lineaments	RK044	---	Trace	Trace	60.0	---	Trace	70	---	---	---	
SAR136	---	Erdenei Central	mountain/grass-forest	---	granite, apfite	---	apfite	---	---	conjunction of lineaments and high density lineaments	RK027	---	Trace	Trace	108.0	Trace	4	4	3	---	---	
SAR138	---	Erdenei Central	hill/hill-grass	porphyry?/alteration zone	granite	granite	---	weak alteration?	malachite	conjunction of lineaments	NK047-050, HH013	---	Trace	1.2	1560.0	Trace	66	170	22	---	---	
SAR139	---	Erdenei Central	hill/hill-grass-forest	porphyry?/alteration zone	quartz diorite, granodiorite, basalt dyke	quartz diorite, granodiorite	basalt	quartz and epidote vein, hydrothermal breccia, limonization, potassic alteration	malachite	conjunction of lineaments	NK051-058, HH014-018	---	0.110	13.2	20700.0	3.0	18	52	27	Quz, Abite, Kaolin	basalt: 282 ± 6Ma	
SAR144	---	Erdenei Central	mountain/grass-forest	hydrothermal?/vein	granite, granodiorite	granite, granodiorite	---	quartz vein, silicification, epidotization	malachite	conjunction of lineaments and high density lineaments	RK024-028	---	0.005	2.0	20500.0	15.0	10	180	19	---	---	
SAR169	---	Erdenei Central	mountain/forest	---	granite (float rock), volcanic rock (float rock)	---	---	---	---	lineament trending NW	---	---	---	---	---	---	---	---	---	---	---	
SAR181	---	Bulgan	hill/grass	hydrothermal?/alteration zone	andesite porphyry	andesite porphyry	---	weak silicification, epidotization, limonization	malachite	conjunction of lineaments	RK075	---	Trace	7.8	13300.0	0.5	14	28	141	---	---	
SAR182	---	Bulgan	mountain/forest	hydrothermal/alteration zone	andesite, trachyandesite	andesite, trachyandesite	---	quartz and epidote vein	malachite	conjunction of lineaments and relatively smooth tone	RK068	---	0.010	3.4	7430.0	Trace	24	8	21	---	---	
SAR183	---	Bulgan	hill/grass	hydrothermal/alteration zone	andesite porphyry	andesite porphyry	basalt	silicification, epidotization, quartz and epidote vein	malachite	conjunction of lineaments and relatively smooth tone	RK066-067	---	Trace	8.1	19100.0	Trace	62	20	95	---	---	
SAR185	---	Erdenei Central	mountain/forest	hydrothermal?/alteration zone	granite, andesite	granite	basalt	epidotization	---	lineament trending NW	NK092-094, M2034-035	---	Trace	0.2	7.0	Trace	96	66	23	Quz, Abite, K-fel, Sericite, Kaolin	---	

Table A-9 List of survey points in eastern part of the survey area

Occurrence No.	Reference No.	Name of occurrence	Survey district	Location		Mineralization Type/Facets/Form	Size	Geology	Country rock	Age of Mineralization	Data of past survey				Remarks					
				Latitude	Longitude						Alteration	Mineralization	Main/Sub commodity	Ore reserve		Grade, Geotechnical anomaly (maximum)	Pb(%)	Zn(%)	Cu(%)	
SAR194	---	---	Bulgan	N48°52'00.0"	E103°34'10.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR197	---	---	Bulgan	N48°49'40.5"	E103°39'01.9"	---	2m x 0.8m	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR200	---	---	Erdeneet	N48°51'16.0"	E104°26'56.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR202	---	---	Bulgan	N48°47'56.1"	E103°35'54.2"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR204	---	---	Bulgan	N48°46'59.6"	E103°35'18.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR205	---	---	Bulgan	N48°47'05.0"	E103°39'45.8"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR219	---	---	Bulgan	N48°43'57.0"	E103°31'03.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR221	---	---	Bulgan	N48°42'46.5"	E103°31'39.2"	---	0.5-2m x 0.2-0.4m	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR222	---	---	Hullgan	N48°43'33.3"	E103°31'43.8"	---	small	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR233	---	---	Erdeneet	N48°43'40.2"	E103°36'33.7"	---	20m x 30m	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR235	---	---	Erdeneet	N48°46'17.1"	E104°04'34.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR238	---	---	Erdeneet	N48°44'30.0"	E104°11'00.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR239	---	---	Erdeneet	N48°44'57.3"	E104°12'29.9"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SAR25	360	Davur	Erdeneet	N49°15'46.8"	E103°55'23.9"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
M-1	---	---	Zaamar West	N48°25'21.0"	E103°36'34.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
M-2	---	---	Zaamar West	N48°42'3.8"	E102°45'44.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
M-3	---	---	Zaamar West	N48°21'22.0"	E104°01'36.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
1	M99NK001M	48°06'13.6"	104°20'15.2"	1	Zaamar	Sudal N177	quartz vein		white, hosted in granite	----	limonite	G
2	M99NK002R	48°06'13.6"	104°20'15.2"	1	Zaamar	Sudal N177	granite		coarse grain	----	----	G, X
3	M99NK003M	48°06'13.6"	104°20'15.2"	1	Zaamar	Sudal N177	quartz vein		white, hosted in granite	----	----	G, 180, F
4	M99NK004M	48°06'28.4"	104°19'19.3"	1	Zaamar	Sudal N177	quartz vein		milky, hosted in granite	----	----	G
5	M99NK005M	48°04'58.3"	104°25'53.9"	1	Zaamar	Sudal N177	quartz vein		white, hosted in granite	----	----	G, 180, F
6	M99NK006R	48°04'58.3"	104°25'53.9"	1	Zaamar	Sudal N177	slate		----	pyrite dissemination	pyrite	G
7	M99NK007R	48°16'15.0"	104°09'54.3"	2	Zaamar	Ulziit ovoo	andesite		----	pyroxene skarn	----	G, T
8	M99NK008M	48°16'15.0"	104°09'54.3"	2	Zaamar	Ulziit ovoo	slate		black	skarnization	magnetite, Po, chalcopyrite	G, PT
9	M99NK009R	48°10'24.3"	102°56'10.8"	4	Bulgan SW	Oiut honhor	silicified rock		white	silicification	----	G, X
10	M99NK010R	48°10'24.4"	102°56'10.8"	4	Bulgan SW	Oiut honhor	silicified rock		white	silicification	limonite	G, X
11	M99NK011R	48°10'24.4"	102°56'10.8"	4	Bulgan SW	Oiut honhor	silicified rock		gray	silicification	fine pyrite	G, X
12	M99NK012R	48°10'24.4"	102°56'10.8"	4	Bulgan SW	Oiut honhor	silicified rock		----	silicification	Cu oxides	G
13	M99NK013M	48°10'41.3"	102°55'17.8"	4	Bulgan SW	Oiut honhor	hydrothermal breccia		----	silicification	fine pyrite	G
14	M99NK014R	48°37'59.9"	102°07'06.4"	9	Uubulan	Holboo ovoo	andesite		----	pyroxene skarn	----	G, T
15	M99NK015R	48°44'58.0"	102°03'58.0"	8	Uubulan	Mogoin gol	diorite		----	----	Cu, Mn oxides	G
16	M99NK016R	48°54'53.4"	101°53'49.0"	10	Uubulan	Gua ulaan uul	breccia		----	silicification	----	G, X
17	M99NK017R	48°43'37.5"	101°25'56.7"	11	Khujirt	Zost tolgoi	granite		----	silicification	quartz, sericite, limonite	G, X

