

# APPENDIX 2

No	Reference 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	Preceding survey	Grade. Geochemical anomaly (maximum)						Remarks				
				latitude	longitude											Au(g/t)	Ag(g/t)	Cu(%)	Mo(%)	Pb(%)	Zn(%)		Cr(%)			
1	4031	Occurrence 24	Zelter	N50°13'02.5"	E104°27'58.6"	hydrothermal//vein	alteration zone: 200m × 200m(quartz veinlets W.0.1-3cm)	Lower middle Cambrian sandstone, Cambrian-Ordovician sandstone, shale, limestone, granosyenite, granodiorite	sandstone, shale, limestone	---	---	---	Au	Au: 108kg	Geo-mapping	0.01	---	---	---	---	---	---	---	---	Repot No.: 3624, 5031	
2	4032	Gatsuurkhan	Zelter	N50°09'51.9"	E104°25'37.9"	//alteration zone	400m × 150m	Cambrian-Ordovician sandstone, shale, limestone, granitoids	granitoids	---	---	---	Au	Au: 324kg	Geo-mapping(1994)	0.02	---	---	---	---	---	---	---	---	Repot No.: 3624	
3	---	SAR139	Erdenet West	N49°13'07.7"	E104°36'40.1"	---	40m × 0.5m	---	---	---	---	Cu	---	---	---	---	---	1.100	---	---	---	---	---	---		
4	---	SAR138	Erdenet West	N49°13'01.4"	E104°29'00.9"	---	1500m × 50-70m	---	---	---	---	---	---	---	---	---	---	---	0.600	---	---	---	---	---	---	
5	---	SAR127	Erdenet West	N49°20'07.1"	E104°09'57.3"	---	500m × 400m	---	---	---	---	---	---	---	---	---	---	---	0.120	0.003	---	---	---	---	---	
6	82	Zuukhiin gol	Erdenet West	N49°13'02.4"	E104°13'40.5"	metasomatic//stockwork, dyke	stockwork, dyke: 1.2km × 3.5km	Permian-Triassic volcanogenic sedimentary rocks, Jurassic granite, granodiorite	granite, granodiorite	Permian-Triassic	---	chalcopryrite, molybdenite, galena, sphalerite, pyrite	Cu/Mo	---	Geo-mapping(1965), Geophysics(IP, Magnetic), Drill(20holes)	---	---	---	0.200	0.003	---	---	---	---	---	Repot No.: 1965, 3665
7	---	SAR136	Erdenet West	N49°13'32.6"	E104°01'23.1"	---	4000m × 500-1000m	---	---	---	---	---	---	---	---	---	---	---	0.200	0.020	---	0.010	---	---	---	
8	---	SAR144	Erdenet West	N49°11'16.8"	E104°02'14.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	1.179	---	---	---	---	---	---	
9	360	SAR25	Erdenet West	N49°15'46.8"	E103°55'23.9"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.010	0.003	0.100	0.010	---	---	---	
10	89	Mogoin gol 2	Erdenet West	N49°10'03.7"	E103°45'13.5"	//alteration zone	5000m × 3500m	basalt-andesite porphyry	basalt-andesite porphyry	---	secondary quartzite	---	Cu	---	Geo-mapping(1971); Trench(26.5m3); Channel sample(8); Lump sample(7)	---	---	---	0.110	---	---	---	---	---	Mogoin gol Repot No.: 3209	
11	5400	Khujiruiin gol	Erdenet West	N49°08'18.9"	E103°38'39.3"	hydrothermal//vein	quartz vein zone: 6km × 2km	Jurassic granodiorite, granosyenite	granodiorite, granosyenite	---	---	quartz vein, chalcopryrite, malachite	Cu	---	Geo-mapping(1967); Trench, Drill(6holes)	---	---	---	0.740	---	---	---	---	---	Repot No.: 1965	
12	---	Tsagaan chuluut	Erdenet West	N49°02'45.5"	E104°00'38.5"	//alteration zone	2km × 0.5km	Permian acidic volcanic rocks	acidic volcanic rocks	---	silicification, acid alteration(kaolin, alunite), secondary quartzite,	---	Cu	---	Geo-work, Geophysics(IP, Magnetic), Drill	---	---	---	---	---	---	---	---	---	---	
13	34	Erdenet NW	Erdenet West	N49°01'18.1"	E104°07'44.1"	//stockwork	stockwork: 2.8km × 1.3km	Triassic-Jurassic intrusive rocks(granitoids); Lower Permian rhyolite-dacite, rhyolite porphyry	intrusive rocks(granitoids)	---	silicification, greisen, potassic alteration	chalcopryrite, covellite, bornite, pyrite	Cu	Cu: 2,825,000	---	---	---	---	0.900	---	---	---	---	---	Repot No.: 961, 1820, 1813, 1993, 1947, 4069, 4565, 2083, 3283	
14	24	Erdenet Central	Erdenet West	N48°59'51.5"	E104°09'27.5"	hydrothermal//stockwork	stockwork: 1.35km × 0.3km	Permian-Triassic granodiorite, diorite	granodiorite, diorite	---	stockwork, oxidation zone	chalcopryrite, chalcocite, malachite, azurite, covellite	Cu/Mo	Cu: 598,790; Mo: 21,864	Prospecting(1968); Trench, Drill	---	---	---	0.410	0.016	---	---	---	---	Repot No.: 24	
15	---	SAR169	Erdenet West	N48°59'45.0"	E104°23'20.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.100	---	---	---	---	---	---	
16	33	Oyut (Erdenet SE)	Erdenet West	N48°57'43.2"	E104°11'52.3"	//stockwork	stockwork: 4km × 0.6km	Triassic-Jurassic intrusive rocks(granitoids)	intrusive rocks(granitoids)	---	stockwork	chalcopryrite, molybdenite, covellite, chalcocite, pyrite	Cu	Cu: 1,086,800; Mo: 15,000t	Geo-mapping(1964-65); Geophysics(IP, Magnetic); Trench; Drill(9holes)	---	---	---	0.400	---	---	---	---	---	Repot No.: 1813, 1820, 1961, 3283, 3865, 4383	
17	---	Tourmaline	Erdenet West	N48°56'33.5"	E104°17'49.5"	---	---	syenite; andesite(dyke)	syenite	---	alteration minerals: tourmaline	quartz vein	Cu	---	Geo-mapping(1985); Geophysics(IP, Magnetic); Trench; Drill(6holes)	---	---	---	---	---	---	---	---	---	---	
18	---	SAR188	Erdenet West	N48°53'02.3"	E104°22'54.7"	---	Depth: 0.5m & 3-5m	---	---	---	---	---	---	---	---	---	---	---	0.060	0.002	---	---	---	---	---	
19	---	SAR200	Erdenet West	N48°51'16.0"	E104°26'56.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.050	---	---	---	---	---	---	

Table A-9 List of survey sites

Data of preceding survey

No	Reference 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	Preceding survey	Grade, Geochemical anomaly (maximum)						Remarks			
				latitude	longitude											Au(g/t)	Ag(g/t)	Cu(%)	Mo(%)	Pb(%)	Zn(%)		Cr(%)		
20	---	Under	Erdenet West	N48°49'57.2"	E104°13'19.6"	//stockwork	stockwork 20m × 600m	Permian-Jurassic conglomerate, basalt, andesite porphyry, Permian-Triassic granite, diorite	granite, diorite	---	---	---	Cu/Mo	Cu:163,000t; Mo:1,500t	Geo-mapping; Geophysics(IP, Magnetic)	---	---	0.360	0.020	---	---	---	---	Repot No.: 1813, 3199, 3283	
21	---	Shand	Erdenet West	N48°45'39.5"	E104°11'45.8"	---	---	---	---	---	---	---	Cu/Mo	Cu:500,000t; Mo:5,000t	Geo-mapping(1985), Geochemi.; Drill(3holes)	---	---	0.200 (core)	0.001 (core)	---	---	---	---		
22	---	SAR239	Erdenet West	N48°44'57.3"	E104°12'29.9"	---	---	---	---	---	---	---	---	---	---	---	---	1.000	0.007	---	---	---	---		
23	---	SAR238	Erdenet West	N48°44'30.0"	E104°11'00.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	1.000	---	---	---	---	---	
24	---	SAR235	Erdenet West	N48°46'17.1"	E104°04'34.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.050	---	---	---	---	---	
25	---	Zaluu	Erdenet West	N48°54'50.0"	E103°55'50.3"	//vein	quartz vein: 1.5m × 0.2m	Triassic-Jurassic andesite-basaltic tuff, granitoids(intrusion)	andesite-basaltic tuff	---	quartz vein	---	---	---	Geo-mapping; Geochemi.; Geophysics(IP, MT)	---	---	1.000	0.01	---	---	---	---	---	
26	---	SAR233	Erdenet West	N48°43'40.2"	E103°56'33.7"	---	20m × 30m	---	---	---	---	---	---	---	---	---	---	---	0.750	---	---	---	---	---	
27	---	Danbatseren	Erdenet West	N48°51'39.3"	E103°47'30.2"	//alteration zone	alteration zone: 500m × 300m	Permian-Triassic granodiorite, diorite; Jurassic rhyolite	granodiorite, diorite, rhyolite	---	---	---	---	---	Geo-mapping; Geochemi.; Geophysics(IP, MT); Trench	---	---	---	---	---	---	---	---	---	
28	---	Mt. Zayndava	Erdenet West	N48°53'39.8"	E103°37'44.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
29	---	SAR183	Erdenet West	N48°52'47.1"	E103°38'34.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.460	---	---	---	---	---	
30	---	SAR182	Erdenet West	N48°52'47.1"	E103°38'34.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.460	---	---	---	---	---	
31	---	SAR181	Erdenet West	N48°52'39.0"	E103°34'45.5"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.200	---	---	---	---	---	
32	---	SAR194	Erdenet West	N48°52'00.0"	E103°34'10.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.680	---	---	---	---	---	
33	---	SAR197	Erdenet West	N48°49'40.5"	E103°39'01.9"	---	2m × 0.8m	---	---	---	---	---	---	---	---	---	---	---	0.090	---	---	---	---	---	
34	---	SAR205	Erdenet West	N48°47'05.0"	E103°39'45.8"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.006	---	---	---	---	---	
35	---	SAR202	Erdenet West	N48°47'56.1"	E103°35'54.2"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.360	---	---	---	---	---	
36	---	SAR204	Erdenet West	N48°46'59.6"	E103°35'18.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	0.560	---	---	---	---	---	
37	---	SAR222	Erdenet West	N48°43'33.3"	E103°31'43.8"	---	small	---	---	---	---	---	---	---	---	---	---	---	0.600	---	---	0.020	---	---	
38	---	SAR221	Erdenet West	N48°42'46.5"	E103°31'39.2"	---	0.5-2m × 0.2-0.4m	---	---	---	---	---	---	---	---	---	---	---	0.500	---	---	---	---	---	

Table A-9 List of survey sites

No.	Reference 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	Preceding survey	Grade, Geochemical anomaly (maximum)						Remarks			
				latitude	longitude											Au(g/t)	Ag(g/t)	Cu(%)	Mo(%)	Pb(%)	Zn(%)		Cr(%)		
39	---	SAR219	Erdenet West	N48°43'57.0"	E103°31'03.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
40	165	Jasiin buuts	Erdenet West	N48°47'06.5"	E103°26'64.2"	//alteration zone	200-2000m × 40-500km	Permian acidic volcanic rocks	acidic volcanic rocks	---	silicification	pyrite(limonite)	Cu	---	Geo-mapping(1971, 1981); Trench, pits; Drill(3holes)	---	---	0.007	0.0002	---	---	---	---	---	Report No.3538
41	417	Khar uul	Erdenet West	N48°42'06.7"	E103°16'21.3"	hydrothermal//dyke	diorite dyke 200-300m	Triassic-Jurassic volcanogenic sedimentary rocks	volcanogenic sedimentary rocks	---	---	chalcocopyrite, bornite, gold	Cu/Au	---	Geo-mapping(1986); Geochemi.(1000samples); Geophysics(magnetic, electric)	3.00	10.00	0.500	---	---	---	---	---	---	---
42	416	Tsookher mert	Erdenet West	N48°45'27.8"	E103°16'00.3"	//vein	vein zone. 100-700m × 2m	Permian-Triassic granite, syenite porphyry	granite, syenite porphyry	---	quartz vein	chalcocopyrite, malachite, azurite	Au,Ag/Cu	Au 4.1t, Ag 18.4t	Geo-mapping(1986); Trench; Geophysics(electric)	10.00	500.00	0.300	---	---	---	---	---	---	Report No.4403
43	421	Aguit	Erdenet West	N48°47'00.0"	E102°57'00.0"	//alteration zone	1000m × 15m	Devonian acidic volcanic rocks, Permian-Triassic granite	acidic volcanic rocks	---	---	chalcocopyrite, malachite, azurite	Cu/Au	---	Geo-mapping(1986); Geochemi.; Geophysics(MT)	0.10	---	0.005	0.001	---	---	---	---	---	Report No.3538
44	5403	Urmin tsgaan nuur	Erdenet West	N48°48'11.2"	E102°55'51.7"	//vein	vein.11m × 0.4m	Lower Permian rhyolite-dacite, rhyolite porphyry	rhyolite-dacite, rhyolite porphyry	Jurassic	quartz vein	malachite, azurite	Cu	---	Geo-mapping(1972); Geochemi.(112 samples); Trench(283.4m3)	0.10	6.60	0.010	---	---	---	---	---	---	---
45	424	Burged khyr	Erdenet West	N48°52'04.2"	E102°49'41.4"	hydrothermal//stockwork	stockwork 20m × 600m	Permian-Jurassic conglomerate, basalt, andesite porphyry, Permian-Triassic granite, diorite	granite, diorite	---	K-silicate alteration, alteration mineral kaolin	---	Cu/Mo	Cu.163.000t, Mo.1.500t	Geo-mapping(1986); Trench; Geophysics (electric, magnetic); Drill(2holes)	---	---	0.360	0.020	---	---	---	---	---	---
46	418	Nomgon	Erdenet West	N48°48'59.0"	E102°46'59.7"	//alteration zone	---	Permian-Jurassic syenite-diorite	syenite-diorite	---	---	---	Cu	---	Geo-mapping, Geophysics	---	---	0.001	---	---	---	---	---	Report No.2043, 4396, 4403	
47	423	Zaian	Erdenet West	N48°49'17.5"	E102°42'08.7"	//vein	---	Permian-Jurassic conglomerate, andesite porphyry, subvolcanic rocks, granite, diorite	subvolcanic rocks, granite, diorite	---	silicification, greisen, potassic alteration alteration mineral: tourmaline	chalcocopyrite, turquoise, lazurite, malachite, bornite	Cu	---	Geo-mapping(1986)	---	5.00	3.000	---	0.03	0.05	---	---	Report No.4403	
48	419	Ereen ikher	Erdenet West	N48°49'10.5"	E102°34'49.0"	metasomatic/fracture/alteration zone	W 200m	Devonian acidic volcanic rocks	acidic volcanic rocks	---	silicification, alteration minerals: sericite, kaolin, fluorite	molybdenite	Cu	---	Geo-mapping(1987)	---	0.50	0.007	0.03	0.005	0.002	---	---	---	
49	420	Undrakh	Erdenet West	N48°42'03.8"	E102°45'44.4"	metasomatic//alteration zone	300m × 150m	subvolcanic rocks, Permian-Triassic diorite, granitoids	diorite, granite, subvolcanic rocks	---	quartz vein; alteration minerals: tourmaline, K-feldspar	bornite, malachite, azurite, turquoise	Cu/Ag	---	Geo-mapping(1987); Trench(176.6m3); Geophysics(magnetic, IP); Drill(5holes)	5.00	10.00	0.700	0.700	---	---	---	---	Report No.4403	
50	---	Bulgan NW	Erdenet West	N49°14'42.0"	E103°04'59.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
51	---	Sudal N177	Zaamar	N48°06'11.0"	E104°20'10.0"	epithermal//vein	L200m × W0.5m-0.9m	---	---	---	pyritization	---	Au	---	Geo-mapping(1987); Trench; Geophysics(electric, IP); Drill	---	---	---	---	---	---	---	---	---	
52	679	Ulit ovoo	Zaamar	N48°15'50.7"	E104°09'57.3"	skarn//small skarn body	---	Proterozoic-Cambrian metamorphic rock, Triassic granite	granite?	---	skarnization	sphalerite, chalcocopyrite	Cu/Au, Zn	Cu 45.000t	---	---	0.20	---	0.070	---	---	0.5	---	high magnetic anomaly, Report No.2575, 4054, 4084, 4597	
53	---	Eagle Mt. North	Zaamar West	N48°17'46.6"	E104°13'54.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
54	---	M-1	Zaamar West	N48°25'21.0"	E103°56'34.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
55	---	M-2	Zaamar West	N48°42'3.8"	E102°45'44.4"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
56	---	M-3	Zaamar West	N48°21'22.0"	E104°01'38.0"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
57	5390	Khushuut gol	Bulgan SW	N48°14'15.4"	E103°10'01.4"	metasomatic/fracture control/	fracture zone: 300m × 50m	Carboniferous tuff breccia, porphyrite	tuff breccia	---	pyritization	chalcocopyrite, malachite, azurite	Cu	---	Geo-mapping(1960); Geochemi.(41)	---	---	10.000	---	---	---	---	---	---	Khushuut gol Report No.1500