Table A-10 Description of samples

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No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
18	M99NK018R	48°43'08.3"	101°25'12.2"	11	Khujirt	Zost tolgor	andesite		---	argillization	---	G
19	M99NK019R	48°43'03.6"	101°25'03.0"	11	Khujirt	Zost tolgoi	granite		drill core	silicification	---	G
20	M99NK020M	48°47'37.9"	101°18'53.2"	12	Khujirt	Yargit	granite		---	oxide copper	malachite, azurite	G
21	M99NK021M	49°22'25.5"	100°10'31.2"	13	Murun South	Donhor bulag	quartz vein		hosted in rhyolite	---	---	G
22	M99NK022M	49°22'26.2"	100°10'29.2"	13	Murun South	Donhor bulag	quartz vein		hosted in rhyolite	---	---	G
23	M99NK023R	49°22'18.0"	100°10'45.0"	13	Murun South	Donhor bulag	hydrothermal breccia		---	silicification	---	G
24	M99NK024M	49°50'58.5"	100°24'12.9"	14	Altgana gol	Altgana gol	quartz vein		---	---	molybdenite?	G
25	M99NK025R	49°51'00.0"	100°24'11.0"	14	Altgana gol	Altgana gol	aplite		fresh	---	---	T, M
26	M99NK026R	49°56'13.5"	100°20'55.4"	16	Altgana gol NW	Delger uul	harzbergite		---	serpentinized	---	T
27	M99NK027R	50°39'17.1"	100°45'37.1"	20	Khokhoo	---	andesite		---	---	sulfide(not identified)	G, P
28	M99NK028R	50°06'24.3"	101°36'02.9"	25a	South Camp	---	aplite		fresh	---	---	T, M
29	M99NK029R	50°12'45.9"	101°31'26.6"	25b	South Camp	---	acidic tuff		white	---	---	T, X
30	M99NK030R	50°14'13.8"	101°36'45.6"	25d	South Camp	---	listwaenite		altered gabbro?	---	---	G, T
31	M99NK031R	50°14'13.8"	101°36'46.4"	25d	South Camp	---	listwaenite		altered gabbro?	---	---	G, T
32	M99NK032R	50°13'31.6"	101°39'22.3"	37	Erdenet	Mogoin gol	quartzite gravel		pebble size	---	---	G
33	M99NK033R	49°10'37.1"	103°44'24.7"	37	Erdenet	Mogoin gol	granodiorite		---	---	---	T, M
34	M99NK034R	49°10'03.7"	103°45'13.5"	37	Erdenet	Mogoin gol	granite		polus	quartz, sericite, limonite	---	G, X

Table A-10 Description of samples

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No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
35	M99NK035R	49°10'03.7"	103°45'13.5"	37	Erdenet	Mogoin gol	granite		equigranular quartz	quartz, limonite	---	G
36	M99NK036R	49°10'03.7"	103°45'13.5"	37	Erdenet	Mogoin gol	granite		---	quartz, limonite	---	G
37	M99NK037R	49°10'03.7"	103°45'13.5"	37	Erdenet	Mogoin gol	granite		---	quartz, limonite	---	G, F
38	M99NK038R	49°10'08.3"	103°44'43.0"	37	Erdenet	Mogoin gol	granite		fresh, coarse grained	---	---	T, M
39	M99NK040R	49°04'46.0"	103°58'41.0"	36	Erdenet	Talbulag	tuff breccia		andesite	---	---	T
40	M99NK041R	49°04'59.0"	103°59'14.9"	36	Erdenet	Talbulag	andesite		fresh	---	---	W, T, KA
41	M99NK042R	49°05'17.2"	104°00'34.5"	36	Erdenet	Talbulag	andesite		porphyritic	---	---	T
42	M99NK043R	49°05'17.2"	104°00'34.5"	36	Erdenet	Talbulag	tuff breccia		andesite	silicification	---	G, T
43	M99NK044R	49°05'17.2"	104°00'34.5"	36	Erdenet	Talbulag	rhyolite		---	silicification	---	G
44	M99NK045R	49°05'17.2"	104°00'34.5"	36	Erdenet	Talbulag	silicified rock		original rock ?	silicification	---	G
45	M99NK046R	49°05'17.2"	104°00'34.5"	36	Erdenet	Talbulag	silicified rock		original rock ?	silicification	---	G
46	M99NK047R	49°13'01.4"	104°29'00.9"	SAR138	Erdenet	---	granite		coarse	---	---	T, M
47	M99NK048R	49°13'12.2"	104°28'22.1"	SAR138	Erdenet	---	granite		---	---	malachite	G, T
48	M99NK049R	49°13'12.2"	104°28'22.1"	SAR138	Erdenet	---	syenite		---	---	malachite	T
49	M99NK050R	49°13'12.2"	104°28'22.1"	SAR138	Erdenet	---	granite		fine grained	---	---	T, M
50	M99NK051R	49°12'56.8"	104°37'19.6"	SAR139	Erdenet	---	granite		fresh	---	---	W, T
51	M99NK052R	49°12'56.8"	104°37'19.6"	SAR139	Erdenet	---	basalt		dyke, fresh	---	---	W, T, KA

Table A-10 Description of samples

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No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
52	M99NK053R	48°12'56.8"	104°37'19.6"	SAR139	Erdenet	----	quartz+epidote vein		hosted in granite	epidote	----	G
53	M99NK054R	49°12'56.8"	104°37'19.6"	SAR139	Erdenet	----	granite		----	epidote	----	T
54	M99NK055M	49°13'07.7"	104°36'40.1"	SAR139	Erdenet	----	basalt		----	epidote, silicification	chalcopyrite	PT
55	M99NK056M	49°13'07.7"	104°36'40.1"	SAR139	Erdenet	----	ore		----	epidote, silicification	malachite, chalcopyrite, pyrite	G
56	M99NK057M	49°13'07.7"	104°36'40.1"	SAR139	Erdenet	----	ore		----	epidote, silicification	malachite, chalcopyrite, pyrite, limonite	G, P
57	M99NK058R	49°13'07.7"	104°36'40.1"	SAR139	Erdenet	----	basalt		fresh	----	----	T
58	M99NK059R	48°56'33.0"	104°17'49.5"	42	Erdenet	Tourmarine	granite		fresh	----	----	W, T
59	M99NK060R	48°56'33.0"	104°17'49.5"	42	Erdenet	Tourmarine	quartz+tourmaline vein		----	----	----	G
60	M99NK061R	48°56'33.2"	104°17'32.4"	42	Erdenet	Tourmarine	granite		fresh	----	----	W, T
61	M99NK062R	48°56'33.0"	104°17'49.5"	SAR188	Erdenet	----	granite		altered	tourmaline, sericite, quartz, muscovite	----	X, M
62	M99NK063R	48°53'16.5"	104°22'36.4"	SAR188	Erdenet	----	granite		----	----	----	T, M
63	M99NK064R	48°53'16.5"	104°22'36.4"	SAR188	Erdenet	----	basalt		altered	epidote, quartz	----	G
64	M99NK065R	48°44'57.3"	104°12'29.9"	SAR239	Erdenet	----	aplite		fresh	----	----	T, M
65	M99NK066R	48°54'50.0"	103°56'08.0"	46	Erdenet	Zалуу	syenite		----	----	----	T, M
66	M99NK067R	48°54'39.4"	103°56'08.4"	46	Erdenet	Zалуу	basaltic andesite		fresh	----	----	W, T, KA
67	M99NK068R	48°54'39.4"	103°56'08.4"	47	Erdenet	Dambatsuren	quartz+epidote vein		hosted in granite	---	---	G
68	M99NK069R	48°54'38.4"	103°57'04.8"	47	Erdenet	Dambatsuren	quartz porphyry		----	---	---	T, M

Table A-10 Description of samples

No	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
69	M99NK070R	48°51'39.9"	103°47'16.5"	47	Erdenet	Dambatsersen	dacite		lipalite by Mongolian	silicified	--	G, T
70	M99NK071R	48°51'39.9"	103°47'16.5"	47	Erdenet	Dambatsersen	quartz vein		--	quartz, tourmaline, limonite	--	G
71	M99NK072R	48°51'39.9"	103°47'16.5"	47	Erdenet	Dambatsersen	dacite		--	quartz, sericite	--	X
72	M99NK073R	48°51'39.9"	103°47'16.5"	47	Erdenet	Dambatsersen	quartz porphyry ?		--	--	ore mineral ?	P
73	M99NK074R	49°10'08.2"	103°44'41.3"	31	Bulgan West	Aguit	andesite		lipalite by Mongolian	silicified	--	T
74	M99NK075R	48°47'49"	102°57'06.7"	31	Bulgan West	Aguit	breccia		--	intense silicification	--	G, T
75	M99NK076R	48°47'49"	102°57'06.7"	31	Bulgan West	Aguit	granite		secondary quartz by Mong.	--	--	T
76	M99NK077R	48°47'42.5"	102°56'51.8"	31	Bulgan West	Aguit	trachyandesite		--	--	--	X
77	M99NK078R	48°49'10.5"	102°34'49.0"	26	Bulgan West	Ereen Ikher	dacite		lipalite by Mongolian	--	--	T
78	M99NK079R	48°49'31.4"	102°34'44.2"	26	Bulgan West	Ereen Ikher	breccia		--	silicification	--	G, T
79	M99NK080R	48°49'18.4"	102°42'15.7"	27	Bulgan West	Zairan	granite		drill core	purple mineral ?	--	T, M
80	M99NK081R	48°47'31.2"	102°56'37.9"	31	Bulgan West	Aguit	quartz vein		comb texture	--	pyrite	G
81	M99NK082R	48°52'00.0"	103°34'10"	SAR194	Bulgan	----	andesite		--	epidote, silicification	malachite	G
82	M99NK083R	48°45'28.1"	103°16'00.8"	35	Bulgan	Khar uul	andesite		fresh	--	--	W, T, KA
83	M99NK084R	50°13'25.0"	101°45'20.0"	----	----	----	listwaenite		altered gabbro?	silicification, carbonatized	--	G, T
84	M99HH003M	49°50'59.3"	100°24'06.3"	14	Altgana gol	Altgana gol	quartz		--	--	molybdenite	G
85	M99HH008R	49°01'21.2"	104°08'18.5"	40	Erdenet	Northwest	granite~ granodiorite	Selenge Comp.	holocrystalline/int.~coarse	--	--	W, 34S, T, X, E

Table A-10 Description of samples

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No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
86	M99HH009R	49°01'08.6"	104°08'00.2"	40	Erdenet	Northwest	ore	Erdenet Comp.	whitish gray	(not identified)	pyrite, chalcopyrite, molybdenite	O, T, X
87	M99HH010R	49°01'08.6"	104°08'00.2"	40	Erdenet	Northwest	andesite dyke	dyke	gray, aphanitic	---	---	W, T
88	M99HH011R	49°01'20.8"	104°07'02.3"	40	Erdenet	Northwest	ore-granodiorite	Erdenet Comp.	quartz, plagioclase, biotite, K-feldspar, pyroxene	(not identified)	pyrite, malachite	W, T, X
89	M99HH012R	49°01'20.8"	104°07'02.3"	40	Erdenet	Northwest	andesite dyke	dyke	dark green	(not identified)	pyrite	W, T, X
90	M99HH013R	49°13'17.4"	104°29'15.3"	SAR138	Erdenet	-----	granite		coarse	---	---	W, T
91	M99HH014R	49°13'16.3"	104°36'46.1"	SAR139	Erdenet	-----	basalt		gray	silicified, quartz+epidote vein	---	W, T
92	M99HH015R	49°13'19.3"	104°36'45.3"	SAR139	Erdenet	-----	granodiorite		intermediate	---	---	W, T
93	M99HH017R	49°13'03.6"	104°36'34.4"	SAR139	Erdenet	-----	granodiorite		intermediate	epidote	---	W, T
94	M99HH018R	49°13'03.6"	104°36'34.4"	SAR139	Erdenet	-----	granodiorite		---	epidote, chlorite	---	T, X
95	M99HH020R	48°54'14.6"	103°57'15.8"	46	Erdenet	Zалуу	diorite		intermediate/plagioclase, biotite, hornblende	---	---	T, X
96	M99HH021R	48°49'49.4"	103°48'06.5"	47	Erdenet	Darbatseren	dacite ~ andesite		pink	partly silicification	---	G, T
97	M99HH024R	48°47'46.6"	102°56'52.3"	31	Bulgan	Aguit	silicified breccia		reddish brown	---	---	T
98	M99HH025R	48°47'34.9"	102°56'45.9"	31	Bulgan	Aguit	altered rock		whitish gray	quartz+sericite	---	G, X
99	M99HH026R	48°47'34.9"	102°56'45.9"	31	Bulgan	Aguit	silicified rock		---	quartz, hematite, limonite	---	G
100	M99HH032R	48°47'06.5"	103°26'84.2"	34	Bulgan	Jasin buurts	andesite		magnetite remains	weakly silicified	---	G, X
101	M99HH033R	48°47'02.5"	103°26'39.6"	34	Bulgan	Jasin buurts	quartz vein		brecciation	quartz (black streak)	---	G, T, X
102	M99HH034R	48°46'50.0"	103°26'16.0"	34	Bulgan	Jasin buurts	dacite or dacitic tuff		whitish	quartz+sericite	---	G, X

Table A-10 Description of samples

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No	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
103	M99HH035R	48°46'50.4"	103°26'10.2"	34	Bulgan	Jasin buuts	altered rock (andesite?)		whitish	quartz+sericite	---	G, X
104	M99HH036R	48°42'45.2"	103°31'50.3"	SAR221	Bulgan	---	quartz vein		---	quartz-hematite along fracture	---	G, X
105	M99HH038R	48°25'26.8"	103°56'39.8"	SAR M-1	Zaamar West	---	andesite		gray	chlorite along fracture	---	X
106	M99MZ001R	48°40'53.3"	102°08'08.6"	7	Uubulan	Samin hundii	dacite		---	silicification	limonite	G
107	M99MZ002R	48°55'00.3"	101°53'19.6"	10	Uubulan	Gua ulaan uul	silicified rock		---	silicification	limonite	G, X
108	M99MZ003R	48°55'17.5"	101°52'54.4"	10	Uubulan	Gua ulaan uul	dacite		---	silicification	Fe-Mn oxides	G
109	M99MZ004R	48°43'41.0"	101°25'46.0"	11	Khujirt	Zost tolgoi	silicified, breccia		---	silicification	limonite	G
110	M99MZ005R	48°43'41.0"	101°25'19.6"	11	Khujirt	Zost tolgoi	granite		medium grain	---	---	G
111	M99MZ006R	49°22'11.3"	100°09'33.4"	13	Murun South	Donhor bulag	silicified rock		light gray	silicification	pyrite dissemination	G, X
112	M99MZ007R	49°22'17.0"	100°09'36.6"	13	Murun South	Donhor bulag	silicified rock		platy	silicification	---	G
113	M99MZ008M	49°50'58.6"	100°24'02.9"	14	Altgana gol	Altgana gol	quartz veins		white	---	molybdenite	18O, F
114	M99MZ009R	49°55'59.8"	100°21'06.4"	16	Altgana gol NW	Delger uul	ultra mafic rock		dark green	---	---	G, PT, E
115	M99MZ010R	50°39'12.3"	100°46'18.2"	20	Khokhoo	Hurit gol	granite		pink	---	---	G
116	M99MZ011M	50°38'16.4"	100°46'47.8"	20d	Khokhoo	---	Cu ore		quartz vein	---	malachite, chalcopyrite	G
117	M99MZ012M	50°26'13.9"	100°52'50.3"	20a	Khokhoo	---	Pb-Cu ore		quartz vein	---	galena, malachite	G
118	M99MZ013R	50°12'45.5"	101°31'29.3"	20b	Khokhoo	---	silicified rock		quartz veinlet	hydrothermal?	---	G
119	M99MZ014R	50°12'16.0"	101°37'18.2"	25c	South Camp	---	dunite		serpentinized	---	---	G, PT, E