No.	Reference 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	Preceding survey	Grade. Geochemical anomaly (maximum)						Remarks			
				latitude	longitude											Au(g/t)	Ag(g/t)	Cu(%)	Mo(%)	Pb(%)	Zn(%)		Cr(%)		
77		20b	Khokhoo	N50°31'6.3"	E101°05'23.2"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
78		20c	Khokhoo	N50°34'25.4"	E101°06'18.6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
79		20d	Khokhoo	N50°39'17.1"	E100°45'37.1"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
80	1491	Altgana gol	Altgana gol	N49°50'58.5"	E100°24'12.9"	//fault control/stockwork	mineralization zone: L850m x W550m(stockwork)	upper Paleozoic dolomite, basalt; Permian-Jurassic granite	leucocratic granite porphyry	Jurassic	silicification, stockwork	molybdenite	Mo/Ag	Mo:14,700t	Geo-mapping(1985); Trench(1269m3); Geochemi.(920samples); Drill(1hole)	---	1.50	---	0.035	---	---	---	---	---	Report No.:1812, 3976, 5000
81	1449	Tsagan bulgas	Altgana gol	N49°56'02.6"	E100°20'59.9"	metasomatic/deep fault control/vein?	L1,200m x W500m	Paleozoic sedimentary rocks, serpentinite, carbonite	serpentinite, carbonite	Paleozoic	quartz vein?	fluorite	Ni/Cr	---	Geo-mapping; Geochemi.(500samples); Geophysics	---	---	---	---	---	---	---	---	1.0 Report No.:3598, 4379	
82	1442	Quartz	Altgana gol NW	N50°14'09.7"	E100°16'53.7"	hydrothermal/fracture control/vein	vein L50m x W1.5m	Riphean sandstone, shale, sandstone, microrhyolite; Cambrian limestone	sandstone, shale	Riphean	silicification, sericitization	---	Au	---	Geo-mapping; Geochemi; Trench(106m3)	7.60	3.20	---	---	---	---	---	---	Report No.:3649	
83	181	Skam	Altgana gol NW	N50°09'20.3"	E100°00'58.9"	metasomatic//skam	Skam: L1.5-8m x W8m	Vendian-Cambrian limestone; Devonian granodiorite	Devonian granodiorite	---	skarnization	---	Cu/Zn, Pb	---	Geo-mapping; Trench	---	10.00	1.000	---	0.700	0.300	---	---	Report No.:3649	
84	1494	Donkhor bulag	Murun South	N49°22'17.6"	E100°09'55.0"	metasomatic/fracture/alteration zone	alteration zone: W300m x L1km	Permian-Triassic sedimentary rocks; Permian acidic tuff, trachyrhyolite porphyry	acidic tuff, trachyrhyolite porphyry	---	silicification(hydrothermal breccia); alteration minerals: kaolin, sericite	magnetite, pyrite	Cu	---	Geo-mapping(1975); Trench(26.5m3); Geochemi.	---	---	0.003	0.003	0.002	0.003	---	---	Report No.:2260	
85	1603	Terkhin tsagaan nuur	Tariat	N48°07'51.1"	E99°50'44.6"	Hydrothermal/fault zone/vein	Quartz vein zone: 80m x 40m	Riphean sedimentary rocks, granite	Sedimentary rocks	---	Skarnization, silicification, hornfelsization, quartz vein (L10m x W0.5m)	---	Au	---	Geo-mapping (1982); Trench(26.5m3), Channel sampling 8, Lump sampling 7	0.10	4.0	0.01	---	---	0.005	0.002	---	Report No.:3684	
86	2236	Tariatn gol	Tariat	N48°12'50.0"	E99°26'35.0"	//quartz vein	vein zone: 50m x 5m	Riphean granitoids	gabbro, diorite	middle Paleozoic	silicification, greisen, quartz vein	---	Au, Ag, Cu	Cu:45,000t	Geo-mapping(1982); Trench(213m3)	0.10	7	---	---	---	---	---	---	Report No.:3684	
87	2399	Solongot	Tariat	N48°09'51.0"	E99°00'50.0"	hydrothermal//alteration zone?	1700m x 170m	lower Proterozoic limestone, gneiss; middle Riphean granitoids	limestone, gneiss	---	silicification and skarnization, leaching and oxidized zone (<55m depth); alteration minerals: kaolin, rarely intensive limonitized pyrite	oxidized zone(20m);malachite, azurite, hypogene zone,pyrite,chalcopyrite	Cu/(Au)	---	Geo-mapping(1981); Trench(295.7m3)	0.10	4.00	0.002	0.020 (core)	0.010	0.010	---	---	Report No.:3684	
88	4697	Solongotin gol	Tariat	N48°09'23.5"	E99°01'00.7"	metasomatic/fracture control/	quartz vein zone: 80m x 1.5m, 10m x 5m	Proterozoic gneiss, limestone; Riphean granitoids	---	---	---	chalcopyrite, malachite, azurite	Cu, Mo	---	Geo-mapping(1981)	0.10	4.00	0.020	---	---	---	---	---	Report No.:3684	
89	1479	Tsagaan tolgoi	Murun West	N49°40'19.9"	E99°39'55.1"	metasomatic//alteration zone	greisen zone: 100m x 80m	Riphean sedimentary rocks; late-middle Devonian granitoids	---	---	silicification(secondary quartzite), greisen, limonitization	chalcopyrite, sphalerite, galena, pyrite	Cu, Mo	---	Geo-mapping(1973); Trench(170.5m3), pit; Drill(102m)po	---	---	0.048	---	0.06	0.006	0.008	---	Report No.:2256	
90	1478	Ulaannuur	Murun West	N49°38'45.3"	E99°19'50.5"	hydrothermal//alteration zone	800m x 350m	Devonian granitoids; Jurassic granitoids	granitoids	---	greisen, silicification	sphalerite, galena, molybdenite	Pb, Zn, Mo	Mo: 5,400t	Geo-mapping(1972); Trench(451.5m3); Geochemi.(209samples); Drill(7holes)	---	---	0.150	0.2	0.200	0.200	---	---	Report No.:4715, 2256	
91	3475	Khaisin belchir	Tsagaan uul	N50°10'35.0"	E98°44'58.0"	hydrothermal//alteration zone	alteration zone:2400m x 1200m, 1500m x 100m	Riphean metamorphic rocks, Cambrian crystalline shale, porphyrite, diorite, andesite	---	---	---	pyrite, magnetite	Cu/Au	---	Geo-mapping(1992); Trench(235m3); Geochemi.(40samples)	0.07	10.00	0.003	---	0.700	0.008	---	---	Report No.:4863	
92	1461	Tsagaan uul	Tsagaan uul	N49°50'00.0"	E98°43'00.0"	metasomatic//alteration zone	oxidized zone: 0.5km2	Vendian-Cambrian meta-sediments; Cambrian limestone; middle Paleozoic granitoids	---	---	---	---	W/Cu	---	Geo-mapping(1978); Trench(1192.4m3); Drill(107m)	---	---	0.003	0.009	0.002	0.003	---	---	Report No.:1966, 3045, 4428	
93	3474	Narin azarga	Tsagaan uul	N50°02'24.7"	E98°27'51.6"	hydrothermal//	alteration zone: 2000m x 400m	Riphean sandstone, shale, limestone; Cambrian gabbro	shale	Riphean	---	pyrite, hematite	Au	---	Geo-mapping(1992); Trench(525.5m3), pit; Geochemi.(864samples)	0.20	---	---	---	---	---	---	---	Report No.:4863	
94	583	Deed ulaan tolgoi	Tsagaan uul	N49°31'28.2"	E98°41'25.1"	hydrothermal/deep fault control/vein?	quartz-greisen vein zone: 90m x 10m	Paleozoic sedimentary rocks, Devonian granitoids; Carboniferous granitoids; Permian rhyolite	Devonian granitoids	Paleozoic	quartz vein, greisen	---	Cu/Au, Ag	Cu: 57,000t; Ag: 800t	Geo-mapping(1987); Trench(1192.4m3); Geochemi.(385samples)	0.10	39.00	0.010	---	---	---	0.600	---	Report No.:4428	
95	574	Ulaan zavsar	Tsagaan uul	N49°28'15.5"	E98°40'41.0"	hydrothermal//vein	quartz vein: 250m x 0.15m	Riphean meta-sediments; Riphean granitoids; Paleozoic limestone	meta-sediments	Jurassic	quartz vein	---	Au, Ag	---	Geo-mapping(1987); Trench(215m3); Geochemi.(350samples)	0.10	2.00	---	0.035	---	---	---	---	Report No.:4428	

Table A-9 List of survey sites

No.	Reference 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	Preceding survey	Grade. Geochemical anomaly (maximum)						Remarks	
				latitude	longitude											Au(g/t)	Ag(g/t)	Cu(%)	Mo(%)	Pb(%)	Zn(%)		Cr(%)
96	581	Gurvan buudal uul	Tsagaan uul	N49°35'00.0"	E98°33'00.0"	hydrothermal/fault control/alteration zone	alteration zone: 5200m × 1000m	Rephean meta-shale, Carboniferous granitoids	Carboniferous granitoids	---	silicification	pyrite(limonite), hematite	Au, Ag	---	Geo-mapping(1987); pit(80m)	1.20	1.20	---	---	---	---	---	Report No.4428
97	573	Khunkh tsakhir	Tsagaan uul	N49°36'00.0"	E98°23'00.0"	hydrothermal/fault control/alteration zone	mineralization zone: 800m × 150m(stockwork), oxidized zone: 0.8km × 0.15km, 0.25 × 0.5km	Paleozoic acidic volcanic rocks, shale, marble, Devonian granitoids	acidic volcanic rocks	---	silicification, greisen, skarn	malachite, hematite, magnetite, fluorite	Cu, Ag	Cu:7.3t, Zn:7.0t, Pb:1.8t, Ag:2.0t, Mo:367kg	Geo-mapping; Trench(222.2m3), pit(180m); Drill(140m)	---	2.00	30.000	5.000	---	30.000	---	Report No.4428
98	1572	Zost uul	Tosontse ngel	N48°42'25.1"	E98°18'56.3"	hydrothermal/fault control/	1400m × 380m	Proterozoic shale, gneiss, gabbro; Permian-Triassic granitoids	Permian-Triassic granitoids	---	quartz veinlets, greisen, pyritization	pyrite, chalcopyrite, malachite, azurite, molybdenite	Mo	Mo:101.961t	Geo-mapping(1978); Trench, pit; Geochemi.(5348samples); Drill(12holes)	---	50.00	0.180	0.250	0.200	---	---	Report No.3122, 2982, 2981
99	1596	Khurai sar	Tosontse ngel	N48°36'00.0"	E98°23'00.0"	hydrothermal/fracture/vein	alteration zone: 500m × 5m	Paleozoic acidic volcanic rocks, shale; Cambrian volcanic rocks, Devonian granitoids, andesite porphyry	andesite porphyry	---	---	pyrite, chalcopyrite, malachite	Cu, Mo	---	Geo-mapping(1979); Trench(222.2m3), pit; Geochemi.(725samples); Drill(140m)	30.00	---	0.090	0.020	---	---	---	Report No.3569
100	1481	Naranbulag	Tosontse ngel	N48°34'40.2"	E97°46'27.8"	hydrothermal/contact zone/	stockwork: 900m × 400m	Permian trachyte, dacite, basalt; Permian granitoids	Permian granitoids	---	---	molybdenite, pyrite	Cu/Ag	Cu:22,000.000t	Geo-mapping(1966); Trench; Geochemi.; Geophysics; Drill(2holes)	---	10.20	0.800	0.015	0.003	---	---	Report No.3576, 2581
101	143	Occurrence 124-B-4.5	Tosontse ngel	N48°24'01.9"	E97°38'41.4"	hydrothermal//alteration zone	alteration zone: 700m × 700m, 150m × 150m	Permian granite, gabbro; Permian dacite, rhyolite	gabbro	---	---	malachite, azurite, pyrite	Cu/Au,Ag	---	Geo-mapping(1978-1981)	0.02	8.00	1.000	---	0.060	0.400	---	Occur-124-B-4.5 Report No.3576
102	107	Quartzite	Tosontse ngel	N48°55'51.6"	E97°49'42.4"	metasomatic//alteration zone	L4,500m × W200m	Permian volcanic rocks(rhyolite porphyry, tuff), granitoids	rhyolite porphyry, tuff	---	silicification	Cu dissemination, pyrite	Cu/Mo	---	Geo-mapping(1976-1977); Trench(452.3m3); Drill(65m)	---	0.100	0.010	0.006	0.001 (core)	0.001 (core)	---	Report No.3122
103	106	Davaa	Tosontse ngel	N48°55'57.1"	E97°44'03.4"	metasomatic//contact accretion zone	veinlets zone: 1.5m × 100m; alteration zone: 500m × 100m	Permian quartz-diorite, andesite porphyry; Paleozoic diorite; Permian alkali volcanic rocks, granitoids	---	---	quartz veinlets, silicification	---	Cu	---	Geo-mapping; Trench(313.15m3); Drill(142.8m)	---	0.50	0.050	0.0015 (core)	0.001 (core)	0.008 (core)	---	Report No.3122

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Table A-9 List of survey sites

No.	Name of occurrence	Survey district	Topography/Vegetation	Mineralization Type/Factor/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAR data analysis	Rock samples	Remarks	Geochemical analysis (maximum)							Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks
													Au(ppm)	Ag(ppm)	Cu(ppm)	Mol(ppm)	Pb(ppm)	Zn(ppm)	Cr(ppm)		
1	Occurrence 24	Zelter	mountain/grass-forest	hydrothermal?/	Permian volcanics; lower Carboniferous sediments	andesite	granitoids	---	malachite	lineament trending NW-SE	IH140, HH178	no remarkable alteration and mineralization	0.010	0.600	255.0	2.0	22.0	184.0	8.0	Qtz, albite, sericite	
2	Gatsuurkhan	Zelter	mountain/grass-forest	hydrothermal?/	Permian volcanics; lower Carboniferous sediments; granitoids	basalt, sandstone	granitoids	silicification	limonite	lineament trending NW-SE	MZ160-161, TM133-135, MZ604P	no remarkable alteration and mineralization	Trace	1.600	45.0	14.0	152.0	118.0	105.0	---	
3	SAR139	Erdenet West	hill/thin-grass-forest	porphyry?//alteration zone	quartz diorite, granodiorite, basalt dyke	quartz diorite, granodiorite	basalt	quartz and epidote vein, silicification, hydrothermal breccia, limonitization, potassic alteration	limonite, malachite	lineament trending NW-SE, conjunction of lineaments	NK051-058, HH014-018, NK166, HH210, TM168-170	mineralization and alteration zone are narrow	0.110	13.200	20700.0	4.0	22.0	64.0	35.0	Qtz, albite, kaolin	basalt: 282 ± 6Ma
4	SAR138	Erdenet West	hill/thin-grass	porphyry?//alteration zone	granite	granite	---	weak alteration?	malachite	conjunction of lineaments	NK047-050, HH013		Trace	1.200	1560.0	Trace	66.0	170.0	22.0	---	
5	SAR127	Erdenet West	hill/forest	//	granodiorite	---	---	---	---	high density lineaments	RK044		---	Trace	60.0	---	Trace	70.0	---	---	
6	Zuukhin gol	Erdenet West	mountain/grass-forest	hydrothermal?porphyry?//alteration zone	granodiorite, andesite-dacite lava, dacite porphyry	granodiorite, andesite-dacite, dacite porphyry	andesite, dacite porphyry	silicification, limonitization, potassic alteration	malachite, weak geochemical anomaly (Au, Ag), limonite	---	MZ028-029, RK028, NK183-185, IH145-150, HH204-205, HH207-209, HH211-212, MZ181-182, TM163, TM165-167	oxide copper mineralization in potassium alteration	0.010	14.800	8750.0	4.0	506.0	138.0	13.0	Qtz, sericite, montmorillonite	andesite: 229 ± 11Ma
7	SAR136	Erdenet West	mountain/grass-forest	//	granite, aplite	---	aplite	---	---	conjunction of lineaments and high density lineaments	RK027		Trace	Trace	108.0	Trace	4.0	4.0	3.0	---	
8	SAR144	Erdenet West	mountain/grass-forest	hydrothermal?//vein	granite, granodiorite	granite, granodiorite	---	quartz vein, silicification, epidotization	malachite	conjunction of lineaments and high density lineaments	RK024-026		0.005	2.000	20200.0	15.0	10.0	180.0	19.0	---	
9	SAR25	Erdenet West	hill/grass	hydrothermal?//alteration zone	Triassic granite	Triassic granite	---	pyritization	---	conjunction of lineaments and high density lineaments	MZ024-025		Trace	Trace	42.0	1.0	34.0	102.0	113.0	---	
10	Mogoin gol 2	Erdenet West	mountain/grass-forest	porphyry?//alteration zone	granite, andesite, dacite	granite, andesite, dacite	---	silicification, argillization	azurite	lineament trending NW-SE	NK033-038, MZ049, NK155-160, HH197-198, HH200-201, MZ171-173, TM160	porphyry lithocap?	Trace	Trace	14.0	5.0	168.0	8.0	30.0	Qtz, kaolin, alunite, sericite, andalusite	
11	Khujirin gol	Erdenet West	mountain/grass-forest	porphyry?//alteration zone, vein	granodiorite, syenite, andesite, dacite	granodiorite, syenite, andesite, dacite	---	K-silicate alteration, silicification, quartz vein	quartz vein with malachite and limonite	lineament trending NE-SW	MZ018-021, RK021-023, HH202, MZ174-180, TM161-162	oxide copper mineralization in quartz vein hosted by potassium alteration	Trace	Trace	2240.0	Trace	11700.0	680.0	49.0	Qtz, sericite, andalusite	
12	Tsagaan chuluut	Erdenet West	mountain/grass-forest	porphyry?//alteration zone	lower Mesozoic volcanics (andesite, dacite, rhyolite)	andesite, dacite, rhyolite	---	silicification, silica sinter, quartz veinlet, argillization (secondary alunite)	quartz veinlet, pyrite	lineament trending NNW-SSE	NK135-142, NK144-154, NK162, IH141-143, HH181-187, HH190, HH193-196, MZ164-167, TM143-146, TM148-154, TM172, NK040-046, MZ022-023, MZ026-027, IH144, IH151-157, MZ168-170, MZ183-186, TM155-159	porphyry lithocap? High sulfidation type alteration?	0.100	0.400	156.0	25.0	114.0	134.0	105.0	Qtz, K-feldsp, kaolin, alunite, andalusite	andesite: 210 ± 4Ma
13	Erdenet NW	Erdenet West	hill/grass	porphyry//alteration zone	granite, granodiorite, diorite, andesite dyke	granite, granodiorite	diorite, granodiorite, andesite	silicification, argillization, potassic alteration, oxidation, limonitization, quartz-pyrite vein	chalcocopyrite, chalcocite, malachite, azurite (along crack), quartz-pyrite vein, limonite	lineament trending NW-SE	HH008-012, MZ015-017, MZ050-051, RK020-021, MZ162-163		Trace	5.000	5670.0	110.0	0.0	600.0	10.0	Qtz, albite, K-feldsp, sericite, chlorite, pyrite	altered granite: 202 ± 4Ma, 223 ± 6Ma
14	Erdenet Central	Erdenet West	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	0.800	5510.0	21.0	12.0	94.0	9.0	---	
15	SAR169	Erdenet West	mountain/forest	//	granite (float rock), volcanic rock (float rock)	---	---	---	---	lineament trending NW	---		---	---	---	---	---	---	---	---	
16	Oyut (Erdenet SE)	Erdenet West	hill/grass	porphyry//alteration zone	granodiorite, granodiorite porphyry, andesite, syenite, diorite	granodiorite, granodiorite porphyry	andesite, syenite, diorite	argillization (sericite), limonitization, acid leaching zone	dissemination of chalcocopyrite (drilling core)	---	MZ041-044		---	Trace	500.0	---	10.0	115.0	---	---	
17	Tourmaline	Erdenet West	hill/grass	porphyry//alteration zone	granodiorite, syenite, andesite dyke	granodiorite, syenite	andesite dyke	silicification, tourmalinization	---	---	NK059-061, MZ030-033		Trace	0.200	47.0	8.0	120.0	82.0	13.0	Qtz, albite, K-fel, sericite, andalusite	
18	SAR188	Erdenet West	mountain/forest	hydrothermal?//alteration zone	granite, basalt, andesite	granite	basalt	epidotization	---	lineament trending NW	NK062-064, MZ034-035		Trace	0.200	7.0	Trace	96.0	66.0	23.0	Qtz, albite, K-fel, sericite, kaolin	
19	SAR200	Erdenet West	mountain/grass	hydrothermal?//vein	granite, aplite	granite	aplite	quartz vein	---	lineament trending NW	RK033		Trace	Trace	34.0	Trace	8.0	Trace	20.0	---	