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
120	M99MZ015R	49°01'18.1"	104°07'44.1"	40	Erdenet	Northwest	granitic rock	Erdenet complex	----	phylic alteration	pyrite and chalcopyrite dissemination	W, T
121	M99MZ016M	49°01'18.1"	104°07'44.1"	40	Erdenet	Northwest	quartz vein		----	B-vein	pyrite, chalcopyrite, coveline	34S, 180, F
122	M99MZ017R	49°01'21.8"	104°07'01.4"	40	Erdenet	Northwest	granitic rock	Erdenet complex	----	potassic alteration	pyrite dissemination	W, 34S, T
123	M99MZ018R	49°07'52.1"	103°38'52.4"	38	Erdenet	Khujirjin gol	granodiorite		----	potassic alteration?	----	G
124	M99MZ019R	49°07'41.0"	103°38'41.0"	38	Erdenet	Khujirjin gol	andesite		dark gray	----	magnetite	G
125	M99MZ020R	49°07'58.8"	103°38'13.9"	38	Erdenet	Khujirjin gol	monzonite		coarse	----	----	G
126	M99MZ021R	49°05'51.6"	103°35'49.3"	38	Erdenet	Khujirjin gol	diorite		medium grain	----	red hematite	G, PT
127	M99MZ022R	49°05'05.4"	103°59'00.0"	36	Erdenet	Talbulag	dacite		gray	----	----	G
128	M99MZ023R	49°08'53.0"	103°58'34.0"	36	Erdenet	Talbulag	volcanic rock		reddish gray	silicification	quartz veinlet	G
129	M99MZ024R	49°15'45.5"	103°55'23.8"	SAR25	Erdenet	Davaa	granite		coarse	----	----	G
130	M99MZ025R	49°14'54.4"	103°56'28.5"	SAR25	Erdenet	Davaa	granodiorite		micro grain	----	pyrite, limonite	G
131	M99MZ026R	49°02'48.6"	103°59'58.5"	36	Erdenet	Tsagaan chuluut	silicified rock		white	----	limonite along cracks	G, X
132	M99MZ027R	49°02'48.6"	103°59'58.5"	36	Erdenet	Tsagaan chuluut	silica sinter?		white	----	----	G
133	M99MZ028R	49°13'51.1"	104°14'05.0"	39	Erdenet	Zuuchin gol	andesite		----	silicification	malachite	G
134	M99MZ029R	49°13'17.3"	104°14'22.8"	39	Erdenet	Zuuchin gol	silicified rock		volcanic rock	silicification	----	G
135	M99MZ030R	48°56'34.0"	104°17'46.0"	42	Erdenet	Tourmaline	granitic rock		black colored	tourmaline-biotite	----	G
136	M99MZ031R	48°56'35.2"	104°17'44.6"	42	Erdenet	Tourmaline	syenite		medium grain	----	----	G, T

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
137	M99MZ032R	48°56'38.8"	104°17'41.4"	42	Erdenet	Tourmaline	breccia		syenite	tourmaline network	----	G, X
138	M99MZ033R	48°56'27.5"	104°18'06.8"	42	Erdenet	Tourmaline	granitic rock		drill core	----	pyrite dss	G
139	M99MZ034R	48°53'29.0"	104°22'40.5"	SAR188	Erdenet	----	granodiorite		altered	epidote	----	G
140	M99MZ035R	48°53'29.0"	104°22'40.5"	SAR188	Erdenet	----	granitic rock		float	tourmaline	----	G
141	M99MZ036R	48°49'54.9"	104°13'37.0"	43	Erdenet	Under	granodiorite		----	k-feldspar, epidote	----	W, 34S
142	M99MZ037R	48°49'50.6"	104°13'37.0"	43	Erdenet	Under	granodiorite		sericite	limonite	----	G
143	M99MZ038R	48°49'38.7"	104°13'35.3"	43	Erdenet	Under	granodiorite		albite-epidote veinlet	----	----	G
144	M99MZ039R	48°49'34.2"	104°13'25.3"	43	Erdenet	Under	quartz porphyry		fresh?	----	----	W, 34S
145	M99MZ040R	48°49'33.5"	104°13'17.2"	43	Erdenet	Under	quartz porphyry		white to red	oxidization	----	G
146	M99MZ041R	48°57'52.0"	104°11'45.8"	45	Erdenet	Oyut	granitic rock	Erdenet complex	drill core	potassium	primary chalcopyrite	34S
147	M99MZ042R	48°57'43.2"	104°11'52.3"	45	Erdenet	Oyut	granodiorite porphyry	Erdenet complex	altered	sericitic	----	W
148	M99MZ043R	48°57'45.5"	104°11'52.3"	45	Erdenet	Oyut	granodiorite porphyry	Erdenet complex	relatively fresh	----	----	W, T
149	M99MZ044R	48°57'52.0"	104°11'45.8"	45	Erdenet	Oyut	granodiorite	Selenge complex	relatively fresh	----	----	W, 34S, T
150	M99MZ045R	48°43'37.4"	103°56'45.4"	SAR233	Erdenet	----	volcanic rock		----	silicification	----	W
151	M99MZ046R	48°43'40.2"	103°56'33.7"	SAR233	Erdenet	----	hydrothermal breccia		volcanic rocks	----	----	W
152	M99MZ047R	48°46'00.7"	104°04'31.3"	SAR235	Erdenet	----	aplitic rock		biotite	silicification	----	W
153	M99MZ048R	48°46'17.1"	104°04'34.6"	SAR235	Erdenet	----	granitic rock		----	silicification, sericite	limonite	W

Table A-10 Description of samples

No	Sample No	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
154	M99MZ049R	49°09'51.8"	103°44'54.3"	37	Erdenet	Megein gol	silicified rock		---	tourmaline?	---	G
155	M99MZ050X	49°01'16.0"	104°07'57.4"	40	Erdenet	Northwest	sericite	Erdenet complex	open pit	phyllitic alteration	sulfides	KA
156	M99MZ051R	49°01'14.2"	104°07'12.9"	40	Erdenet	Northwest	granitic rock	Erdenet complex	open pit	potassic alteration	sulfides	KA
157	M99MZ052R	48°48'11.2"	102°55'51.7"	30	Bulgan West	Urmiin tsgaan nuur	tuff breccia		---	---	---	G
158	M99MZ053R	48°48'05.0"	102°56'11.2"	30	Bulgan West	Urmiin tsgaan nuur	syenite		dyke	---	---	G
159	M99MZ054R	48°52'03.5"	102°49'43.8"	29	Bulgan West	Burged khyr	granitic rock		---	---	limonite	W
160	M99MZ055R	48°52'03.5"	102°49'43.8"	29	Bulgan West	Burged khyr	silicified rock		white	hypogene alunite	---	W, X
161	M99MZ056R	48°52'24.2"	102°49'51.4"	29	Bulgan West	Burged khyr	silicified rock		white	hypogene alunite	---	W
162	M99MZ057R	48°48'58.6"	102°47'00.0"	28	Bulgan West	Nomgon	magnetic rock		granite origin	k-feldspar	magnetite	W, PT
163	M99MZ059R	48°49'11.5"	102°47'03.1"	28	Bulgan West	Nomgon	granite		magnetite after mafic	replacement	magnetite	W
164	M99MZ060R	48°42'00.6"	102°45'47.9"	32	Bulgan West	Undrakh	quartz veinlet		granitic host	potassic alteration	malachite, chalcocite	G
165	M99MZ061M	48°45'27.9"	103°16'04.9"	33	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	limonite	G
166	M99MZ062M	48°45'28.1"	103°16'00.9"	33	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	azurite	G
167	M99MZ063R	48°45'28.1"	103°16'00.9"	33	Bulgan	Tsookher mert	granitic rock		host of qz vein	sericitic	---	G, X
168	M99MZ064M	48°45'27.3"	103°16'00.8"	33	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	malachite, azurite, chalcopyrite?	G, P
169	M99MZ065M	48°45'27.3"	103°16'00.8"	33	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	---	180, F
170	M99MZ066M	48°42'06.7"	103°16'21.3"	35	Bulgan	Khar uul	quartz veinlet		andesite host	epidote	Cu oxide	G