Table A-9 List of survey sites

No.	Name of occurrence	Survey district	Topography/Vegetation	Mineralization Type/Factor/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAR data analysis	Rock samples	Remarks	Geochemical analysis (maximum)							Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks
													Au(ppm)	Ag(ppm)	Cu(ppm)	Mo(ppm)	Pb(ppm)	Zn(ppm)	Cr(ppm)		
20	Under	Erdenet West	mountain/grass-forest	porphyry//alteration zone	granitic rocks, quartz porphyry, andesite	granitic rocks, andesite	quartz porphyry	silicification, argillization(sericite), tourmalinization, limonitization	---	lineament trending N-S	MZ036-040, HH180, TM136-171		Trace	Trace	50.0	Trace	16.0	54.0	18.0	---	
21	Shand	Erdenet West	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	2.200	9490.0	17.0	198.0	130.0	10.0	---	
22	SAR239	Erdenet West	hill/grass	//	granite, aplite	---	---	---	---	conjunction of lineaments	NK065		---	---	---	---	---	---	---	---	
23	SAR238	Erdenet West	hill/grass	hydrothermal//vein?	granite, granodiorite	granite, granodiorite	---	quartz and epidote vein	---	conjunction of lineaments	RK034-038		Trace	Trace	16.0	Trace	12.0	34.0	12.0	---	
24	SAR235	Erdenet West	hill/grass	hydrothermal//alteration zone	Paleozoic granite-granodiorite, andesite	granite-granodiorite	andesite	argillization (sericite), dissemination of pyrite (limonite)	---	relatively smooth tone	MZ047-048, RK042-043		Trace	Trace	37.0	Trace	26.0	14.0	5.0	---	
25	Zaluu	Erdenet West	hill/grass-forest	hydrothermal//vein?	granite, monzonite, Triassic-Jurassic andesite	granite	monzonite, andesite	quartz and epidote vein	---	---	NK066-67, HH020		---	Trace	55.0	---	25.0	125.0	---	sericite	basalt: 195±4Ma
26	SAR233	Erdenet West	hill/grass	hydrothermal//alteration zone	Paleozoic granite, dacite	granite, dacite	---	hydrothermal breccia	---	irregular feature and relatively smooth tone	MZ045-046, RK041		Trace	Trace	113.0	1.0	40.0	10.0	14.0	---	
27	Danbatseren	Erdenet West	hill/thin	hydrothermal//alteration zone	granite, Jurassic dacite	granite, Jurassic dacite	---	silicification, quartz veinlets, tourmalinization, limonitization	limonite	lineament trending NNE-SSW	NK068-073, HH021, NK111-112, HH148-160	porphyry lithocap?	0.050	0.200	93.0	21.0	58.0	14.0	32.0	Qtz, K-feldspar, sericite, pyrophyllite, kaolin, andalusite	
28	Mt. Zayn davaa	Erdenet West	hill/grass	hydrothermal//alteration zone	andesite	andesite	---	weak silicification, argillization, dissemination of pyrite (limonite), propylitic alteration	malachite	---	RK069-078		Trace	4.800	3100.0	Trace	100.0	54.0	118.0	Qtz, K-feldspar, sericite, pyrophyllite, kaolin	
29	SAR183	Erdenet West	hill/grass	hydrothermal//alteration zone	andesite porphyry	andesite porphyry	---	silicification, epidotization, quartz and epidote vein	malachite	conjunction of lineaments and relatively smooth tone	RK066-067		Trace	8.400	19100.0	Trace	62.0	20.0	95.0	---	
30	SAR182	Erdenet West	mountain/forest	hydrothermal//alteration zone	andesite, trachyandesite	andesite, trachyandesite	---	quartz and epidote vein	malachite	conjunction of lineaments and relatively smooth tone	RK068		0.010	3.400	7430.0	Trace	24.0	8.0	21.0	---	
31	SAR181	Erdenet West	hill/grass	hydrothermal//alteration zone	andesite porphyry	andesite porphyry	---	weak silicification, epidotization, limonitization	malachite	conjunction of lineaments	RK075		Trace	7.800	13300.0	0.5	14.0	28.0	141.0	---	
32	SAR194	Erdenet West	hill/grass	hydrothermal//vein	andesite lava, tuff	andesite lava, tuff	---	quartz and epidote vein	malachite	conjunction of lineaments	NK082, RK076		Trace	19.800	25700.0	Trace	44.0	46.0	128.0	---	
33	SAR197	Erdenet West	hill/grass	hydrothermal//vein	Triassic andesite	andesite	---	quartz and epidote veinlet	---	conjunction of lineaments	MZ068-069		Trace	Trace	110.0	Trace	42.0	64.0	81.0	---	
34	SAR205	Erdenet West	mountain/grass-forest	hydrothermal//vein-alteration zone	Triassic andesite	andesite	---	weak silicification and epidotization, quartz and epidote veinlets	---	conjunction of lineaments	MZ070-071		Trace	Trace	12.0	Trace	108.0	52.0	52.0	---	
35	SAR202	Erdenet West	hill/grass	hydrothermal//vein	Triassic andesite lava	andesite	---	epidotization, quartz veinlets	---	conjunction of lineaments	MZ072		Trace	Trace	36.0	Trace	30.0	34.0	14.0	---	
36	SAR204	Erdenet West	hill/grass	hydrothermal//vein-alteration zone	Triassic andesite	andesite	---	epidotization, quartz and epidote veinlets	malachite	conjunction of lineaments and relatively smooth tone	MZ073-074		0.005	4.800	20600.0	0.5	30.0	56.0	61.0	---	
37	SAR222	Erdenet West	mountain/grass-forest	hydrothermal//alteration zone	andesite porphyry	andesite porphyry	---	silicification, quartz veinlets	---	relatively smooth tone	RK064		Trace	0.200	33.0	Trace	10.0	28.0	8.0	---	
38	SAR221	Erdenet West	mountain/grass-forest	hydrothermal//alteration zone	Mesozoic andesite	andesite	---	silicification, quartz and epidote vein	---	relatively smooth tone	HH036, RK063		Trace	0.200	79.0	Trace	32.0	44.0	76.0	Qtz, albite	

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Table A-9 List of survey sites

No	Name of occurrence	Survey district	Topography/Vegetation	Mineralization Type/Factor/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAR data analysis	Rock samples	Remarks	Geochemical analysis (maximum)							Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks
													Au(ppm)	Ag(ppm)	Cu(ppm)	Mo(ppm)	Pb(ppm)	Zn(ppm)	Cr(ppm)		
39	SAR219	Erdenet West	mountain/grass-forest	hydrothermal//alteration zone	Mesozoic andesite	andesite	---	silicification, argillization (sericite)	---	relatively smooth tone	RK065		Trace	Trace	6.0	Trace	1.6	26.0	8.0	Qtz, albite, sericite	
40	Jasiin buuts	Erdenet West	mountain/forest	hydrothermal//vein-alteration zone	andesite, dacite, granite, micro diorite	andesite, desite	granite, micro diorite	silicification, argillization (sericite), quartz vein, dissemination of pyrite	---	---	HH032-035, RK058-062		Trace	0.200	17.0	7.0	30.0	70.0	15.0	Qtz, albite, sericite	
41	Khar uul	Erdenet West	hill/grass	hydrothermal//vein	andesite, basalt, diorite dyke	andesite, basalt	diorite	quartz and chlorite vein	malachite	---	NK083, MZ066-067		0.010	6.600	13000.0	Trace	720.0	28.0	93.0	---	
42	Tsookher mert	Erdenet West	mountain/grass	hydrothermal//vein	granitoids	granitoids	---	quartz vein (width: 1-10cm), argillization (sericite)	Au mineralized quartz vein (width: 1-10cm) with malachite, azurite, galena	---	MZ061-065, IH131-133, MZ143-145, TM114-117	distribution of quartz vein is restricted	285.400	950.000	221.0	5.0	89900.0	1010.0	19.0	Qtz, albite, K-feldspar, sericite	
43	Aguit	Erdenet West	hill/grass-forest	hydrothermal//alteration zone	Devonian acidic volcanic rocks, Permian-Triassic granite	acidic volcanic rocks, granite	---	silicification	---	---	NK074-81, HH024-026		0.015	9.000	37.0	45.0	486.0	172.0	15.0	Qtz, albite, K-feldspar	
44	Urmiin tsgaan nuur	Erdenet West	mountain/forest	hydrothermal//alteration zone	Triassic trachytic tuff, syenite, apite	Triassic trachytic tuff	syenite, apite	silicification	---	---	MZ052-53, RK045-47		Trace	Trace	36.0	Trace	28.0	80.0	24.0	---	
45	Burged khyr	Erdenet West	hill/grass	hydrothermal//alteration zone	Permian-Triassic granitoids, Jurassic conglomerate	granitoids, conglomerate	---	silicification, argillization, limonitization	limonite (gossan)	---	MZ054-056, HH143-144, HH146, MZ135-142		0.010	1.200	52.0	---	64.0	220.0	23.0	Qtz, albite, K-feldspar, sericite, kaolin	
46	Nomgon	Erdenet West	hill/grass	porphyry//alteration zone	syenite, granodiorite	syenite, granodiorite	---	K-fel and magnetite alteration, epidotization, silicification, sericitization	---	---	MZ057-059		---	---	---	---	---	---	---	---	
47	Zaiian	Erdenet West	hill/grass	porphyry//alteration zone	granite, Triassic andesite, porphyrite, Jurassic conglomerate	granite, andesite, porphyrite, conglomerate	---	quartz and tourmaline vein, K-fel alteration	malachite, azurite, turquoise	---	NK080, RK052-053		0.535	82.800	49100.0	341.0	36.0	24.0	5.0	---	
48	Ereen ikher	Erdenet West	hill/grass	hydrothermal//alteration zone	syenite, trachytic tuff	syenite, syenitic tuff	---	silicification, argillization	---	---	NK078-079, RK048-51		0.003	0.100	3.0	7.0	30.0	46.0	8.0	Qtz, albite, K-feldspar	
49	Undrakh	Erdenet West	hill/grass	porphyry//alteration zone	granite, aplitic granite, Quaternary sediments	granitoids	---	potassic alteration, quartz vein, limonitization	chalcopryite, malachite	---	MZ060, RK054-057, NK103-110, TM113	aplitic granite stock with copper mineralization in granite	0.215	33.800	18300.0	208.0	50.0	30.0	7.0	Qtz, albite, calcite	
50	Bulgan NW	Erdenet West	mountain-hill/grass-forest	?	Permian-Jurassic volcanics, Selengecomplex	basalt, granite	---	silicification	pyrite in basalt	---	NK100-102, IH130, HH141-142, MZ132-134, TM112, NK600P-605P, TM600P-603P		0.140	0.200	20.0	4.0	26.0	60.0	33.0	Qtz, K-feldspar, sericite	trachy andesite: 182±9Ma
51	Sudal N177	Zaamar	mountain/thin	epithermal//vein	Cambrian-Ordovician sandstone, shale, granitic rocks	granite, shale	granite	silicification, quartz & calcite vein, pyritization, greisenization	geochemical anomaly (Au)	---	NK001-006		2.850	20.400	344.0	12.0	344.0	18.0	44.0	---	
52	Ulzit oboo	Zaamar	hill/grass	skarn//small skarn body	Cambrian-Ordovician meta-sedimentary rocks, Permian granite, andesite	meta-sedimentary rocks	Permian granite	skarnization (drill core), dissemination of magnetite & pyrrhotite	geochemical anomaly (Zn)	lineament of trending ENE-WSW and NNW-SSE	NK007-008		0.003	0.200	498.0	0.5	26.0	1305.0	197.0	---	
53	Eagle Mt. North	Zaamar West	mountain/grass	hydrothermal//alteration zone	Paleozoic granite, Riphean limestone, tuff, basalt dyke	tuff	basalt	silicification, epidotization, calcite vein	---	---	MZ076		Trace	Trace	25.0	Trace	4.0	18.0	74.0	---	
54	M-1	Zaamar West	hill/grass	hydrothermal//alteration zone	andesite lava	andesite lava	---	chloritization, quartz vein	---	circular embossable feature	HH038		---	---	---	---	---	---	---	---	
55	M-2	Zaamar West	hill/grass	//	andesite	---	---	---	---	circular embossable feature	MZ075		Trace	Trace	133.0	Trace	14.0	108.0	193.0	---	
56	M-3	Zaamar West	hill/grass	//	trachytic andesite, granite(float rock)	---	---	---	---	circular embossable feature	---		---	---	---	---	---	---	---	---	
57	Khuskhuut gol	Bulgan SW	hill/grass	//veinlets	Carboniferous andesitic tuff breccia	andesitic tuff breccia	---	epidotization, quartz veinlets	---	---	---		---	---	---	---	---	---	---	---	

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Table A-9 List of survey sites