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
171	M99MZ067M	48°42'05.9"	103°16'20.8"	35	Bulgan	Khar uul	quartz veinlet		andesite host	epidote	Cu oxide	G
172	M99MZ068R	48°49'38.3"	103°39'11.0"	SAR197	Bulgan	----	quartz veinlet		andesite host	----	----	G
173	M99MZ069R	48°49'27.2"	103°39'21.4"	SAR197	Bulgan	----	brecciated rock		andesite	----	limonite	G
174	M99MZ070R	48°47'13.9"	103°39'44.0"	SAR205	Bulgan	-----	quartz veinlet		andesite host	silicification + epidote	----	G
175	M99MZ071R	48°47'05.0"	103°39'45.8"	SAR205	Bulgan	-----	andesite		altered	silicification + epidote	----	G
176	M99MZ072R	48°47'56.1"	103°35'54.2"	SAR202	Bulgan	----	quartz veinlet		andesite host	silicification + epidote	----	G
177	M99MZ073M	48°46'59.6"	103°35'18.4"	SAR204	Bulgan	----	quartz veinlet		andesite host	silicification + epidote	malachite	G
178	M99MZ074M	48°46'55.5"	103°35'28.0"	SAR204	Bulgan	----	quartz veinlet		andesite host	silicification + epidote	malachite	G
179	M99MZ075R	48°24'33.0"	103°56'49.9"	SAR M-2	Zaamar West	----	andesite		degassing	zeolite, silica	----	G
180	M99MZ076R	48°17'46.6"	104°13'54.1"	49	Zaamar West	Mt. Eagle North	tuff		pale green	silicification	----	G
181	M99RK001R	48°54'59.1"	101°52'53.7"	10	Uubulan	Gua ulaan uul	float, tuff breccia	Hostai series	trachy andesitic	white-reddish, acidic alteration, kaolin, limonite(hematite), weak silicification	---	G
182	M99RK002R	48°43'29.7"	101°25'46.1"	11	Khujirt	Zost tolgoi	dacitic tuff breccia		dacitic	reddish(white), moderate silicification, limonite(pyrite relict), sericite	---	G
183	M99RK003R	49°22'17.6"	100°09'55.0"	13	Murun South	Donhor bulag	float, quartz vein		white-clear	limonite stain	---	G
184	M99RK004R	49°22'17.6"	100°09'55.0"	13	Murun South	Donhor bulag	dacitic tuff breccia		white, fine-coarse grain	silicification, sericite	---	G
185	M99RK005M	49°51'03.3"	100°24'04.9"	14	Altgana gol	Altgana gol	quartz vein		(in trench), W>4cm, black band	limonite	molybdenite	G
186	M99RK006R	49°56'05.5"	100°20'57.8"	16	Altgana gol NW	Delger uul	basic tuff	North Mongolia fault zone	dark green, epidote+chlorite	calcite stain(W:10cm(Max))	---	G
187	M99RK007R	50°17'05.9"	100°18'12.7"	18	Khokhoo	Quartz	float, quartz vein		white-clear, coarse grain, W>10cm	limonite	---	G

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
188	M99RK008R	50°31'06.3"	101°05'23.0"	20b	Khokhoo	----	quartz vein		white-clear, coarse grain, W:10cm(Max 1m), L:3m, N70°W60°N, host:pelitic shist	weak limonite	---	G
189	M99RK009R	50°31'09.4"	101°05'06.5"	20b	Khokhoo	----	quartz vein		white, medium grain, W<30cm, L:20cm, N85°W60°N, host:pelitic shist	weak limonite(hematite)	---	G
190	M99RK010R	50°31'06.3"	101°05'23.0"	20b	Khokhoo	----	float, granite?		quartz vein?	silicification, weak limonite, greisen?(biotite+mica)	---	G
191	M99RK011R	50°34'25.4"	101°06'18.6"	20c	Khokhoo	----	quartz vein?		clear, coarse grain, W:5-10cm, host:gneiss	greisen? (biotite+muscovite)	---	G, T
192	M99RK012R	50°15'03.6"	100°17'00.6"	18	Khokhoo	Quartz	float, quartz vein		white-reddish, fresh grain, W>25cm	hematite	---	G
193	M99RK013R	50°14'03.3"	100°17'00.6"	18	Khokhoo	Quartz	quartz vein		clear, coarse grain, W>5cm, segregation vein?	limonite	molybdenite?	G, F
194	M99RK014R	50°14'03.3"	100°17'00.6"	18	Khokhoo	Quartz	limestone		white	strong silicification	---	G
195	M99RK015R	50°14'03.3"	100°17'00.6"	18	Khokhoo	Quartz	basalt? basic tuff?		green, metamorphosed	weak silicification	---	G
196	M99RK016R	50°14'15.0"	100°16'27.7"	18	Khokhoo	Quartz	limestone		white-milky, brecciated	weak silicification	---	G
197	M99RK017R	50°06'21.7"	101°36'05.7"	25a	South Camp	----	quartz vein		white, coarse grain, W<10cm, host:aplitic granite	weak limonite	---	G
198	M99RK018R	50°16'35.8"	101°43'52.7"	25e	South Camp	----	float, quartz vein		white-clear, coarse grain, W<5cm, host:tuffaceous ss	weak limonite	---	G
199	M99RK019R	50°16'24.5"	101°44'01.5"	25e	South Camp	----	quartz vein		veinlet, NS80°E, host:sanditic shist	fluorite	---	G
200	M99RK020M	49°01'29.1"	104°07'42.4"	40	Erdenet	Northwest	silicified rock	Erdenet complex?	light gray	strong silicification, quartz+sericite, quartz vein(B-type vein), hypogene zone	chalcopyrite vein and dissemination, covelin along fracture	O, PT, E
201	M99RK021M	49°01'23.5"	104°07'00.8"	40	Erdenet	Northwest	granite	Erdenet complex?	quartz-biotite-k-feldspar-feldspar	silicification, limonite along crack, partly oxidized, potassic(biotite-k-feldspar)	quartz-chalcopyrite and pyrite vein, dissemination, malachite along crack	O, PT, E
202	M99RK022R	49°07'41.5"	103°38'41.5"	38	Erdenet	Khujirjin gol	float, granite		k-feldspar rich	quartz veinlet in(W:3mm), limonite	---	G
203	M99RK023R	49°07'57.3"	103°38'13.8"	38	Erdenet	Khujirjin gol	quartz vein		white-clear, coarse grain, W<30cm, host:pyrite	quartz network, fluorite	---	G
204	M99RK024R	49°11'16.8"	104°02'14.4"	SAR144	Erdenet	----	silicified rock(granite)		----	silicification(W:20cm), epidote, quartz vein in, biotite rich	---	G

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
205	M99RK025M	49°11'16.8"	104°02'14.4"	SAR144	Erdenet	---	granite		plagioclase+biotite+quartz+k-feldspar	potassic(k-feldspar+biotite), limonite	malachite along fracture (2*3m)	G
206	M99RK025R	49°11'16.8"	104°02'14.4"	SAR144	Erdenet	---	granite		plagioclase+biotite+quartz+k-feldspar(minor)	potassic alteration? (biotite rich)	--	W, T
207	M99RK026M	49°11'16.8"	104°02'14.4"	SAR144	Erdenet	---	granite		plagioclase+biotite+quartz+k-feldspar	potassic(k-feldspar+biotite), limonite	malachite, chalcocopyrite	PT
208	M99RK027R	49°13'32.6"	104°01'23.1"	SAR136	Erdenet	---	aplite		reddish, quartz+k-feldspar	quartz vein	--	G
209	M99RK028R	49°13'29.7"	104°13'58.9"	39	Erdenet	Zuuchin gol	granite	Selenge complex	biotite+plagioclase+quartz, equigranule	--	--	G
210	M99RK029R	48°59'53.2"	104°09'20.9"	41	Erdenet	Central	granite		quartz+biotite+plagioclase+k-feldspar	moderate silicification, quartz+sericite+mica+tourmaline, limonite	--	G
211	M99RK030R	48°59'51.5"	104°09'27.5"	41	Erdenet	Central	granite	Selenge complex?	biotite+plagioclase+quartz(minor)+k-feldspar(minor)	quartz vein in	--	W, T
212	M99RK031M	48°59'46.3"	104°09'26.4"	41	Erdenet	Central	granite	Selenge complex?	plagioclase+biotite+k-feldspar+quartz	potassic, weak limonite	malachite along cracks	G, T
213	M99RK032M	48°59'55.5"	104°09'26.1"	41	Erdenet	Central	diorite	Erdenet complex?	phenocryst:biotite+plagioclase, fine grain	epidote, limonite	malachite along cracks	G
214	M99RK032R	48°59'55.5"	104°09'26.1"	41	Erdenet	Central	diorite	Erdenet complex?	phenocryst:biotite+plagioclase, fine grain	epidote	--	W, T
215	M99RK033R	48°51'22.7"	104°26'49.6"	SAR200	Erdenet	---	aplite		dyke	quartz vein, quartz+magnetite	--	G
216	M99RK034R	48°44'33.5"	104°11'03.5"	SAR238	Erdenet	---	granite		equigranule, coarse grain, biotite+plagioclase+quartz+k-feldspar	quartz+tourmalin vein in	--	G
217	M99RK035R	48°44'33.5"	104°11'03.5"	SAR238	Erdenet	---	granite		medium grain, quartz(rich)+biotite+plagioclase+k-feldspar	--	--	T, M
218	M99RK036R	48°44'33.0"	104°10'59.9"	SAR238	Erdenet	---	granite		equigranule, coarse grain, biotite+plagioclase+quartz+k-feldspar	epidote	--	T, M
219	M99RK037R	48°45'01.9"	104°12'37.2"	SAR238	Erdenet	---	quartz vein		clear, W.3cm, N25°E65°E, host:granite	--	--	G
220	M99RK038R	48°45'01.9"	104°12'37.2"	SAR238	Erdenet	---	granite		quartz+plagioclase+k-feldspar+biotite	quartz vein in	--	W, T
221	M99RK039M	48°45'39.5"	104°12'16.5"	44	Erdenet	Shand	granite	Selenge complex	biotite+k-feldspar+plagioclase+quartz	k-feldspar rich, weak limonite	malachite along cracks	G

Table A-10 Description of samples

(14/16)

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
222	M99RK040R	48°45'39.5"	104°12'16.5"	44	Erdenet	Shand	andesite porphyry		dark gray, phenocryst-plagioclase	---	---	T
223	M99RK041R	48°42'20.0"	103°56'11.7"	SAR233	Erdenet	---	float, silicified rock		granite?	silicification, hematite, chlorite?	---	G
224	M99RK042R	48°46'22.4"	104°04'30.4"	SAR235	Erdenet	---	granite		quartz+k-feldspar-biotite	weak silicification(W<10m)	---	G
225	M99RK043R	48°46'33.3"	104°04'26.0"	SAR235	Erdenet	---	aplite		reddish	silicification, chlorite?	---	G
226	M99RK044R	49°20'07.1"	104°09'57.3"	SAR127	Erdenet	---	granodiorite		equigranule, coarse grain, biotite-plagioclase+k-feldspar	---	---	W, T
227	M99RK045R	48°48'24.5"	102°56'00.5"	30	Bulgan West	Urmin tsgaan nuur	lapilli tuff		fragment, plagioclase+k-feldspar	---	---	G
228	M99RK046R	48°48'06.9"	102°55'40.9"	30	Bulgan West	Urmin tsgaan nuur	lapilli tuff		fragment, plagioclase+k-feldspar	silicification	---	G
229	M99RK047R	48°48'03.8"	102°55'35.7"	30	Bulgan West	Urmin tsgaan nuur	lapilli tuff		fragment, plagioclase+k-feldspar	silicification, quartz vein in (W2mm, coarse grain, white)	---	G
230	M99RK048R	48°49'08.7"	102°34'86.9"	26	Bulgan West	Ereen ikher	silicified rock		lapilli tuff? trachite?	moderate silicification, sericite?, limonite	---	G, X
231	M99RK049R	48°49'08.7"	102°34'86.9"	26	Bulgan West	Ereen ikher	lapilli tuff		fragment, k-feldspar+biotite	moderate silicification, limonite	---	G
232	M99RK050R	48°49'08.7"	102°34'86.9"	26	Bulgan West	Ereen ikher	lapilli tuff		fragment, k-feldspar+biotite	moderate silicification, limonite, calcite stain	---	G, X
233	M99RK051R	48°49'08.7"	102°34'86.9"	26	Bulgan West	Ereen ikher	lapilli tuff		fragment, k-feldspar+biotite	silicification, white, sericite?, limonite	---	G, X
234	M99RK052M	48°48'09.8"	102°42'12.5"	27	Bulgan West	Zaian	granite		quartz+biotite+plagioclase+k-feldspar, fine grain	limonite stain, potassic alteration	malachite	G
235	M99RK053M	48°49'04.7"	102°41'57.2"	27	Bulgan West	Zaian	granite		quartz+biotite+plagioclase+k-feldspar	strong limonite, silicification	malachite, azurite	G
236	M99RK054R	48°42'03.7"	102°45'43.9"	32	Bulgan West	Undrakh	quartz vein		aplite?	limonite	malachite, chalcopyrite, bornite	G
237	M99RK055M	48°42'03.7"	102°45'43.9"	32	Bulgan West	Undrakh	granite		quartz+(biotite)+(k-feldspar)	limonite	malachite along fracture	G
238	M99RK056M	48°42'04.7"	102°45'47.7"	32	Bulgan West	Undrakh	granite		quartz+(biotite)+(k-feldspar)	potassic alteration, weak silicification, mica	malachite	T

Table A-10 Description of samples

No.	Sample No	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
239	M99RK057M	48°42'04.7"	102°45'47.7"	32	Bulgan West	Undrakh	granite		quartz+(biotite)+(k-feldspar)	limonite, potassic alteration, weak silicification, mica, quartz vein	malachite	G, T
240	M99RK058R	48°47'01.9"	103°26'38.5"	34	Bulgan	Jasiin buuts	dacite?		quartz+biotite	white, strong silicification, pyrite rich (limonite), mica	---	G
241	M99RK059R	48°47'01.9"	103°26'38.5"	34	Bulgan	Jasiin buuts	dacite?		quartz+biotite	white, moderate silicification, pyrite rich(limonite)	---	G, X
242	M99RK060R	48°47'39.2"	103°25'45.2"	34	Bulgan	Jasiin buuts	dacite?		quartz+biotite	white, silicification, pyrite(limonite)	---	G, X
243	M99RK061R	48°47'39.2"	103°25'45.2"	34	Bulgan	Jasiin buuts	dacitic tuff		lapilli tuff, fragments:quartz+biotite	moderate silicification, pyrite rich, limonite along crack, sericite?, mica	---	G, X
244	M99RK062R	48°47'39.2"	103°25'45.2"	34	Bulgan	Jasiin buuts	silicified rock		dacitic tuff? dacite?	strong silicification, limonite along crack, sericite?, mica	---	G
245	M99RK063R	48°42'46.5"	103°31'39.2"	SAR221	Bulgan	---	silicified rock		w:10cm, N70° E90°, host:andesite	silicification, epidote, quartz veinlet	---	G
246	M99RK064R	48°43'33.3"	103°31'43.8"	SAR222	Bulgan	---	andesite		porphyritic, phenocryst:plagioclase	silicification, quartz veinlet in	---	G
247	M99RK065R	48°43'57.0"	103°31'03.1"	SAR219	Bulgan	---	silicified rock		andesite?, phenocryst:plagioclase	white, silicified, sericite?	---	G, X
248	M99RK066R	48°52'47.1"	103°38'34.4"	SAR183	Bulgan	---	float, epidote vein		host:andesite	silicified, epidote, quartz veinlet in	---	G
249	M99RK067M	48°52'41.5"	103°38'23.4"	SAR183	Bulgan	---	epidote-quartz vein		host:andesite	silicification, epidote	malachite	G
250	M99RK068M	48°52'46.8"	103°35'13.2"	SAR182	Bulgan	---	epidote vein		W:3-5cm, L:5m, N55° E, host:trachitic andesite	silicified, epidote	malachite	G
251	M99RK069R	48°53'39.8"	103°37'44.6"	48	Bulgan	Mt. Zain gobaav	white altered rock		andesite?	weak silicification, weak pyrite dissemination, limonite, kaoline	---	G, X
252	M99RK070R	48°53'39.8"	103°37'44.6"	48	Bulgan	Mt. Zain gobaav	white altered rock		andesite?	weak silicification, pyrite dissemination, limonite	---	G, X
253	M99RK071R	48°53'39.8"	103°37'44.6"	48	Bulgan	Mt. Zain gobaav	altered rock		andesite?	brown, strong limonitization, montmorillonite?	---	G, X
254	M99RK072R	48°53'39.8"	103°37'44.6"	48	Bulgan	Mt. Zain gobaav	altered rock		andesite?	brown, strong limonitization	---	G
255	M99RK073R	48°53'39.8"	103°37'44.6"	48	Bulgan	Mt. Zain gobaav	altered rock		andesite?	yellow-brown, limonite, weak acid leached	---	G, X