No.	Name of occurrence	Survey district	Topography/Vegetation	Mineralization Type/Factor/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAR data analysis	Rock samples	Remarks	Geochemical analysis (maximum)							Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks	
													Au(ppm)	Ag(ppm)	Cu(ppm)	Mo(ppm)	Pb(ppm)	Zn(ppm)	Cr(ppm)			
58	Oyuut khonkhor	Bulgan SW	hill/grass	porphyry?(epithermal?) //alteration zone	Triassic-Jurassic volcanics, granitoids	andesite	granosyenite	silicification, hydrothermal breccia, argillization (sericite, kaolin)	weak geochemical anomaly (Au), azurite, malachite	---	NK009-013, NK113-121, IH135-138, HH162-168, MZ146-148, TM119-125	high sulfidation type alteration under exploration by Erel Co. Ltd.	0.015	1.600	459.0	6.0	166.0	416.0	25.0	Qtz, kaolin, alunite, sericite		
59	Irel No 9	Bulgan SW	hill/grass	hydrothermal/fracture/vein	Triassic sandstone, Triassic-Jurassic granite	sandstone	Triassic-Jurassic granite	limonitization, quartz vein	---	---	---											
60	Teshig	Tavt	mountain/grass-forest	contact metasomatic/	Vendian-Carboniferous volcanics	andesite	---	epidotization	magnetite, malachite	---	HH177, MZ159, TM132	Au: 4t under exploration by M & diamond Co. Ltd.	0.125	1.400	5590.0	Trace	68.0	206.0	11.0	---		
61	Ereen	Tavt	mountain/grass-forest	pluton related/vein	Cambrian-Devonian granitoids	granite, granodiorite, gabbro	granitoids	---	quartz vein with chalcopyrite, malachite, azurite	lineaments trending NNE-SSW, E-W and NW-SE	NK122-126, NK130, NK132, HH170-172, HH174, MZ149-156, MZ158, TM127-130	Au: 8t, Ag: 13t, Cu: 6t under exploration by M & diamond Co. Ltd.	54.140	76.000	131500.0	122.0	1005.0	214.0	89.0	Qtz, K-fel, sericite, chlorite, calcite, pyrite	diorite: 247 ± 12Ma; granodiorite: 330 ± 16Ma; muscovite: 276 ± 14Ma	
62	Tsagaan gongor	Uubulan	hill/grass	hydrothermal?//	Permian-Triassic granite, granite porphyry, diorite porphyry, pegmatite	pegmatite	Permian-Triassic granitic rocks	epidotization	---	lineament trending E-W	---											
63	Holboo ovoo	Uubulan	hill/grass	skarn/contact accretion zone/	Permian andesite, desite, sedimentary rocks, Permian granite	andesite, desite, sedimentary rocks	Permian granite	skarnization	---	---	NK014			0.003	0.100	7.0	0.5	48.0	168.0	10.0	---	
64	Sainin hundii	Uubulan	hill/grass	hydrothermal/contact zone/	Permian basic rocks, Permian-Triassic granite, Jurassic trachyte porphyry, andesite porphyry, dacite porphyry	trachyte, andesite, dacite porphyry	---	silicification, limonitization	---	lineament trending NNE-SSW	MZ001			0.003	Trace	4.0	0.5	26.0	58.0	3.0	---	
65	Mogoin gol	Uubulan	hill/grass	//	Permian-Triassic granite, granodiorite, tonalite, granite, andesite	granite, andesite	granite, andesite	quartz vein	oxidized Cu, weak Au geochemical anomaly	---	NK015			0.085	16.200	952.0	6.0	1475.0	1055.0	20.0	Qtz, kaolin, andalusite	
66	Gua ulaan uul	Uubulan	mountain/thin-grass	metasomatic/NW-oriented tectonic weak zone	Triassic dacitic andesite, dacite, pyroclastic rocks, syenogranite	dacitic andesite, dacite, pyroclastic rocks	syenogranite	silicification, argillization	weak geochemical anomaly (Au)	lineament trending WNW-ESE	NK016, MZ002-003, RK001			0.010	2.200	13.0	109.0	54.0	252.0	13.0	Qtz, K-feldsp, albite, sericite	
67	25f	South Camp	hill/grass	//	Cretaceous lake deposits, Alluvial gravel	Alluvial gravel	---	---	---	---	HH501P			0.011	5.000	39.0	2.5	8.0	59.0	490.0	---	
68	25e	South Camp	mountain/forest	hydrothermal//vein	Cambrian psammitic shist	psammitic shist	---	quartz vein, calcite vein	---	---	RK018-019			0.003	0.100	14.0	0.5	4.0	4.0	11.0	---	
69	25d	South Camp	hill/grass	hydrothermal?//	Vendian-Cambrian pelitic and psammitic shist, ultra mafic rock	pelitic and samitic shist	---	weak listvenitization	---	---	NK030-031			0.003	0.200	6.0	0.5	Trace	18.0	1420.0	---	
70	25c	South Camp	hill/grass	//	Riphean-Cambrian ultra mafic rocks	ultra mafic rocks	---	---	---	---	MZ014			0.003	0.100	4.0	0.5	26.0	30.0	1675.0	---	
71	25b	South Camp	hill/grass	hydrothermal/fault control/vein	Cambrian sedimentary rock (phyllite, tuff), granite	phyllite, tuff	granite	quartz veinlet	---	---	NK029										Qtz, albite, sericite	
72	25a	South Camp	mountain/forest	hydrothermal//veinlets	granite, limestone	granite	---	quartz veinlets	weak geochemical anomaly (Au)	lineament trending NEE-SWW	NK028, RK017			0.035	1.000	0.5	0.5	28.0	4.0	7.0	---	
73	Zost tolgoi	Khujirt	hill/grass	hydrothermal//	granodiorite, granite, andesite	granodiorite, granite, andesite	---	silicification, argillization (sericite), dissemination of pyrite	weak geochemical anomaly (Pb)	---	HK017-019, MZ004-005, RK002			0.003	1.600	34.0	1.0	6.0	28.0	30.0	Qtz, albite, sericite	
74	Yargit	Khujirt	hill/grass	hydrothermal?/fracture control/veinlets and stockwork	granodiorite, dacite	granodiorite, dacite	---	quartz veinlets	malachite, azurite (along crack)	---	NK020			0.003	6.200	4360.0	50.0	14.0	40.0	3.0	---	
75	20 (Hurilt gol)	Khokhoo	mountain/forest	hydrothermal? Metasomatic/fault control/vein?	granite	granite	---	quartz vein (float rock)	---	lineament trending NW-SE	MZ010			0.003	0.100	0.5	0.5	28.0	14.0	9.0	---	
76	20a	Khokhoo	hill/grass-forest	hydrothermal//vein	Devonian granodiorite	granodiorite	---	quartz vein (L:200m x W:40cm), hematite, limonitization	galena, malachite	lineament trending NE-SW	MZ012			0.010	23.200	1135.0	0.5	5210.0	272.0	7.0	---	

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No.	Name of occurrence	Survey district	Topography/Vegetation	Mineralization Type/Factor/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAR data analysis	Rock samples	Remarks	Geochemical analysis (maximum)							Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks
													Au(ppm)	Ag(ppm)	Cu(ppm)	Mo(ppm)	Pb(ppm)	Zn(ppm)	Cr(ppm)		
77	20b	Khokhoo	mountain/grass-forest	hydrothermal/fracture control?/vein	meta-sedimentary rocks (silimanite schist), granite, apite	meta-sedimentary rocks	granite, apite	quartz vein (L>150m)	---	conjunction of lineaments (NW-SE and E-W)	MZ013, RK008-010		0.003	0.200	8.0	0.5	86.0	32.0	17.0	---	
78	20c	Khokhoo	mountain/forest//		gneiss, granodiorite, granite, pegmatite, andesite	gneiss, granodiorite, granite	pegmatite	greisen (sericite)	---	circular embossable feature	RK011		0.003	0.100	0.5	0.5	14.0	46.0	33.0	---	
79	20d	Khokhoo	mountain/forest	hydrothermal?//vein	granodiorite, andesite dyke	granodiorite	andesite	greisen (sericite), quartz vein	malachite, Pb and Ag geochemical anomaly	---	NK027, MZ011		0.605	44.200	7950.0	2.0	111000.0	130.0	90.0	---	
80	Altgena gol	Altgena gol	mountain/grass-forest	hydrothermal/fault control/stockwork	Permian granite, apite	granite	apite	quartz vein	molybdenite	---	NK024-025, HH003, MZ008, RK005		0.003	0.100	26.0	431.0	16.0	4.0	18.0	---	
81	Tsgaan bulgas	Altgena gol	mountain/grass-forest	//	Riphean-Cambrian basalt, serpentinite, carbonate rock	basalt, serpentinite, carbonate rock	---	chloritization, calcite vein	Cr geochemical anomaly	---	---		---	---	---	---	---	---	---	---	
82	Quartz	Altgena gol NW	mountain/forest	hydrothermal/fracture control/vein-veinlet	limestone, shale, green tuff, conglomerate	limestone, shale, green tuff, conglomerate	micro diorite	silicification, limonitization, quartz vein-veinlets	molybdenite	---	RK007-016		0.003	0.200	6.0	1.0	70.0	40.0	7.0	---	
83	Skam	Altgena gol NW	hill/grass	//	Vendian crystalline limestone, marble	crystalline limestone, marble	---	---	---	---	---		---	---	---	---	---	---	---	---	
84	Donkhor bulag	Murun South	mountain/thin-grass	hydrothermal/fault control/	conglomerate, sandstone, shale, dacite, dacitic tuff	conglomerate, sandstone, shale, dacite, dacitic tuff	---	silicification, argillization (sericite), dissemination of pyrite, quartz vein	---	lineament trending E-W	NK021-023, MZ006-007, RK003-004		0.003	1.000	20.0	20.0	702.0	148.0	12.0	Qtz, K-feldsp, albite	
85	Terkhiin tsagaan nuur	Tariat	hill/grass	hydrothermal/vein	upper Riphean sediments	sediments	---	---	5 quartz veins (max: L.32m, W.40cm), wolframite	lineament trending WNW-ESE	IH100, MZ100-101, TM100		0.240	0.200	5.0	5.0	Trace	66.0	12.0	---	
86	Tariatii gol	Tariat	hill/grass	?	Riphean anorthosite, diorite, gabbro, granitoids	anorthosite, gabbro, diorite, granitoids	---	---	white material	lineament trending WNW-ESE	TM101-103, MZ600P		0.005	Trace	2.0	3.0	6.0	6.0	15.0	Qtz, sericite	
87	Solongot	Tariat	hill/grass	?	Proterozoic limestone; Riphean granitoids	limestone, granitoids	---	---	---	lineament trending NW-SE and NNW-SSE	IH101-102, HH101		Trace	Trace	26.0	3.0	28.0	212.0	19.0	sericite, chlorite	
88	Solongotiin gol	Tariat	hill/grass	?	Proterozoic limestone; Riphean granitoids	limestone, granitoids	---	skam	pyrite and magnetite dissemination	lineament trending NNW-SSE	MZ102-103		Trace	0.200	114.0	3.0	18.0	58.0	30.0	---	
89	Tsagaan toigoi	Murun West	hill/grass	greisen/	granitoids, quartz porphyry	granite, quartz porphyry	---	greisenization, silicification (silica cap)	pyrite, limonite, molybdenite	lineament trending E-W and NE-SE	IH126, IH128-129, TM104-108, TM110-111		0.005	0.800	101.0	1325.0	692.0	1275.0	14.0	Qtz, sericite	muscovite: 518±26Ma
90	Ulaannuur	Murun West	hill/grass	greisen/	Devonian and Jurassic granitoids	granitoids	---	silicification, greisenization	pyrite	---	HH136-137, MZ129-131		Trace	0.600	5.0	42.0	10.0	14.0	14.0	Qtz, sericite	
91	Khaisiin belchir	Tsagaan uul	Mountains/trees-no vegetation	---	Riphean meta-sediments	---	---	---	pyrite dissemination (float rock)	lineament trending NNE-SSW	MZ128, MZ602P-603P	not accessible	0.020	0.400	54.0	12.0	20.0	32.0	71.0	---	
92	Tsagaan uul	Tsagaan uul	hills/grass-trees	hydrothermal/vein	Vendian-Cambrian limestone, upper Paleozoic volcanics-sediments	pelitic-psammitic schist, crystalline limestone	---	---	quartz vein with wolframite	lineament trending NW-SE and E-W	IH118-119, MZ123-124, HH122-125		0.015	2.000	67.0	80.0	10.0	80.0	126.0	Qtz, kaolin, sericite	
93	Narin azarga	Tsagaan uul		---	limestone, sandstone, gabbro	limestone, sandstone, gabbro	---	---	quartz vein	---	IH125, HH601P		Trace	0.200	11.0	5.0	18.0	44.0	5.0	---	
94	Deed ulaan toigoi	Tsagaan uul	hill/grass	hydrothermal/vein	Devonian-Carboniferous granitoids	granitoids	felsite	---	quartz vein and breccia	---	IH120-124, HH127, HH129		Trace	0.200	2.0	131.0	14.0	28.0	11.0	---	
95	Ulaan zavsar	Tsagaan uul	hills/grass-few trees	metamorphosed, hydrothermal/	Riphean meta-sediments, limestone	meta-sediments	---	---	segregation quartz vein with limonitization, quartz vein with sericite and fluorite	---	MZ125-127		0.005	0.200	11.0	1.0	8.0	68.0	0.2	Qtz, kaolin, sericite	

Results of this survey

Table A-9 List of survey sites

No.	Name of occurrence	Survey district	Topography/Vegetation	Mineralization Type/Factor/Form	Geology	Country rock	Intrusive rock	Alteration	Mineralization	SAR data analysis	Rock samples	Remarks	Geochemical analysis (maximum)							Alteration mineral (X-ray diffraction)	K-Ar dating of volcanic and plutonic rocks
													Au(ppm)	Ag(ppm)	Cu(ppm)	Mo(ppm)	Pb(ppm)	Zn(ppm)	Cr(ppm)		
96	Gurvan buudal uul	Tsagaan uul	hill/grass	metasomatic/	Riphean meta-sediments (shale); Carboniferous granite	meta-sediments	---	hornfels, skarn	quartz-muscovite vein, pyrrhotite, wollastonite	lineament trending E-W	IH111-112, HH118, MZ118-120		Trace	0.200	10.0	Trace	36.0	60.0	8.0	---	
97	Khunkh tsakhir	Tsagaan uul	hills/grass	?	Paleozoic granitoids, quartz syenite, sediments	granitoids	---	leached silicification	quartz-muscovite alteration with malachite	lineament trending NW-SE and E-W	IH113-117, HH119-120, MZ121-122	porphyry lithocap?	Trace	21.000	115.0	1780.0	868.0	398.0	115.0	Qtz, sericite	
98	Zost uul	Tosont sengel	hill/grass-rare trees	hydrothermal/vein	Proterozoic metamorphic rocks; Permian-Triassic granite	granite	---	silicification, sericitization	quartz veinlets with molybdenite, pyrite and chalcopyrite dissemination	---	HH103-105, MZ106-108		Trace	0.200	175.0	431.0	66.0	58.0	35.0	Qtz, albite, K-feldspar, sericite	
99	Khuurai sair	Tosont sengel	Steep hills/grass-rare trees	/dissemination	Cambrian felsite, andesite, Devonian granite	felsite	felsite	---	quartz veinlets, chalcopyrite, malachite, pyrite	lineament trending ENE-WSW, NNW-SSE and WNW-ESE	HH102, MZ104-105, MZ601P	small scale mineralization	0.030	20.800	8090.0	118.0	11700.0	376.0	17.0	---	
100	Naranbulag	Tosont sengel	hills/grass-few trees	porphyry/dissemination	Permian volcanics and intrusive	siliceous leucocratic granite	---	potassic alteration?	malachite, azurite, pyrite	---	IH103, HH106, HH108-109, MZ109-113		0.010	0.600	24800.0	162.0	62.0	48.0	7.0	Qtz, albite, sericite, mont, kaolin	granodiorite: 110±6Ma
101	Occurrence 124-B-4.5	Tosont sengel	Steep hills/grass-trees	metasomatic/	Permian Uliastai complex (granite, gabbro)	gabbro	---	---	malachite	lineament trending NE-SW	IH104-105, HH110, MZ114		Trace	Trace	295.0	1.0	8.0	44.0	0.0	Qtz, albite, sericite, chlorite	
102	Quartzite	Tosont sengel	hills/grass	hydrothermal/vein	Permian-Triassic volcanics	aphanitic rhyolite	---	silicification	pyrite dissemination, specularite	---	IH108-110, HH114-116, MZ116-117		Trace	0.200	58.0	17.0	58.0	16.0	18.0	Qtz, albite, K-feldspar, sericite	
103	Davaa	Tosont sengel	hills/grass	hydrothermal/vein	Selenge complex, Permian-Triassic volcanics	andesite	---	silicification, epidotization	quartz veinlets	---	IH106-107, HH112-113, MZ115		Trace	Trace	102.0	2.0	14.0	28.0	16.0	Qtz	

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# APPENDIX 3

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Table A-10 Description of rock and ore samples

Phase I survey

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

Table A-10 Description of rock and ore samples

## Phase I survey

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



Phase I survey

Table A-10 Description of rock and ore samples

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

Table A-10 Description of rock and ore samples

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## Phase I survey

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

Table A-10 Description of rock and ore samples

Phase I survey

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

Table A-10 Description of rock and ore samples

## Phase I survey

Sample No.	Latitude(N)	Longitude(E)	District	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
M99HH009R	49°01'08.6"	104°08'00.2"	Erdenet	Northwest	ore	Erdenet Comp.	whitish gray	(not identified)	pyrite, chalcopyrite, molybdenite	O, T, X
M99HH010R	49°01'08.6"	104°08'00.2"	Erdenet	Northwest	andesite dyke	dyke	gray, aphanitic	--	--	W, T
M99HH011R	49°01'20.8"	104°07'02.3"	Erdenet	Northwest	ore-granodiorite	Erdenet Comp.	quartz, plagioclase, biotite, K-feldsper, pyroxne	(not identified)	pyrite, malachite	W, T, X
M99HH012R	49°01'20.8"	104°07'02.3"	Erdenet	Northwest	andesite dyke	dyke	dark green	(not identified)	pyrite	W, T, X
M99HH013R	49°13'17.4"	104°29'15.3"	Erdenet	SAR138	granite		coarse	--	--	W, T
M99HH014R	49°13'16.3"	104°36'46.1"	Erdenet	SAR139	basalt		gray	silicified, quartz+epidote vein	--	W, T
M99HH015R	49°13'19.3"	104°36'45.3"	Erdenet	SAR139	granodiorite		intermediate	--	--	W, T
M99HH017R	49°13'03.6"	104°36'34.4"	Erdenet	SAR139	granodiorite		intermediate	epidote	--	W, T
M99HH018R	49°13'03.6"	104°36'34.4"	Erdenet	SAR139	granodiorite		--	epidote, chlorite	--	T, X
M99HH020R	48°54'14.6"	103°57'15.8"	Erdenet	Zaluu	diorite		intermediate/plagioclase, biotite, hornblende	--	--	T, X
M99HH021R	48°49'49.4"	103°48'06.5"	Erdenet	Dambatseren	dacite~andesite		pink	partly silicification	--	G, T
M99HH024R	48°47'46.6"	102°56'52.3"	Bulgan	Aguit	silicified breccia		reddish brown	---	--	T
M99HH025R	48°47'34.9"	102°56'45.9"	Bulgan	Aguit	altered rock		whitish gray	quartz+sericite	--	G, X
M99HH026R	48°47'34.9"	102°56'45.9"	Bulgan	Aguit	silicified rock		--	quartz, hematite, limonite	--	G
M99HH032R	48°47'06.5"	103°26'64.2"	Bulgan	Jasiin buuts	andesite		magnetite remains	weakly silicified	--	G, X
M99HH033R	48°47'02.5"	103°26'39.6"	Bulgan	Jasiin buuts	quartz vein		brecciation	quartz (black streak)	--	G, T, X
M99HH034R	48°46'50.0"	103°26'16.0"	Bulgan	Jasiin buuts	dacite or dacitic tuff		whitish	quartz+sericite	--	G, X

Table A-10 Description of rock and ore samples

Phase I survey

Sample No.	Latitude(N)	Longitude(E)	District	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
M99HH035R	48°46'50.4'	103°26'10.2'	Bulgan	Jasiin buuts	altered rock (andesite?)		whitish	quartz+sericite	--	G, X
M99HH036R	48°42'45.2'	103°31'50.3'	Bulgan	SAR221	quartz vein		--	quartz+hematite along fracture	--	G, X
M99HH038R	48°25'26.8'	103°56'39.8'	Zaamar West	SAR M-1	andesite		gray	chlorite along fracture	--	X
M99MZ001R	48°40'53.3'	102°08'08.6'	Uubulan	Sairiin hundii	dacite		---	silicification	limonite	G
M99MZ002R	48°55'00.3'	101°53'19.6'	Uubulan	Gua ulaan uul	silicified rock		---	silicification	limonite	G, X
M99MZ003R	48°55'17.5'	101°52'54.4'	Uubulan	Gua ulaan uul	dacite		---	silicification	Fe-Mn oxides	G
M99MZ004R	48°43'41.0'	101°25'46.0'	Khujirt	Zost tolgoi	silicified, breccia		---	silicification	limonite	G
M99MZ005R	48°43'41.0'	101°25'19.6'	Khujirt	Zost tolgoi	granite		medium grain	---	---	G
M99MZ006R	49°22'11.3'	100°09'33.4'	Murun South	Donhor bulag	silicified rock		light gray	silicification	pyrite dissemination	G, X
M99MZ007R	49°22'17.0'	100°09'36.6'	Murun South	Donhor bulag	silicified rock		platey	silicification	---	G
M99MZ008M	49°50'58.6'	100°24'02.9'	Altgana gol	Altgana gol	quartz veins		white	---	molybdenite	180, F
M99MZ009R	49°55'59.8'	100°21'06.4'	Altgana gol NW	Delger uul	ultra mafic rock		dark green	---	---	G, PT, E
M99MZ010R	50°39'12.3'	100°46'18.2'	Khokhoo	Hurilt gol	granite		pink	---	---	G
M99MZ011M	50°38'16.4'	100°46'47.8'	Khokhoo	20d	Cu ore		quartz vein	---	malachite, chalcopyrite	G
M99MZ012M	50°26'13.9'	100°52'50.3'	Khokhoo	20a	Pb-Cu ore		quartz vein	----	galena, malachite	G
M99MZ013R	50°12'45.5'	101°31'29.3'	Khokhoo	20b	silicified rock		quartz veinlet	hydrothermal?	---	G
M99MZ014R	50°12'16.0'	101°37'18.2'	South Camp	25c	dunite		serpentinized	---	---	G, PT, E

Table A-10 Description of rock and ore samples

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## Phase I survey

Sample No.	Latitude(N)	Longitude(E)	District	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysys type
M99MZ015R	49°01'18.1'	104°07'44.1'	Erdenet	20b	granitic rock	Erdenet complex	---	phyllitic alteration	pyrite and chalcopyrite dissemination	W, T
M99MZ016M	49°01'18.1'	104°07'44.1'	Erdenet	20b	quartz vein		---	B-vein	pyrite, chalcopyrite, coveline	34S, 180, F
M99MZ017R	49°01'21.8'	104°07'01.4'	Erdenet	Northwest	granitic rock	Erdenet complex	---	potassic alteration	pyrite dissemination	W, 34S, T
M99MZ018R	49°07'52.1'	103°38'52.4'	Erdenet	Khujiriin gol	granodiorite		---	potassic alteration?	---	G
M99MZ019R	49°07'41.0'	103°38'41.0'	Erdenet	Khujiriin gol	andesite		dark gray	---	magnetite	G
M99MZ020R	49°07'58.8'	103°38'13.9'	Erdenet	Khujiriin gol	monzonite		coarse	---	---	G
M99MZ021R	49°05'51.6'	103°35'49.3'	Erdenet	Khujiriin gol	diorite		medium grain	---	red hematite	G, PT
M99MZ022R	49°05'05.4'	103°59'00.0'	Erdenet	Talbulag	dacite		gray	---	---	G
M99MZ023R	49°06'53.0'	103°58'34.0'	Erdenet	Talbulag	volcanic rock		reddish gray	silicification	quartz veinlet	G
M99MZ024R	49°15'45.5'	103°55'23.8'	Erdenet	SAR25 (Davaa)	granite		coarse	---	---	G
M99MZ025R	49°14'54.4'	103°56'28.5'	Erdenet	SAR25 (Davaa)	granodiorite		micro grain	---	pyrite, limonite	G
M99MZ026R	49°02'48.6'	103°59'58.5'	Erdenet	Tsagaan chuluut	silicified rock		white	---	limonite along cracks	G, X
M99MZ027R	49°02'48.6'	103°59'58.5'	Erdenet	Tsagaan chuluut	silica sinter?		white	---	---	G
M99MZ028R	49°13'51.1'	104°14'05.0'	Erdenet	Zuuchiin gol	andesite		---	silicification	malachite	G
M99MZ029R	49°13'17.3'	104°14'22.8'	Erdenet	Zuuchiin gol	silicified rock		volcanic rock	silicification	---	G
M99MZ030R	48°56'34.0'	104°17'46.0'	Erdenet	Tourmaline	granitic rock		black colored	tourmaline-biotite	---	G
M99MZ031R	48°56'35.2'	104°17'44.6'	Erdenet	Tourmaline	syenite		medium grain	---	---	G, T

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Table A-10 Description of rock and ore samples

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Phase I survey

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

Table A-10 Description of rock and ore samples

## Phase I survey

Sample No.	Latitude(N)	Longitude(E)	District	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
M99MZ049R	49°09'51.8"	103°44'54.3"	Erdenet	Mogoin gol 2	silicified rock		---	tourmaline?	---	G
M99MZ050X	49°01'16.0"	104°07'57.4"	Erdenet	Northwest	sericite	Erdenet complex	open pit	phyllitic alteration	sulfides	KA
M99MZ051R	49°01'14.2"	104°07'12.9"	Erdenet	Northwest	granitic rock	Erdenet complex	open pit	potassic alteration	sulfides	KA
M99MZ052R	48°48'11.2"	102°55'51.7"	Bulgan West	Urmin tsgaan nuur	tuff breccia		---	---	---	G
M99MZ053R	48°48'05.0"	102°56'11.2"	Bulgan West	Urmin tsgaan nuur	syenite		dyke	---	---	G
M99MZ054R	48°52'03.5"	102°49'43.8"	Bulgan West	Burged khyr	granitic rock		---	---	limonite	W
M99MZ055R	48°52'03.5"	102°49'43.8"	Bulgan West	Burged khyr	silicified rock		white	hypogene alunite	---	W, X
M99MZ056R	48°52'24.2"	102°49'51.4"	Bulgan West	Burged khyr	silicified rock		white	hypogene alunite	---	W
M99MZ057R	48°48'58.6"	102°47'00.0"	Bulgan West	Nomgon	magnetic rock		granite origin	k-feldsper	magnetite	W, PT
M99MZ059R	48°49'11.5"	102°47'03.1"	Bulgan West	Nomgon	granite		magnetite after mafic	replacement	magnetite	W
M99MZ060R	48°42'00.6"	102°45'47.9"	Bulgan West	Undrakh	quartz veinlet		granitic host	potassic alteration	malachite, chalcocite	G
M99MZ061M	48°45'27.9"	103°16'04.9"	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	limonite	G
M99MZ062M	48°45'28.1"	103°16'00.9"	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	azurite	G
M99MZ063R	48°45'28.1"	103°16'00.9"	Bulgan	Tsookher mert	granitic rock		host of qz vein	sericitic	---	G, X
M99MZ064M	48°45'27.3"	103°16'00.8"	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	malachite, azurite, chalcopyrite?	G, P
M99MZ065M	48°45'27.3"	103°16'00.8"	Bulgan	Tsookher mert	quartz vein		granitic host	sericitic	---	180, F
M99MZ066M	48°42'06.7"	103°16'21.3"	Bulgan	Khar uul	quartz veinlet		andesite host	epidote	Cu oxide	G



Table A-10 Description of rock and ore samples

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## Phase I survey

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

Table A-10 Description of rock and ore samples

## Phase I survey

Sample No.	Latitude(N)	Longitude(E)	District	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
M99RK008R	50°31'06.3'	101°05'23.0'	Khokhoo	20b	quartz vein		white-clear, coarse grain, W:10cm(Max1m), L:3m, N70° W60° N, host:pelitic shist	weak limonite	--	G
M99RK009R	50°31'09.4'	101°05'06.5'	Khokhoo	20b	quartz vein		white, medium grain, W:<30cm, L:20m, N85° W60° N, host:pelitic shist	weak limonite(hematite)	--	G
M99RK010R	50°31'06.3'	101°05'23.0'	Khokhoo	20b	float, granite?		quartz vein?	silicification, weak limonite, greisen?(biotite+mica)	--	G
M99RK011R	50°34'25.4'	101°06'18.6'	Khokhoo	20c	quartz vein?		clear, coarse grain, W:5-10cm, host:gneiss	greisen? (biotite+muscovite)	--	G, T
M99RK012R	50°15'03.6'	100°17'00.6'	Khokhoo	Quartz	float, quartz vein		white-reddish, fresh grain, W:>25cm	hematite	--	G
M99RK013R	50°14'03.3'	100°17'00.6'	Khokhoo	Quartz	quartz vein		clear, coarse grain, W:>5cm, segregation vein?	limonite	molybdenite?	G, F
M99RK014R	50°14'03.3'	100°17'00.6'	Khokhoo	Quartz	limestone		white	strong silicification	--	G
M99RK015R	50°14'03.3'	100°17'00.6'	Khokhoo	Quartz	basalt? basic tuff?		green, metamorphosed	weak silicification	--	G
M99RK016R	50°14'15.0'	100°16'27.7'	Khokhoo	Quartz	limestone		white-milky, brecciated	weak silicification	--	G
M99RK017R	50°06'21.7'	101°36'05.7'	South Camp	25a	quartz vein		white, coarse grain, W:<10cm, host:aplitic granite	weak limonite	--	G
M99RK018R	50°16'35.8'	101°43'52.7'	South Camp	25e	float, quartz vein		white-clear, coarse grain, W:<5cm, host:tuffaceous ss	weak limonite	--	G
M99RK019R	50°16'24.5'	101°44'01.5'	South Camp	25e	quartz vein		veinlet, NS80° E, host:samitic shist	fluorite	--	G
M99RK020M	49°01'29.1'	104°07'42.4'	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
M99RK021M	49°01'23.5'	104°07'00.8'	Erdenet	Northwest	granite	Erdenet complex?	quartz+biotite+k-feldsper+feldsper	silicification, limonite along crack, partly oxidized, potassic(biotite+k-feldsper)	quartz+chalcopyrite and pyrite vein, dissemination, malachite along crack	O, PT, E
M99RK022R	49°07'41.5'	103°38'41.5'	Erdenet	Khujiriin gol	float, granite		k-feldsper rich	quartz veinlet in(W:3mm), limonite	--	G
M99RK023R	49°07'57.3'	103°38'13.8'	Erdenet	Khujiriin gol	quartz vein		white-clear, coarse grain, W:<30cm, host:syenite	quartz network, fluorite	--	G
M99RK024R	49°11'16.8'	104°02'14.4'	Erdenet	SAR144	silicified rock(granite)		---	silicification(W:20cm), epidote, quartz vein in, biotite rich	--	G

Table A-10 Description of rock and ore samples

Phase I survey

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

Sample No.	Latitude(N)	Longitude(E)	District	Occurrence	Rock Name	Geological Unit	General Description	Alteration	Mineralization	Analysis type
M99RK040R	48°45'39.5"	104°12'16.5"	Erdenet	Shand	andesite porphyry		dark gray, phenocryst:plagioclase	--	--	T
M99RK041R	48°42'20.0"	103°56'11.7"	Erdenet	SAR233	float, silicified rock		granite?	silicification, hematite, chlorite?	--	G
M99RK042R	48°46'22.4"	104°04'30.4"	Erdenet	SAR235	granite		quartz+k-feldspar+biotite	weak silicification(W:10m)	--	G
M99RK043R	48°46'33.3"	104°04'26.0"	Erdenet	SAR235	aplite		reddish	silicification, chlorite?	--	G
M99RK044R	49°20'07.1"	104°09'57.3"	Erdenet	SAR127	granodiorite		iquigranule, coarse grain, biotite+plagioclase+k-feldspar	--	--	W, T
M99RK045R	48°48'24.5"	102°56'00.5"	Bulgan West	Urmiin tsgaan nuur	lapilli tuff		fragment:plagioclase+k-feldspar	--	--	G
M99RK046R	48°48'06.9"	102°55'40.9"	Bulgan West	Urmiin tsgaan nuur	lapilli tuff		fragment:plagioclase+k-feldspar	silicification	--	G
M99RK047R	48°48'03.8"	102°55'35.7"	Bulgan West	Urmiin tsgaan nuur	lapilli tuff		fragment:plagioclase+k-feldspar	silicification, quartz vein in (W:2mm, coarse grain, white)	--	G
M99RK048R	48°49'08.7"	102°34'86.9"	Bulgan West	Ereen ikher	silicified rock		lapilli tuff? trachite?	moderate silicification, sericite?, limonite	--	G, X
M99RK049R	48°49'08.7"	102°34'86.9"	Bulgan West	Ereen ikher	lapilli tuff		fragment:k-feldspar+biotite	moderate silicification, limonite	--	G
M99RK050R	48°49'08.7"	102°34'86.9"	Bulgan West	Ereen ikher	lapilli tuff		fragment:k-feldspar+biotite	moderate silicification, limonite, calcite stain	--	G, X
M99RK051R	48°49'08.7"	102°34'86.9"	Bulgan West	Ereen ikher	lapilli tuff		fragment:k-feldspar+biotite	silicification, white, sericite?, limonite	--	G, X
M99RK052M	48°48'09.8"	102°42'12.5"	Bulgan West	Zaiian	granite		quartz+biotite+plagioclase+k-feldspar, fine grain	limonite stain, potassic alteration	malachite	G
M99RK053M	48°49'04.7"	102°41'57.2"	Bulgan West	Zaiian	granite		quartz+biotite+plagioclase+k-feldspar	strong limonite, silicification	malachite, azurite	G
M99RK054R	48°42'03.7"	102°45'43.9"	Bulgan West	Undrakh	quartz vein		aplite?	limonite	malachite, chalcopyrite, bornite	G
M99RK055M	48°42'03.7"	102°45'43.9"	Bulgan West	Undrakh	granite		quartz+(biotite)+(k-feldspar)	limonite	malachite along fracture	G
M99RK056M	48°42'04.7"	102°45'47.7"	Bulgan West	Undrakh	granite		quartz+(biotite)+(k-feldspar)	potassic alteration, weak silicification, mica	malachite	T

Table A-10 Description of rock and ore samples

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## Phase I survey

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

Table A-10 Description of rock and ore samples

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*Phase I survey*

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

**Analysis type**

G: Geochemical analysis (ICP; Au+27elements)

W: Petrochemical analysis (XRF; major and rare earth elements)

O: Ore grade assay

34S: Sulfer 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: Powdery X-ray diffraction