Table A-10 Description of samples

No.	Sample No.	Latitude(N)	Longitude(E)	Survey point	Region	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
256	M99RK074R	48°53'39.8"	103°37'44.6"	48	Bulgan	Mt. Zain gobaav	white altered rock		andesite?	moderate silicification, pyrite dissemination, limonite	--	G
257	M99RK075M	48°52'39.0"	103°34'45.5"	SAR181	Bulgan	----	andesite		phenocryst:hornblende+plagioclase	moderate silicification, epidote, hematite, 1*0.6cm	malachite	G
258	M99RK076M	48°51'53.7"	103°34'02.0"	SAR194	Bulgan	----	andesite		phenocryst:hornblende+plagioclase	epidote, silicification, quartz vein(W:3-5cm)	malachite	G
259	M99RK077R	48°53'47.1"	103°37'45.0"	48	Bulgan	Mt. Zain gobaav	float, white altered rock		andesite?	white, kaoline?, weak silicification	--	G
260	M99RK078R	48°53'39.2"	103°37'46.7"	48	Bulgan	Mt. Zain gobaav	andesite		phenocryst:pyroxene+hornblende+plagioclase	weak silicification, epidote, hematite	malachite	G

Analysis type

G. ICP(Au+27elements)

W: Petrological chemical analysis

O: Ore grade assay

34S: Sulfur isotope composition

18O: Oxygen isotope composition

KA: K-Ar radiometric age

T: Observation of thin sections

P: Observation of polish sections

PT: Observation of polish and thin sections

X: Powderly X-ray diffraction

F: Temperature and chlorine consistency of fluid inclusions

E: EPMA

M: Modal composition of granitic rock

Table A-11 Description of pan concentrated samples

No.	Sample	N	E	Survey Point No.	Area	Geology	Geol. Unit	Width(m)	Flow	Size	Color	Comments
1	M99HH501P	50°13'27.1'	101°39'32.0'	25f	Southern Camp	gravel		----	----	3	brown	trench
2	M99HH502P	50°13'12.6'	101°38'51.3'	----	Southern Camp	----		3	2	2	dk brown-black	Erdenbulgan Camp site
3	M99MZ501P	49°51'05.4'	100°23'58.2'			aplite		5	3	1	reddish brown	
4	M99MZ502P	49°55'59.8'	100°21'06.4'	16	Altgana gol	serpentinite		30	4	1	reddish gray	
5	M99MZ503P	50°17'07.8'	100°18'11.7'	18	Altgana gol NW	limestone		10	0	1	gray	
6	M99MZ504P	50°38'24.3'	100°46'56.9'	20	Khokhoo	granite		3	4	1	reddish brown	
7	M99MZ505P	50°25'29.2'	100°55'55.7'	20a	Khokhoo	granodiorite		5	3	1	reddish brown	
8	M99MZ506P	50°30'40.8'	101°12'33.7'	20c	Khokhoo	granitoid		25	4	1	reddish brown	
9	M99MZ507P	49°08'22.7'	103°40'13.8'	38	Erdenet	granodiorite		5	3	1	reddish brown	
10	M99MZ508P	48°56'27.5'	104°18'06.8'	42	Erdenet	granitic rock		5	3	1	d-brown	
11	M99MZ509P	48°50'00.8'	102°45'21.8'	27	Bulgan West	volcanics		2	3	1	reddish brown	
12	M99MZ510P	48°43'54.7'	103°23'31.4'	33	Bulgan	volcanics		2	3	1	reddish brown	
13	M99MZ511P	48°47'25.1'	103°39'39.8'	SAR205	Bulgan	andesite		5	4	1	dark grey	
14	M99RK500P	49°08'04.1'	103°23'50.2'	38-SAR	Erdenet	basalt, basic tuff		6	3	2	brown	rock fragments rich
15	M99RK501P	49°05'25.6'	104°00'39.9'	36	Erdenet	dacitic andesite		0.6	1	2	reddish brown	rock fragments rich
16	M99RK502P	49°08'55.2'	104°01'63.1'	SAR136	Erdenet	granite	Selenge complex?	1	1	2	reddish brown	rock fragments, Magnetite
17	M99RK503P	48°51'17.7'	104°25'18.5'	SAR200	Erdenet	granite	Selenge complex?	2	3	2	brown	rock fragments rich
18	M99RK504P	49°20'42.7'	104°07'34.0'	SAR127	Erdenet	granodiorite	Selenge complex?	1	2	3	dark grey	magnetite rich

Table A-12 Microscopic observation on polished-thin or thin sections

No.	Sample No.	Rock type	primary minerals												secondary minerals							Note (others)			
			qz	pl	kf	bt	mu	ho	opx	cpx	ol	ga	sph	zi	ap	op	gl	qz	chl	seri	serp		tc	ep	ca
67	M99RK044R	Augite bearing biotite hornblende quartz gabbro	○	⊙		△			△										○	⊙			○		
68	M99RK056M	Biotite bearing quartz monzonite porphyry	⊙	⊙	⊙	△													△	△					
69	M99RK057M	Biotite quartz monzonite porphyry	⊙	⊙	⊙	○													○	○					
70	M99NK008M	Serpentinized dunite							△	(⊙)										⊙					Chromian spinel (•)
71	M99NK055M	Aphyric basalt		⊙	⊙																				Clay minerals (⊙), secondary biotite (△)
72	M99MZ009R	Serpentinized harzburgite							⊙	△										⊙					Chromian spinel (•)
73	M99MZ014R	Serpentinized harzburgite								(⊙)															Chromian spinel (•)
74	M99MZ021R	Gabbro		⊙	○	○	△			⊙													△		
75	M99MZ057R	Biotite bearing hornblende tonalite porphyry	⊙	⊙	△	△			⊙																Fresh
76	M99RK020M	Granite porphyry	△	△															⊙	⊙					Highly altered
77	M99RK021M	Granite porphyry				△													⊙	⊙					Highly altered. Clay minerals (⊙)
78	M99RK026M	Biotite quartz diorite	⊙	⊙	△	○																	⊙		

Legend:

⊙ abundant; ○ common; △ minor; • rare

qz: quartz, pl: plagioclase, kf: k-feldspar, bt: biotite, mu: muscovite, ho: hornblende, ol: olivine, opx: orthopyroxene, cpx: clinopyroxene, ga: garnet, sph: sphene, zi: zircon, ap: apatite, op: opaque minerals (mainly iron oxide), chl: chlorite, seri: sericite, serp: serpentine, tc: talc, ep: epidote, ca: carbonate mineral (mainly calcite)

Table A-13 Modal composition of granitic rocks

Sample	No.1 M99NK025R	No.2 M99NK028R	No.3 M99NK033R	No.4 M99NK038R	No.5 M99NK047R	No.6 M99NK050R	No.7 M99NK051R	No.8 M99NK059R
Quartz mode	277 (40.20 %)	270 (52.94 %)	0 (0.00 %)	311 (43.13 %)	102 (17.09 %)	334 (44.95 %)	32 (4.75 %)	180 (31.47 %)
Plagioclase mode	149 (21.63 %)	148 (29.02 %)	411 (71.85 %)	269 (37.31 %)	326 (54.61 %)	129 (17.36 %)	541 (80.39 %)	240 (41.96 %)
K-feldspar mode	245 (35.56 %)	89 (17.45 %)	46 (8.04 %)	86 (11.93 %)	124 (20.77 %)	245 (32.97 %)	4 (0.59 %)	89 (15.56 %)
Hornblende (replaced by chlorite) mode	2 (0) (0.29 %)	0 (0) (0.00 %)	73 (38) (12.76 %)	27 (14) (3.74 %)	20 (16) (3.35 %)	22 (2) (2.96 %)	31 (31) (4.61 %)	0 (0) (0.00 %)
Biotite (replaced by chlorite) mode	0 (0) (0.00 %)	0 (0) (0.00 %)	0 (0) (0.00 %)	12 (9) (1.66 %)	7 (5) (1.17 %)	0 (0) (0.00 %)	24 (24) (3.57 %)	36 (3) (6.29 %)
Calcite mode	1 (0.15 %)	0 (0.00 %)	10 (1.75 %)	3 (0.42 %)	4 (0.67 %)	0 (0.00 %)	9 (1.34 %)	4 (0.70 %)
Opaque minerals :replaced by Feldspar	3 (0.44 %)	0 (0.00 %)	30 (5.24 %)	7 (0.97 %)	8 (1.34 %)	10 (1.35 %)	0 (0.00 %)	19 (3.32 %)
Others mode	12 (1.74 %)	3 (0.59 %)	2 (0.35 %)	6 (0.83 %)	6 (1.01 %)	3 (0.40 %)	32 (4.75 %)	4 (0.70 %)
Total	689	510	572	721	597	743	673	572
(O/(Q+Pl+Kf))	(0.41)	(0.53)	(0.00)	(0.47)	(0.18)	(0.47)	(0.06)	(0.35)
(Pl/(Q+Pl+Kf))	(0.22)	(0.29)	(0.90)	(0.40)	(0.59)	(0.18)	(0.94)	(0.47)
(Kf/(Q+Pl+Kf))	(0.37)	(0.18)	(0.10)	(0.13)	(0.22)	(0.35)	(0.01)	(0.17)
(Ho+Bt/(Q+Pl+Kf+Ho+Bt))	(0.00)	(0.00)	(0.14)	(0.06)	(0.05)	(0.03)	(0.09)	(0.07)