F: Temperature and chlorine consistency of fluid inclusions

E: EPMA

M: Modal composition of granitic rock

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00NK100	49	9	11	102	34	13.9	Erdenet West	Bulgan NW	Trachy andesite		unaltered, massive	---	---	W, KA, PT
M00NK101	49	9	35.7	102	34	43.6	Erdenet West	Bulgan NW	Basalt		unaltered, aphanitic	---	---	W, KA, PT
M00NK102	49	14	4.1	102	37	30.5	Erdenet West	Bulgan NW	Granitoid		equigranular	---	---	W, PT
M00NK103	48	42	2.9	102	45	43.8	Erdenet West	Undrakh	Quartz vein		---	---	malachite	G
M00NK104	48	42	3.9	102	45	44.4	Erdenet West	Undrakh	Granitoid		leucoclastic, fine grain	---	malachite stained	G
M00NK105	48	42	3.9	102	45	44.4	Erdenet West	Undrakh	Quartz vein		---	---	---	G
M00NK106	48	42	3	102	45	44.7	Erdenet West	Undrakh	Granitoid		unaltered	---	---	G, W, PT
M00NK107	48	42	5.5	102	45	47.4	Erdenet West	Undrakh	Granitoid		fine grain, biotite free	---	---	PT
M00NK108	48	42	5.5	102	45	47.4	Erdenet West	Undrakh	Granitoid		medium grained, biotite bearing	---	malachite stained	PT
M00NK109	48	42	7.2	102	45	48.7	Erdenet West	Undrakh	Quartz vein		---	---	---	G
M00NK110	48	41	43.6	102	45	59.1	Erdenet West	Undrakh	Aplite		fine grain, biotite free	---	---	G
M00NK111	48	51	39.3	103	47	30.2	Erdenet West	Danbatseren	Silicified rock		sugar like	---	---	G
M00NK112	48	51	32.3	103	47	5.9	Erdenet West	Danbatseren	Granite		coarse grain	---	---	PT
M00NK113	48	10	48	102	56	7.5	Bulgan SW	Oyuut khonkhor	Syenite		fine grain, porous	silicification	---	PT, X
M00NK114	48	10	48.6	102	56	8.4	Bulgan SW	Oyuut khonkhor	Silicified rock		network silicification	white alteration (white mineral)	limonite	G, PT, X
M00NK115	48	10	47.4	102	56	13.7	Bulgan SW	Oyuut khonkhor	Network silicified rock		hydrothermal breccia	---	limonite	G, PT, X

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
MOONK116	48	10	48.6	102	56	19.2	Bulgan SW	Oyuut khonkhor	Trachy andesite	Mogot formation	phenocryst: pinkish plagioclase+biotite	---	---	PT, X
MOONK117	48	10	56.9	102	56	34.7	Bulgan SW	Oyuut khonkhor	Trachy andesite	Mogot formation	phenocryst: pinkish, plagioclase, porphyritic	---	---	PT, X
MOONK118	48	10	57.4	102	56	25.5	Bulgan SW	Oyuut khonkhor	Syenite		fine grain	silicification	---	PT, X
MOONK119	48	10	50.4	102	55	49.5	Bulgan SW	Oyuut khonkhor	Syenite		pinkish, fine grain	---	---	PT, X
MOONK120	48	10	50.4	102	55	49.5	Bulgan SW	Oyuut khonkhor	Silicified rock		greyish, porous	silicification	limonite	G
MOONK121	48	10	38.7	102	55	32.9	Bulgan SW	Oyuut khonkhor	Silicified rock		greyish	silicification	limonite	G
MOONK122	50	6	31.6	102	24	46.4	Tavt	Ereen No.1 ore body	Diorite?		varicolored	silicification	malachite, limonite	G, PT, X
MOONK123	50	6	31.6	102	24	46.4	Tavt	Ereen No.1 ore body	Altered rock		blueish green	---	---	G, X
MOONK124	50	6	31.6	102	24	46.4	Tavt	Ereen No.1 ore body	Quartz vein		---	---	malachite, limonite	G, PT
MOONK125	50	6	31.6	102	24	46.4	Tavt	Ereen No.1 ore body	Diorite		weathered	---	---	X
MOONK126	50	6	50.3	102	25	27.3	Tavt	Ereen No.2 ore body	Quartz vein		---	---	---	PT
MOONK127	50	6	50.3	102	25	27.3	Tavt	Ereen No.2 ore body	Gossan		---	---	limonite	
MOONK128	50	7	49	102	27	2.2	Tavt	Ereen No.42 ore body	Quartz vein		---	---	malachite, azurite	
MOONK129	50	7	27.3	102	25	43.2	Tavt	Ereen No.3 ore body, column2	Gossan		1st grade ore	---	limonite	
MOONK130	50	7	27.3	102	25	43.2	Tavt	Ereen No.3 ore body, column2	Quartz vein		2nd grade ore	---	malachite, chalcopyrite, pyrite, limonite	
MOONK131	50	7	27.3	102	25	43.2	Tavt	Ereen No.3 ore body, column2	Metasomatized rock		3rd grade ore	silicification, quartz veinlets	malachite, limonite	



Table A-10 Description of rock and ore samples

Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
MOONK132	50	7	26	102	25	47.8	Tavt	Ereen No.3 ore body, column2	Diorite		coarse grain	---	---	PT
MOONK133	50	7	39.2	102	25	22.8	Tavt	Ereen No.3 ore body, column4	Oxide copper		---	---	---	
MOONK134	49	58	41.4	102	28	57.8	Tavt	Teshig	Skarn		---	---	magnetite	
MOONK135	49	3	11.5	104	4	35.8	Erdenet West	Tsagaan chuluut	Andesite?		---	intensive silicification	limonite	G, X
MOONK136	49	3	10.7	104	4	39.4	Erdenet West	Tsagaan chuluut	Cral vein		---	kaolin	---	X
MOONK137	49	3	10.7	104	4	39.4	Erdenet West	Tsagaan chuluut	Silicified rock		oolitic quartz	silicification	---	G, PT, X
MOONK138	49	3	2.4	104	4	47.8	Erdenet West	Tsagaan chuluut	Andesite?		---	argillization	limonite	G, X
MOONK139	49	2	58.8	104	4	52.3	Erdenet West	Tsagaan chuluut	Trachy andesite		dark greyish, phenocryst: k-feldsper+hornblende	epidote	---	G, PT, X
MOONK140	49	2	54.5	104	0	38.5	Erdenet West	Tsagaan chuluut	Andesite?		white, patially leached	silicification, argillization	---	G, X
MOONK141	49	2	54.6	104	0	47.4	Erdenet West	Tsagaan chuluut	Rhyolite		white, banded	silicification, argillization	---	G, X, PT
MOONK142	49	2	54.2	104	0	24.5	Erdenet West	Tsagaan chuluut	Rhyolite		white, banded	silicification, argillization (alunite?)	---	G, X
MOONK143	49	2	44	104	0	31.2	Erdenet West	Tsagaan chuluut	Pitch limonite		---	---	---	
MOONK144	49	3	13	104	1	5.1	Erdenet West	Tsagaan chuluut	Trachy andesite		phenocryst: plagioclase, k-feldsper	---	---	G, X
MOONK145	49	3	27.3	104	1	109.1	Erdenet West	Tsagaan chuluut	Porphyritic andesite		phenocryst: plagioclase	---	---	X
MOONK146	49	3	32.1	104	1	36.7	Erdenet West	Tsagaan chuluut	Altered rock		dark greyish	silicification	limonite	G, X
MOONK147	49	3	40.2	104	1	37.1	Erdenet West	Tsagaan chuluut	Altered rock		greyish, fine grain	silicification	---	G

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00NK148	49	3	37.7	104	2	16.8	Erdenet West	Tsagaan chuluut	Tuff breccia		pale pinkish	silicification, argillization	---	G, X
M00NK149	49	3	32.2	104	2	20.9	Erdenet West	Tsagaan chuluut	Tuff breccia		pale pinkish	silicification, argillization	---	G, X
M00NK150	49	3	36.1	104	2	35.3	Erdenet West	Tsagaan chuluut	Tuff breccia		pale pinkish	silicification, argillization, white vein (kaolin?)	---	G, X
M00NK151	49	3	48.2	104	2	19.4	Erdenet West	Tsagaan chuluut	Tuff breccia		pale pinkish	silicification, argillization	---	G, X
M00NK152	49	4	14.5	104	2	24.8	Erdenet West	Tsagaan chuluut	Tuff breccia		pale pinkish	silicification, argillization	---	G, X
M00NK153	49	4	16.2	104	2	36.6	Erdenet West	Tsagaan chuluut	Tuff breccia		pale pinkish	silicification, argillization	---	G, X
M00NK154	49	3	19.7	104	2	46.7	Erdenet West	Tsagaan chuluut	Tuff breccia		greyish	weak alteration	---	X
M00NK155	49	10	7.1	103	45	12.7	Erdenet West	Mogoin gol	Altered rock		sugar like	silicification, argillization	limonite	G, X
M00NK156	49	10	14.9	103	44	59.9	Erdenet West	Mogoin gol	Andesite		massive	tourmaline, K-feldspar, muscovite	---	G, PT, X
M00NK157	49	10	18.8	103	44	52.6	Erdenet West	Mogoin gol	Andesite		dark greyish	tourmaline, epidote	---	G, PT, X
M00NK158	49	10	25.6	103	44	37.3	Erdenet West	Mogoin gol	Andesite		paralell	quartz veinlets	---	F
M00NK159	49	10	29.5	103	44	23.9	Erdenet West	Mogoin gol	Microdiorite		dark greyish, equigranular	---	---	G, PT
M00NK160	49	9	35.1	103	45	23.4	Erdenet West	Mogoin gol	Tuff		pale pinkish	weak silicification, argillization	---	G, X
M00NK161	49	10	3.6	103	45	43.2	Erdenet West	Mogoin gol	Altered rock		sugar like	silicification	---	
M00NK162	49	3	19.7	104	2	46.9	Erdenet West	Tsagaan chuluut	Tuff		---	intensive limonitization	limonite	G
M00NK163	49	14	30.5	104	12	25.9	Erdenet West	Zhuukhiin gol	Andesite		greyish	silicification	---	G, PT, X

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Table A-10 Description of rock and ore samples

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Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
MOONK164	49	14	30.5	104	12	25.9	Erdenet West	Zhuukhiin gol	Hydrothermal breccia		brecciated angular	silicification	limonite	G, PT, X
MOONK165	49	15	12.9	104	9	21.4	Erdenet West	Zhuukhiin gol	Andesite		dark greyish, unaltered	---	---	KA, PT
MOONK166	49	12	53.5	104	36	20.9	Erdenet West	SAR139	Tuff breccia		varicolored	epidote, chlorite, hematite, silicification	---	T
MO0IH100	48	7	50.3	98	50	44.5	Tariat	Terkhiin tsagaan nuur	Quartz vein		W:0.30m, channel sample	---	---	G
MO0IH101	48	9	55	99	0	45.6	Tariat	Solongotiin gol	Granite		coarse grain	---	---	T
MO0IH102	48	9	55	99	0	45.6	Tariat	Solongotiin gol	Skarn		skarn zone: W:4.0m, quartz, light green calc-silicate minerals	skarn	---	T
MO0IH103	48	34	43.5	97	46	45.7	Tosontsengel	Naranbulag	Granite		silicified, medium grain, with secondary biotite	silicification, secondary biotite	rare pyrite dissemination, malachite stained	T
MO0IH104	48	23	52.7	97	38	13.5	Tosontsengel	Occurrence 124-B-4.5	Ultrabasic rock (pyroxinite?)		coarse grain	---	---	T
MO0IH105	48	23	47.3	97	38	22.7	Tosontsengel	Occurrence 124-B-4.5	Gabbro		medium-fine grain	---	---	T
MO0IH106	48	55	50.8	97	44	0.2	Tosontsengel	Davaa	Andesite		purplish grey, phenocryst: plagioclase	---	---	T
MO0IH107	48	55	54.1	97	44	0.8	Tosontsengel	Davaa	Quartz veinlet network		quartz veinlet network in highly silicified andesite, channel sample 1.5m in width	drusy quartz veinlet, silicification	---	G
MO0IH108	48	55	51.7	97	49	24.6	Tosontsengel	Quartzite	Syenite		pink colored syenite with breccia (intrusive breccia?), black mineral diss. 10-20m in width, strike:N70W	---	unknown black minerals	G, X, T
MO0IH109	48	55	50.9	97	49	42.2	Tosontsengel	Quartzite	Silicified rock		grey colored, highly silicified and argillized rock with quartz veinlet	silicification, argillization, quartz veinlet	---	G, X
MO0IH110	48	55	50.9	97	49	42.2	Tosontsengel	Quartzite	Silicified rock		drill core	intensive silicification	pyrite dissemination	G, X
MO0IH111	49	34	26.5	98	32	34.5	Tsagaan uul	Gurvan buudal uul	Hornfels		brownish grey, quartz+biotite	---	---	T
MO0IH112	49	34	30.8	98	32	45.7	Tsagaan uul	Gurvan buudal uul	Siliceous rock		light greenish grey, compact siliceous rock (calc-silicate skarn?)	---	---	T

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysis type
M00IH113	49	34	4.2	98	20	19.7	Tsagaan uul	Khunkh tsakhir	Silicified rock		dark grey, highly silicified rock, with drusy quartz	silicification	---	G
M00IH114	49	34	13.5	98	20	23.8	Tsagaan uul	Khunkh tsakhir	Quartz syenite		coarse grain	---	---	T
M00IH115	49	34	15.1	98	20	15.4	Tsagaan uul	Khunkh tsakhir	Quartz vein		float, drusy quartz (pyramidal crystals)	---	---	G
M00IH116	49	34	25.9	98	20	0.2	Tsagaan uul	Khunkh tsakhir	Quartz syenite		drill core chip, chalcopyrite in medium grained quartz syenite	---	chalcopyrite	PT
M00IH117	49	34	27.2	98	20	3.6	Tsagaan uul	Khunkh tsakhir	Granite		muscovite alteration zone with drusy quartz veinlet in medium grained leucocratic granite, float	muscovite	---	X
M00IH118	49	53	27.9	98	43	24.5	Tsagaan uul	Tsagaan uul	Wolframite		wolframite in quartz-muscovite vein	muscovite	wolframite	PT
M00IH119	49	53	28	98	43	23.2	Tsagaan uul	Tsagaan uul	Dolomite		drill core, dolomite with pyrrhotite?	---	pyrrhotite?	G, PT
M00IH120	49	31	28.3	98	41	25.2	Tsagaan uul	Deed ulaan tolgoi	Granite		red colored, medium grain	---	---	T
M00IH121	49	31	15.1	98	41	44.9	Tsagaan uul	Deed ulaan tolgoi	Granite		pink colored, coarse grain, quartz and potassic feldspar mega-crystals	---	---	T
M00IH122	49	31	15.5	98	41	44.4	Tsagaan uul	Deed ulaan tolgoi	Quartz vein		quartz breccia vein with chlorite and drusy quartz	---	---	G
M00IH123	49	31	17.4	98	41	41.3	Tsagaan uul	Deed ulaan tolgoi	Quartz vein		limonitized quartz breccia vein with drusy quartz, float	quartz vein	limonite	G
M00IH124	49	31	32.3	98	41	34.2	Tsagaan uul	Deed ulaan tolgoi	Felsite dyke		felsite dyke with quartz vein	quartz vein	---	G
M00IH125	50	2	23.3	98	27	52.2	Tsagaan uul	Nariin azarga	Sandstone		limonitized siliceous sandstone concordant with folded limestone	---	limonite	G
M00IH126	49	40	21.1	99	39	55.1	Murun West	Tsagaan tolgoi	Mineralized rocks		drill core, various mineralized rocks	---	molybdenite, pyrite	
M00IH128	49	40	21.1	99	39	55.1	Murun West	Tsagaan tolgoi	Granite		non-mineralized, drill core	---	---	G
M00IH129	49	40	21.1	99	39	55.1	Murun West	Tsagaan tolgoi	Granite		mineralized, drilling core	---	---	G

Table A-10 Description of rock and ore samples

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Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00IH130	49	9	35.7	102	34	43.7	Erdenet West	Bulgan NW	Andesite		dark greenish grey, aphanitic andesite located on the diorite body	---	---	T
M00IH131	48	45	28.6	103	16	0.6	Erdenet West	Tsookher mert	Quartz mass		malachite and dark grey minerals in quartz mass	---	malachite, unknown grey minerals	G, PT
M00IH132	48	45	28.8	103	16	0.3	Erdenet West	Tsookher mert	Quartz vein		quartz vein in granite, channel sample (W:30cm)	quartz vein	---	G
M00IH133	48	45	47	103	15	15.2	Erdenet West	Tsookher mert	Quartz vein		float, quartz veinlet network in granite	---	---	G
M00IH135	48	10	56.9	102	56	37.1	Erdenet West	Oyuut khonkhor	Rhyolite		light greenish grey, altered rhyolite	unknown alteration	limonite	X
M00IH136	48	10	56.2	102	56	28.4	Erdenet West	Oyuut khonkhor	Rhyolite		jointed, light grey to pink rhyolite showing flow structure	unknown alteration	---	T, X
M00IH137	48	10	54.8	102	55	56.3	Erdenet West	Oyuut khonkhor	Gossan		float	---	---	G
M00IH138	48	10	54.8	102	55	56.3	Erdenet West	Oyuut khonkhor	Quartz vein		float, grey quartz vein	---	---	G
M00IH140	50	13	5.5	104	27	55.4	Zelter	Occurrence 24	Quartz vein		andesite	quartz-epidote veinlet	malachite, dark grey metallic minerals	T, PT
M00IH141	49	3	8.1	104	4	42.5	Erdenet West	Tsagaan chuluut	Altered rock		highly silicified altered rock, limonitized along fracture	silicification, unknown alteration	limonite along crack	G, X
M00IH142	49	3	4.6	104	4	51.1	Erdenet West	Tsagaan chuluut	Silicified rock		float, limonitized, highly silicified rock, partly grain quartz and sugary quartz developed	silicification, unknown alteration	limonite	G, X
M00IH143	49	3	0.8	104	5	2.5	Erdenet West	Tsagaan chuluut	Granodiorite porphyry		dark greenish grey granodiorite porphyry, partly epidotized	epidote	---	T
M00IH144	49	3	6	103	59	48.8	Erdenet West	Tsagaan chuluut (Talbulag)	Rhyolite		altered rhyolite showing flow structure	unknown alteration	---	X
M00IH145	49	12	46.4	104	13	54.1	Erdenet West	Zhuukhiin gol	Altered andesite		light grey, silicified and altered andesite	silicification, unknown alteration	---	T, X
M00IH146	49	12	46.4	104	13	55.6	Erdenet West	Zhuukhiin gol	Altered diorite porphyry		dark grey silicified and altered diorite porphyry	silicification, unknown alteration	---	T, X
M00IH147	49	12	46.1	104	13	55.6	Erdenet West	Zhuukhiin gol	Granodiorite		medium grain, partly elongated quartz contains	silicification	---	T, X

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00IH148	49	14	34.2	104	12	25.2	Erdenet West	Zhuukhiin gol	Silicified rock		cream colored silicified rock, plagioclase distinct	silicification, unknown alteration	---	X
M00IH149	49	14	35.9	104	12	13.7	Erdenet West	Zhuukhiin gol	Silicified rock		grey, highly silicified rock, dark brown tiny dots	intensive silicification	---	T, X
M00IH150	49	15	16.9	104	9	17.7	Erdenet West	Zhuukhiin gol	Silicified rock (secondary quartzite?)		float, secondary quartzite? based on the observation of Erdenet mine's chief geologist	silicification	---	T
M00IH151	49	7	7	103	57	26.3	Erdenet West	Tsagaan chuluut (Talbulag)	Silicified rock		cream colored silicified rock	silicification, unknown alteration	---	X
M00IH153	49	5	27.3	103	57	38.6	Erdenet West	Tsagaan chuluut (Talbulag)	Altered porphyritic rock		float, cream colored, altered porphyritic rock	unknown alteration	---	X
M00IH154	49	6	5.1	104	1	39.8	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		light brown altered rock, highly limonitized along fracture	---	limonite along crack	X
M00IH155	49	6	5.1	104	1	40.6	Erdenet West	Tsagaan chuluut (Talbulag)	Altered porphyritic rock		light brown altered porphyritic rock, feldspar phenocrysts distinct and highly limonitized along fracture	---	---	X
M00IH156	49	6	4.8	104	1	42.3	Erdenet West	Tsagaan chuluut (Talbulag)	Altered porphyritic rock		grey altered porphyritic rock, pyrite-disseminated much	---	pyrite dissemination	G, T, X
M00IH157	49	6	18.4	104	2	5.3	Erdenet West	Tsagaan chuluut (Talbulag)	Silicified rock		grey, highly silicified rock, limonitized (gossanized) much	intensive silicification	limonite	G, X
M00HH101	48	9	54.9	99	0	45.6	Tariat	Solongot	Skarn		outcrop	skarnization (pyroxine, hedenbergite)	---	G, X
M00HH102	48	39	33.1	98	12	54.3	Tosontsengel	Khuurai sair	Andesite porphyry		outcrop in trench	---	---	T
M00HH103	48	42	25.1	98	18	56.3	Tosontsengel	Zost uul	Quartz porphyry		float in trench	white, sericite?	---	G, X
M00HH104	48	42	14.3	98	18	51.4	Tosontsengel	Zost uul	Felsite		float in trench	white alteration	---	T, X
M00HH105	48	41	47.2	98	19	18.4	Tosontsengel	Zost uul	Quartz vein		float in trench	---	pyrite (black crystal)	G
M00HH106	48	34	54.1	97	46	30.5	Tosontsengel	Naranbulag	Granite, syenite		float in trench	---	malachite along fracture (granite), qz vein (syenite)	G
M00HH107	48	34	43.9	97	46	45.1	Tosontsengel	Naranbulag	Granite		weatherd, float in trench	---	malachite, azurite on the surface	---

Table A-10 Description of rock and ore samples

(9/25)

Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00HH108	48	34	40.3	97	46	36.5	Tosontsengel	Naranbulag	Granitoid		float in trench	whitish alteration	malachite, azurite	G, X
M00HH109	48	33	47	97	46	17.3	Tosontsengel	Naranbulag	Granite		float in trench, unaltered, fine grain	---	---	W, T
M00HH110	48	24	1.9	97	38	41.4	Tosontsengel	Occurrence 124-B-4.5	Diorite		Outcrop	---	---	T, X
M00HH111	48	24	1.9	97	38	41.4	Tosontsengel	Occurrence 124-B-4.5	Diorite, gabbro		outcrop?	---	malachite	---
M00HH112	48	55	57.1	97	44	3.4	Tosontsengel	Davaa	Syenite		float in trench, pinkish feldsper+biotite	quartz vein, epidote	---	G
M00HH113	48	55	57.1	97	44	3.4	Tosontsengel	Davaa	Silicified rock		outcrop in trench, original: andesite	silicification	---	G, X
M00HH114	48	55	57.2	97	49	26.4	Tosontsengel	Quartzite	Altered rock with quartz		float in trench	white alteration with black quartz?	---	G, X
M00HH115	48	55	51.8	97	49	27.9	Tosontsengel	Quartzite	Silicified rock		outcrop, surface: reddish	silicification	---	G, X
M00HH116	48	55	50.6	97	49	50.2	Tosontsengel	Quartzite	Silicified rock		float in trench	silicification	---	G, X
M00HH117	49	34	26.8	98	32	37.5	Tsagaan uul	Gurvan buudal uul	Schist/hornfels		float in trench	---	---	---
M00HH118	49	34	29.1	98	32	42.6	Tsagaan uul	Gurvan buudal uul	Quartz vein?		float around Tarabagan holl	muscovite	---	G
M00HH119	49	33	58.7	98	20	6.2	Tsagaan uul	Khunkh tsakhir	Granite		drill core, phenocryst: quartz+feldsper+biotite	---	---	W, T
M00HH120	49	34	16.9	98	19	54.7	Tsagaan uul	Khunkh tsakhir	Chert		outcrop, light gray quartz	---	---	T
M00HH121	49	34	25.8	98	20	1	Tsagaan uul	Khunkh tsakhir	Granite		float (drill core), with mica	---	pyrite	---
M00HH122	49	53	23.5	98	43	34.5	Tsagaan uul	Tsagaan uul	Schist		float in pit	blue mineral?	pyrrhotite?	PT
M00HH123	49	53	27.7	98	43	24.3	Tsagaan uul	Tsagaan uul	Quartz vein?		float in trench	---	wolframite, pyrite	PT

Table A-10 Description of rock and ore samples

(10/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00HH124	49	53	28.1	98	43	23.3	Tsagaan uul	Tsagaan uul	Schist		drill core	silicification	pyrite	G, X
M00HH125	49	53	28.3	98	43	22.3	Tsagaan uul	Tsagaan uul	Altered rock		float in trench	alteration	---	X
M00HH126	49	31	33.9	98	41	6.9	Tsagaan uul	Deed ulaan tolgoi	Granite		outcrop, medium grained, quartz+feldsper+biotite	---	---	---
M00HH127	49	31	32.6	98	41	15.6	Tsagaan uul	Deed ulaan tolgoi	Quartz vein		outcrop, host rock: granite	---	---	G
M00HH128	49	31	28.2	98	41	25.1	Tsagaan uul	Deed ulaan tolgoi	Syenite (aplite)		float in trench	---	---	---
M00HH129	49	31	28.2	98	41	25.1	Tsagaan uul	Deed ulaan tolgoi	Breccia		float in trench, breccia: quartz and felsite	---	pyrite	G
M00HH130	50	2	24.7	98	27	51.6	Tsagaan uul	Nariin azarga	Quartz vein		Outcrop	---	limonite	---
M00HH131	50	2	33.8	98	27	53.9	Tsagaan uul	Nariin azarga	Quartz vein?		float (in-situ)	mica	malachite, azurite	---
M00HH132	50	2	33.8	98	27	53.9	Tsagaan uul	Nariin azarga	Gabbro		float	---	---	---
M00HH133	49	38	55.9	99	19	47.6	Murun West	Ulaannuur	Granite		drill core, phenocryst: quartz+feldsper+biotite	---	pyrite	---
M00HH134	49	38	55.9	99	19	47.6	Murun West	Ulaannuur	Andesite		drill core, phenocryst: plagioclase	---	pyrite	---
M00HH135	49	38	56.2	99	19	41.1	Murun West	Ulaannuur	Aplite? (silicified rock?)		float in trench, pinkish, quartz	silicification	---	---
M00HH136	49	38	58.5	99	19	39.3	Murun West	Ulaannuur	Granosyenite with pyrite		drill core	---	pyrite	G
M00HH137	49	38	57.7	99	19	31.2	Murun West	Ulaannuur	Silicified rock		float in trench, gray, surface: reddish	silicification	---	G
M00HH138	49	8	21	103	10	52.3	Erdenet West	Bulgan NW	Andesite (or basalt)		gravel in the river, dark green, unaltered, phenocryst: plagioclase+pyroxne	---	---	---
M00HH139	49	8	21	103	10	52.3	Erdenet West	Bulgan NW	Basalt with calcite veinlet		gravel in the river, black	---	---	---



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Table A-10 Description of rock and ore samples

(11/25)

Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00HH140	49	14	39.7	103	5	12.6	Erdenet West	Bulgan NW	Sandstone/shale		Outcrop	---	---	---
M00HH141	49	14	39.7	103	5	12.6	Erdenet West	Bulgan NW	Andesite (or diorite)		gravel along the river	silicification	---	G
M00HH142	49	19	30	103	4	50.9	Erdenet West	Bulgan NW	Silicified rock		gravel along the river	silicification	pyrite	G
M00HH143	48	52	21.4	102	50	17.2	Erdenet West	Burged Khyr	Granite		float around Tarvagan hole, pinkish, quartz+feldsper+biotite	---	---	G, T, X
M00HH144	48	52	47.1	102	49	16.9	Erdenet West	Burged Khyr	Silicified rock		float	silicification	---	G
M00HH145	48	52	47.1	102	49	16.9	Erdenet West	Burged Khyr	Breccia		float, breccia: quartz and granitck rock	---	---	---
M00HH146	48	52	38.9	102	49	6.4	Erdenet West	Burged Khyr	Altered rock		float	weak argillization	---	X
M00HH147	48	52	30.5	102	48	50.5	Erdenet West	Burged Khyr	Altered rock		float	weak argillization	---	---
M00HH148	48	51	41.8	103	47	18.6	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G, X
M00HH149	48	51	39.4	103	47	16.8	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G, X
M00HH150	48	51	39.8	103	47	13.7	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G, X
M00HH151	48	51	41.7	103	47	12.3	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G
M00HH152	48	51	42.4	103	47	11.7	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G, X
M00HH153	48	51	43.3	103	47	11.4	Erdenet West	Danbatseren	Silicified rock		---	silicification, limonite (surface: reddish)	limonite	G, X
M00HH154	48	51	44.9	103	47	13.3	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G
M00HH155	48	51	46.6	103	47	10.2	Erdenet West	Danbatseren	Silicified rock		---	weak silicification	---	G

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00HH156	48	51	44.4	103	47	5.9	Erdenet West	Danbatseren	Silicified rock		---	weak silicification	---	G, X
M00HH157	48	51	42.9	103	47	0.5	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G, X
M00HH158	48	51	43	103	46	58.8	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G
M00HH159	48	51	44.6	103	47	13.8	Erdenet West	Danbatseren	Altered rock		---	whitish argilization	---	G, X
M00HH160	48	51	43.5	103	47	16.6	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G, X
M00HH161	48	51	42.7	103	47	15.1	Erdenet West	Danbatseren	Silicified rock		---	silicification	---	G
M00HH162	48	10	42.3	102	55	31.6	Bulgan SW	Oyuut khonkhor	Silicified rock		---	silicification	---	G
M00HH163	48	10	42.3	102	55	31.6	Bulgan SW	Oyuut khonkhor	Tuff breccia		---	whitish argilization	---	G, X
M00HH164	48	10	42.1	102	55	25.7	Bulgan SW	Oyuut khonkhor	Silicified rock		---	silicification	---	G
M00HH165	48	10	42.1	102	55	25.7	Bulgan SW	Oyuut khonkhor	Silicified rock with limonite		float, reddish	silicification with limonite	limonite	G
M00HH166	48	10	44.5	102	55	43.3	Bulgan SW	Oyuut khonkhor	Andesite		---	vein of pink minerals	---	G
M00HH167	48	10	45.7	102	55	41.7	Bulgan SW	Oyuut khonkhor	Silicified rock		---	weak silicification	---	G, X
M00HH168	48	10	51.7	102	55	33.1	Bulgan SW	Oyuut khonkhor	Granite		float around Talavagan holl, quartz+feldsper+biotite	weak alteration	---	T, X
M00HH169	50	6	29.5	102	24	50.7	Tavt	Ereen No.1 ore body	Quartz vein		quartz with Cu oxide	---	azurite, malachite	---
M00HH170	50	6	21.9	102	25	28.8	Tavt	Ereen No.1b ore body	Granite		float in trench, quartz+feldsper+biotite	weak alteration	---	T, X
M00HH171	50	7	45.2	102	27	3	Tavt	Ereen No.42 ore body	Quartz		outcrop or foat	---	---	G

Table A-10 Description of rock and ore samples

Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00HH172	50	7	50.3	102	27	9.3	Tavt	Ereen No.42 ore body	Altered rock		outcrop in trench, greenish & whitish	weak alteration	malachite	G, T, X
M00HH173	50	7	27.1	102	25	45.3	Tavt	Ereen No.2 ore body	Ore (type: 3)		float in trench	---	malachite, limonite	---
M00HH174	50	7	26.2	102	25	47.6	Tavt	Ereen No.3 ore body	Ore		Float in trench	---	malachite, sulfides	G
M00HH175	50	7	26.2	102	25	47.6	Tavt	Ereen No.3 ore body	Gabbro		host rock of trench, quartz+pyroxene	---	---	---
M00HH176	49	58	41.2	102	29	1.4	Tavt	Teshig	Magnetite skarn		---	---	magnetite	---
M00HH177	49	58	42.4	102	28	57.7	Tavt	Teshig	Magnetite skarn		---	---	magnetite	G
M00HH178	50	13	2.5	104	27	56.6	Zelter	Occurrence 24	Lapilli tuff (or granitic rock)		outcrop, pinkish K-feldsper	weak silicification?	---	G, T, X
M00HH179	50	13	1.3	104	28	3.6	Zelter	Occurrence 24	Lapilli tuff (or granitic rock)		outcrop, pinkish K-feldsper	---	---	---
M00HH180	48	51	23.9	104	13	11.4	Erdenet West	Under	Altered rock		float, whitish	silicification, sericite?, tourmaline	---	T, X
M00HH181	49	3	11	104	4	36.4	Erdenet West	Tsagaan chuluut	Silicified rock		outcrop, brown-gray	silicification	---	G, X
M00HH182	49	3	9.5	104	4	38.7	Erdenet West	Tsagaan chuluut	Silicified rock		float, whitish gray	silicification	---	G
M00HH183	49	3	8.3	104	4	39.7	Erdenet West	Tsagaan chuluut	Silicified rock		float, brown-whitish gray	silicification	---	G
M00HH184	49	3	8	104	4	41.2	Erdenet West	Tsagaan chuluut	Silicified rock		float, whitish gray (partly reddish)	silicification	---	G
M00HH185	49	3	3.9	104	4	47.6	Erdenet West	Tsagaan chuluut	Silicified rock		float, light gray-brownish, band	silicification	---	G
M00HH186	49	2	49.1	104	0	55.1	Erdenet West	Tsagaan chuluut	Altered rock		talus, brown-white	silicification, argillization	---	X
M00HH187	49	2	45.4	104	1	6.1	Erdenet West	Tsagaan chuluut	Andesite		outcrop, phenocryst: plagioclase, matrix: dark green	?	---	X

Table A-10 Description of rock and ore samples

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## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00HH188	49	2	45.4	104	1	6.1	Erdenet West	Tsagaan chuluut	Andesite		weathered, outcrop, phenocryst: plagioclase, matrix: brown	---	---	---
M00HH189	49	2	45.4	104	1	6.1	Erdenet West	Tsagaan chuluut	Porphyritic andesite		outcrop, phenocryst: plagioclase, porphyritic	---	---	---
M00HH190	49	3	26.3	104	1	4.4	Erdenet West	Tsagaan chuluut	Breccia		float, brown-light gray, breccia: silicified rock	silicification	---	G
M00HH191	49	3	31.1	104	1	9.8	Erdenet West	Tsagaan chuluut	Silicified rock		float, brown-gray	silicification	---	---
M00HH192	49	3	32.2	104	1	10	Erdenet West	Tsagaan chuluut	Altered rock		float, reddish brown-light brown	weak silicification and argilisation?	---	---
M00HH193	49	3	38.8	104	1	12.8	Erdenet West	Tsagaan chuluut	Altered rock		float, light brownish yellow	weak silicification and argilisation?	---	X
M00HH194	49	4	4.6	104	1	40.2	Erdenet West	Tsagaan chuluut	Dacitic tuff (rhyorite)		outcrop, pinkish brown	silicification (partly) with hematite.	hematite	T
M00HH195	49	4	4.6	104	1	40.2	Erdenet West	Tsagaan chuluut	Silicified rock		outcrop, brown-gray, source rock: dacitic tuff?	silicification	---	G
M00HH196	49	3	32.4	104	3	1.1	Erdenet West	Tsagaan chuluut	Silicified (altered) rock		outcrop, light brown-gray-reddish	silicification, weak argillization	---	G, X
M00HH197	49	10	3.1	103	45	24.9	Erdenet West	Mogoin gol	Silicified rock		float, reddish brown-light gray	silicification with limonite and muscovite	limonite	G
M00HH198	49	10	3.1	103	45	25.6	Erdenet West	Mogoin gol	Altered rock		float, whitish gray	silicification and argilisation with azurite and muscovite	azurite	G, X
M00HH199	49	10	0	103	45	29	Erdenet West	Mogoin gol	Altered rock		float, brown-gray	silicification and argillization	---	---
M00HH200	49	9	58.7	103	45	29.7	Erdenet West	Mogoin gol	Altered rock		float in trench, whitish gray	silicification and whitish clay mineral	rare azurite	G, X
M00HH201	49	9	49	103	45	29.9	Erdenet West	Mogoin gol	Silicified rock		float, gray, porous	quartz, muscovite	---	T
M00HH202	49	8	19.7	103	38	40.9	Erdenet West	Khujiriin gol	Quartz vein		float, white, partly druse	---	malachite	G, 180, F
M00HH203	49	7	57.8	103	38	4	Erdenet West	Khujiriin gol	Granitic rock with quartz vein		float, pinkish, K-feldspar, hornblende	quartz vein, epidote	---	---