Table A-13 Modal composition of granitic rocks

Sample	No.9 M99NK061R	No.10 M99NK062R	No.11 M99NK063R	No.12 M99NK065R	No.13 M99NK066R	No.14 M99NK067R (basalt)	No.15 M99NK069R	No.16 M99NK070R
Quartz mode	308 (43.14 %)	398 (65.35 %)	210 (29.37 %)	403 (57.00 %)	251 (36.43 %)	(0.00 %)	267 (42.72 %)	773 (98.98 %)
Plagioclase mode	109 (15.27 %)	24 (3.94 %)	278 (38.88 %)	41 (5.80 %)	299 (43.40 %)	(0.00 %)	227 (36.32 %)	0 (0.00 %)
K-feldspar mode	255 (35.71 %)	23 (3.78 %)	188 (26.29 %)	233 (32.96 %)	96 (13.93 %)	(0.00 %)	126 (20.16 %)	0 (0.00 %)
Hornblende (replaced by chlorite) mode	7 (0.98 %)	0 (0.00 %)	19 (2.66 %)	3 (0.42 %)	25 (3.63 %)	(0.00 %)	2 (0.32 %)	0 (0.00 %)
Biotite (replaced by chlorite) mode	16 (2.24 %)	0 (0.00 %)	2 (0.28 %)	0 (0.00 %)	0 (0.00 %)	(0.00 %)	0 (0.00 %)	0 (0.00 %)
Calcite mode	0 (0.00 %)	10 (1.64 %)	3 (0.42 %)	23 (3.25 %)	6 (0.87 %)	Phenocryst (0.75 %)	5 (0.75 %)	0 (0.00 %)
Opaque minerals :replaced by Feldspar	11 (1.54 %)	9 (1.48 %)	12 (1.68 %)	3 (0.42 %)	8 (1.16 %)	opaque (1.19 %)	8 (1.19 %)	0 (0.00 %)
Others mode	8 (1.12 %)	145 (23.81 %)	3 (0.42 %)	1 (0.14 %)	4 (0.58 %)	Matrix (98.06 %)	3 (0.48 %)	8 (1.02 %)
Total	714	609	715	707	689	670	625	781
(Q/(O+Pl+Kf))	(0.46)	(0.89)	(0.31)	(0.60)	(0.39)	(-)	(0.43)	(1.00)
(Pl/(O+Pl+Kf))	(0.16)	(0.05)	(0.41)	(0.06)	(0.46)	(-)	(0.37)	(0.00)
(Kf/(O+Pl+Kf))	(0.38)	(0.05)	(0.28)	(0.34)	(0.15)	(-)	(0.20)	(0.00)
(Ho+Bt/(O+Pl+Kf+Ho+Bt))	(0.03)	(0.00)	(0.03)	(0.00)	(0.04)	(-)	(0.00)	(0.00)

Table A-13 Modal composition of granitic rocks

Sample	No.17 M99NK080R	No.18 M99RK025R	No.19 M99RK030R	No.20 M99RK035R	No.21 M99RK036R	No.22 M99RK038R	No.23 M99RK044R
Quartz mode	211 (32.51 %)	6 (0.86 %)	223 (29.54 %)	207 (33.12 %)	162 (23.28 %)	204 (28.02 %)	20 (2.85 %)
Plagioclase mode	220 (33.90 %)	327 (46.92 %)	367 (48.61 %)	88 (14.08 %)	371 (53.30 %)	301 (41.35 %)	522 (74.36 %)
K-feldspar mode	180 (27.73 %)	177 (25.39 %)	139 (18.41 %)	244 (39.04 %)	86 (12.36 %)	175 (24.04 %)	22 (3.13 %)
Hornblende (replaced by chlorite) mode	0 (0) (0.00 %)	164 (17) (23.53 %)	3 (3) (0.40 %)	65 (14) (10.40 %)	38 (2) (5.46 %)	6 (2) (0.82 %)	104 (13) (14.81 %)
Biotite (replaced by chlorite) mode	35 (11) (5.39 %)	0 (0) (0.00 %)	15 (11) (1.99 %)	0 (0) (0.00 %)	32 (4) (4.60 %)	20 (4) (2.75 %)	0 (0) (0.00 %)
Calcite mode	0 (0.00 %)	7 (1.00 %)	0 (0.00 %)	8 (1.28 %)	0 (0.00 %)	11 (1.51 %)	0 (0.00 %)
Opaque minerals :replaced by Feldspar	3 (0.46 %)	13 (1.87 %)	2 (0.26 %)	10 (1.60 %)	5 (0.72 %)	11 (1.51 %)	27 (3.85 %)
Others mode	0 (0.00 %)	3 (0.43 %)	6 (0.79 %)	3 (0.48 %)	2 (0.29 %)	0 (0.00 %)	7 (1.00 %)
Total	649	697	755	625	696	728	702
(Q/(Q+Pl+Kf))	(0.35)	(0.01)	(0.31)	(0.38)	(0.26)	(0.30)	(0.04)
(Pl/(Q+Pl+Kf))	(0.36)	(0.64)	(0.50)	(0.16)	(0.60)	(0.44)	(0.93)
(Kf/(Q+Pl+Kf))	(0.29)	(0.35)	(0.19)	(0.45)	(0.14)	(0.26)	(0.04)
(Ho+Bt/(Q+Pl+Kf+Ho+Bt))	(0.05)	(0.24)	(0.02)	(0.11)	(0.10)	(0.04)	(0.16)

Table A-14 Microscopic Observation of polished section

No.	Sampe No.	type	primary minerals			secondary minerals			Note (others)
			pyrite	chalcopyrite	magnetite	goethite	chalcocite	hematite	
1	M99NK027R	disseminate	•			△			
2	M99NK057R	disseminate and veinlet		△	•	•	•		skarn?
3	M99NK073R	disseminate		•	△			△	
4	M99MZ064M	disseminate		•		•			Minute unknown minerals (△, ○)

Legend; ◎,abundant; ○, common; △, minor; •rare

Table A-15 Powdery X-ray diffraction

No	Sample name	Silicas			Silicates										Carbonates			Sulfides			Sulfates		Others		Note
		Quartz	Cristobalite	Tridymite	Plagioclase	Albite	K-feldspar	Hornblende	Biotite	Sericite	Pyrophyllite	Chlorite	Chlorite/Mont	Mont.	Kaolin	Andalusite	Calcite	Dolomite	Pyrite	Galena	Sphalerite	Gypsum	Barite	Diaspore	
30	M99MZ063R	46				8			2																
31	M99RK048R	22				4			1																
32	M99RK050R	32				11			1																
33	M99RK051R	13				12																			
34	M99RK059R	38							16																
35	M99RK060R	36				10			7																
36	M99RK061R	50				4			15																
37	M99RK065R	42				4			6																
38	M99RK069R	45							6				8												
39	M99RK070R	35								7															
40	M99RK071R	22										11													
41	M99RK073R	46								5														4	

Figure in column shows quartz index.