Table A-10 Description of rock and ore samples

(15/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysis type
M00HH204	49	12	47.5	104	13	55	Erdenet West	Zhuukhiin gol	Silicified rock		outcrop, pink-gray, banded structure, brecciation	silicification	---	G
M00HH205	49	12	47.3	104	14	12.8	Erdenet West	Zhuukhiin gol	Altered granodiorite		float, light gray	epidote	---	T
M00HH206	49	12	47.3	104	14	12.8	Erdenet West	Zhuukhiin gol	Andesite		outcrop, dark green	partly silicification, epidote, K-feldspar?	---	---
M00HH207	49	12	46.4	104	14	13.6	Erdenet West	Zhuukhiin gol	Granodiorite		float, brownish light gray	secondary biotite	---	T
M00HH208	49	14	34.7	104	12	27.7	Erdenet West	Zhuukhiin gol	Clay? & fragments of silicified rock		outcrop inside trench, whitish-cream gray	weak argillization	---	X
M00HH209	49	15	18.7	104	9	22.6	Erdenet West	Zhuukhiin gol	Andesite		outcrop, dark gray	weak silicification	---	T
M00HH210	49	13	6.3	104	36	37.5	Erdenet West	SAR139	Andesite porphyry		outcrop in trench, gray, phenocryst: plagioclase	---	---	T
M00HH211	48	52	28.4	104	15	56	Erdenet West	Under North	Andesite		outcrop, dark gray	K-feldspar (K-silicate alteration)	---	T
M00HH212	48	52	17.1	104	16	11.3	Erdenet West	Under North	Andesite		outcrop, brownish gray	?	---	T, X
M00MZ100	48	7	51.1	99	50	44.6	Tariat	Terkhiin tsagaan nuur	Quartz vein	Riphean	white quartz	---	---	G
M00MZ101	48	7	51.1	99	50	44.6	Tariat	Terkhiin tsagaan nuur	Quartz vein	Riphean	white quartz with black mineral	---	wolframite?	G, X
M00MZ102	48	9	23.5	99	1	0.7	Tariat	Solongotin gol	Skarn	Riphean	biotite-epidote skarn	---	Pyrite	G
M00MZ103	48	9	19.9	99	0	50	Tariat	Solongotin gol	Skarn	Riphean	biotite skarn	---	Magnetite	PT
M00MZ104	48	39	38.8	98	13	3.9	Tosontsengel	Khuurai sair	Felsite	Devonian	leucocratic	---	quartz veinlets, malachite	G
M00MZ105	48	39	37.5	98	12	59.1	Tosontsengel	Khuurai sair	Felsite	Devonian	brecciation	---	Malachite	G
M00MZ106	48	42	24	98	18	50.9	Tosontsengel	Zost uul	Altered rock	Permian-Triassic	white colored	silicification, argillization, quartz veinlets	---	G, X

Table A-10 Description of rock and ore samples

(16/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00MZ107	48	42	12.3	98	18	53.1	Tosontsengel	Zost uul	Altered rock	Permian-Triassic	white colored	silicification, argillization	limonite, jarosite	G, X
M00MZ108	48	41	45	98	19	13.7	Tosontsengel	Zost uul	Altered rock	Permian-Triassic	white colored	silicification	pyrite, limonite	G
M00MZ109	48	34	54.1	97	46	30.8	Tosontsengel	Naranbulag	Granite	Permian-Triassic	unaltered	---	Malachite	G, T, X
M00MZ110	48	34	43.1	97	46	44.4	Tosontsengel	Naranbulag	Aplite	Permian-Triassic	unaltered	---	Limonite	G, T, X
M00MZ111	48	34	40.2	97	46	27.8	Tosontsengel	Naranbulag	Ore		oxide Cu	---	malachite, azurite	O
M00MZ112	48	34	40.2	97	46	27.8	Tosontsengel	Naranbulag	Black mineral		with quartz-muscovite	---	---	X
M00MZ113	48	33	47.1	97	46	17.5	Tosontsengel	Naranbulag	Granodiorite	Permian-Triassic	unaltered	---	---	W, KA, T
M00MZ114	48	24	3.6	97	38	37.1	Tosontsengel	Occurrence 124-B-4,5	Gabbro	Permian-Triassic	unaltered	---	---	G
M00MZ115	48	55	54.1	97	44	0.8	Tosontsengel	Davaa	Altered rock	Permian-Triassic	light gray	silicification	quartz veinlets	G
M00MZ116	48	55	53.5	97	49	24.6	Tosontsengel	Quartzite	Rhyolite	Permian-Triassic	light gray	---	limonite, jarosite	G, X
M00MZ117	48	55	51.9	97	49	29.1	Tosontsengel	Quartzite	Rhyolite	Permian-Triassic	light gray	---	---	T
M00MZ118	49	34	19.5	98	32	45.7	Tsagaan uul	Gurvan buudal uul	Quartz vein		white quartz	---	limonite	G
M00MZ119	49	34	19.5	98	32	45.7	Tsagaan uul	Gurvan buudal uul	Metasedimnts	Riphean	siliceous	---	---	T
M00MZ120	49	34	23.9	98	32	53.4	Tsagaan uul	Gurvan buudal uul	Quartz vein		white quartz	---	Fe hydroxide	G, 180, F
M00MZ121	49	34	14	98	19	55.6	Tsagaan uul	Khunkh tsakhir	Altered rock		crystalline	quartz (silicification)-muscovite	---	G, X
M00MZ122	49	34	26.1	98	19	57.3	Tsagaan uul	Khunkh tsakhir	Altered rock		crystalline	quartz (silicification)-muscovite	malachite	G, T

Table A-10 Description of rock and ore samples

Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysis type
M00MZ123	49	53	20.4	98	43	49.7	Tsagaan uul	Tsagaan uul	Mudstone	Riphean	dark grey, hard	---	limonite	G
M00MZ124	49	53	56.8	98	43	11.7	Tsagaan uul	Tsagaan uul	Quartz vein		hosted in black mudstone	---	limonite (cavities after sulfides)	G
M00MZ125	49	28	15.5	98	40	41	Tsagaan uul	Ulaan zavsar	Quartz vein		hosted in black schist	---	slight limonitic	G
M00MZ126	49	28	15.5	98	40	41	Tsagaan uul	Ulaan zavsar	Siliceous rock	Riphean	Light gray	altered schist?	limonite (dots)	G, X
M00MZ127	49	28	56.4	98	40	16.6	Tsagaan uul	Ulaan zavsar	Gneissose rock	Riphean	white and dark grey	---	limonite (dots)	G, T
M00MZ128	50	10	7.2	98	44	22.3	Tsagaan uul	Khaisiin belchir	Pelitic schist	Riphean	float, black	---	pyrite dissemination	G
M00MZ129	49	38	52	99	19	53.5	Murun west	Ulaannuur	Greisen		crystalline	quartz (silicification)- muscovite	limonite (cavities)	G, X
M00MZ130	49	38	55.9	99	19	47.7	Murun west	Ulaannuur	Granite	Devonian-Jurassic	unaltered, light grey	---	pyrite dissemination	W, PT
M00MZ131	49	39	1	99	19	33.1	Murun west	Ulaannuur	Tonalite	Devonian-Jurassic	coarse grain, unaltered	---	limonite after pyrite	W, T
M00MZ132	49	12	3.9	103	8	56.9	Erdenet West	Bulgan NW	Diorite	Permian-Jurassic	unaltered	---	---	W, T
M00MZ133	49	14	42.9	103	4	59.3	Erdenet West	Bulgan NW	Silicified rock	Permian-Jurassic	hard	silicification	---	G, X
M00MZ134	49	19	29.5	103	4	50.7	Erdenet West	Bulgan NW	Silicified rock	Permian-Jurassic	hard	silicification	pyrite dissemination	G, X
M00MZ135	48	52	10.3	102	50	1.7	Erdenet West	Burged khyr	Aplite	Permian	light grey	alteration	limonite	G, X
M00MZ136	48	52	14	102	50	8.8	Erdenet West	Burged khyr	Granitoid	Permian	reddish	intensive silicification	reddish limonite	G, PT, X
M00MZ137	48	52	18.6	102	50	11.5	Erdenet West	Burged khyr	Granitoid	Permian	light grey	argillization	---	X
M00MZ138	48	52	25.3	102	49	52.8	Erdenet West	Burged khyr	Conglomerate	Jurassic	light grey	silicification, argillization	---	X

Table A-10 Description of rock and ore samples

(18/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00MZ139	48	52	48.7	102	49	18.5	Erdenet West	Burged khyr	Syenite	Permian	with silicification like vein	partly silicification, argillization	---	G
M00MZ140	48	52	39.8	102	49	5.7	Erdenet West	Burged khyr	Granitoid	Permian	light grey	argillization	---	X
M00MZ141	48	52	33.1	102	49	2.7	Erdenet West	Burged khyr	Granitoid	Permian	composit sample	silicification, argillization	---	G
M00MZ142	48	52	29.1	102	48	52	Erdenet West	Burged khyr	Granite	Permian	gossan zone	---	limonite	G, X
M00MZ143	48	45	51.7	103	15	22.6	Erdenet West	Tsookher mert	Quartz vein		massive, amethyst	---	---	G
M00MZ144	48	45	59.4	103	15	31.7	Erdenet West	Tsookher mert	Quartz veinlets		host rock: granitic rock	---	---	G
M00MZ145	48	45	25.1	103	21	31.6	Erdenet West	Tsookher mert	Granitoid	Permian	altered	silicification	---	T, X
M00MZ146	48	10	23.1	102	55	42	Bulgan SW	Oyuut khonkhor	Volcanic rock	Jurassic	altered	silicification	limonite	G, X
M00MZ147	48	10	24.8	102	55	52.5	Bulgan SW	Oyuut khonkhor	Volcanic rock	Jurassic	altered	silicification	limonite	G, X
M00MZ148	48	10	28.1	102	56	2	Bulgan SW	Oyuut khonkhor	Volcanic rock	Jurassic	altered	silicification	limonite	G, X
M00MZ149	50	6	29.3	102	24	51.9	Tavt	Ereen No.1 ore body	Quartz vein		semi-clear	---	limonite, malachite	O, 180, F
M00MZ150	50	6	29.3	102	24	51.9	Tavt	Ereen No.1 ore body	Granodiorite	Cambrian-Ordovician	sheared	---	---	T
M00MZ151	50	6	22.3	102	25	29.1	Tavt	Ereen No.1b ore body	Quartz vein		semi-clear	---	limonite	O, 180, F
M00MZ152	50	7	44.6	102	27	2	Tavt	Ereen No.42 ore body	Quartz vein		semi-clear	---	limonite, malachite, pyrite	O
M00MZ153	50	7	49	102	27	6.9	Tavt	Ereen No.42 ore body	Granodiorite	Cambrian-Ordovician	altered	chlorite	---	T
M00MZ154	50	6	33.4	102	24	45.7	Tavt	Ereen No.1 ore body	Granodiorite	Cambrian-Ordovician	unaltered	---	---	W, 34S, T



Table A-10 Description of rock and ore samples

(19/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysis type
M00MZ155	50	7	27.1	102	25	45.1	Tavt	Ereen No.3 ore body	Quartz vein		whitish	---	limonite	O, 180, F
M00MZ156	50	7	27.8	102	25	47.1	Tavt	Ereen No.3 ore body	Diorite	Cambrian-Ordovician	unaltered	---	---	W, 34S, T
M00MZ157	50	7	27.1	102	25	45.1	Tavt	Ereen No.3 ore body	Quartz vein		ore	---	malachite, chalcopyrite	
M00MZ158	50	7	41.2	102	25	23.2	Tavt	Ereen No.3 ore body	Granodiorite	Cambrian-Ordovician	altered	chlorite	---	T
M00MZ159	49	58	42	102	28	59.3	Tavt	Teshig	Skarn		ore	---	malachite, limonite	O
M00MZ160	50	9	51.2	104	25	29.8	Zelter	Gatsuunkhan	Granite	Unknown	grey	---	---	G, T
M00MZ161	50	9	51.9	104	25	37.9	Zelter	Gatsuunkhan	Porphyritic dacite	Unknown	reddish	silicification	limonite	G, T
M00MZ162	49	1	23.3	104	7	58.7	Erdenet West	Erdenet NW	Quartz vein		mineralized	---	molybdenite	180, F
M00MZ163	49	1	31.1	104	7	35.7	Erdenet West	Erdenet NW	Quartz vein		mineralized	---	Pyrite	180, F
M00MZ164	49	3	12.5	104	4	34.1	Erdenet West	Tsagaan chuluut	Altered rock		light grey	silicification	---	G, X
M00MZ165	49	3	6.1	104	4	40.5	Erdenet West	Tsagaan chuluut	Altered rock		light grey	silicification	---	G, X
M00MZ166	49	2	25	104	1	5.7	Erdenet West	Tsagaan chuluut	Unknown rock		mafic minerals rich	---	---	T
M00MZ167	49	2	43.9	104	0	31.4	Erdenet West	Tsagaan chuluut	Altered rock		light grey	silicification	---	G, X
M00MZ168	49	3	43.4	103	59	8.4	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		yellowish light grey	silicification	---	G, X
M00MZ169	49	3	54.5	103	59	39.1	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		yellowish light grey	silicification	---	G, X
M00MZ170	49	3	52.6	103	59	44.6	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		with white material	secondary alunite	---	X

Table A-10 Description of rock and ore samples

(20/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00MZ171	49	12	13.1	103	44	52.5	Erdenet West	Mogoin gol	Altered rock		light brown	silicification	---	G, X
M00MZ172	49	11	46.1	103	45	2.8	Erdenet West	Mogoin gol	Altered rock		whitish	silicification	---	G, X
M00MZ173	49	11	34.3	103	45	32.8	Erdenet West	Mogoin gol	Altered rock		Light gray	silicification	---	G, X
M00MZ174	49	8	18.8	103	38	43.9	Erdenet West	Khujiriin gol	Quartz veinlets		network in granitoid	---	malachite	O
M00MZ175	49	8	18.8	103	38	43.9	Erdenet West	Khujiriin gol	Diorite?	Triassic	abundant K-feldsper	potassium alteration?	---	T
M00MZ176	49	8	18.9	103	38	39.3	Erdenet West	Khujiriin gol	Syenite?	Triassic	abundant K-feldsper	potassium alteration?	---	T
M00MZ177	49	7	57.9	103	38	4.1	Erdenet West	Khujiriin gol	Quartz veinlets		network in granitoid	---	malachite	O, 180, F
M00MZ178	49	12	32.6	103	39	3.8	Erdenet West	Khujiriin gol	Altered rock		whitish	silicification, argillization	---	G, X
M00MZ179	49	12	32.6	103	39	3.8	Erdenet West	Khujiriin gol	Altered rock		black	silicification	Azurite	G, X
M00MZ180	49	12	35.7	103	39	8.4	Erdenet West	Khujiriin gol	Altered rock		black	silicification	fine grained pyrite dissemination	G, PT
M00MZ181	49	12	52	104	13	39.5	Erdenet West	Zhuukhiin gol	Granodiorite	Triassic	pink K-feldsper rich	potassium alteration?	---	W, T
M00MZ182	49	13	2.4	104	13	40.5	Erdenet West	Zhuukhiin gol	Granodiorite	Triassic	mineralized	potassium alteration?	malachite	O
M00MZ183	49	7	23.7	103	57	17.3	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		light brown	silicification	---	G, X
M00MZ184	49	5	37.8	103	57	37	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		light grey	silicification	---	G, X
M00MZ185	49	6	4.2	104	1	41.6	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		light grey	silicification	---	G, X
M00MZ186	49	6	12	104	1	44.5	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		light grey	silicification	---	G, X

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Table A-10 Description of rock and ore samples

(21/25)

Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00TM100	48	7	51.3	99	50	44.7	Tariat	Terkhiin tsagaan nuur	Quartz vein		host rock: sedimentary rocks (shale, sandstone), W:30cm, L:32m	---	wolframite?	G
M00TM101	48	9	26.1	99	23	18.2	Tariat	Tariatin gol	Anorthosite		coarse grain, white, hornblende? or CPX?+feldsper	---	---	T
M00TM102	48	9	40.5	99	27	47.3	Tariat	Tariatin gol	Anorthosite		rarely mafic minerals, feldsper, coarse grain, white	---	---	G, X
M00TM103	48	11	56.4	99	34	2.9	Tariat	Tariatin gol	Quartz vein or mass?		coarse grain, white-clear, host: syenitic granite	---	---	G
M00TM104	49	40	20.9	99	39	54.7	Murun West	Tsagaan tolgoi	Quartz mass		coarse grain, white-clear, partly brecciation	---	hematite (original: rutile?), limonite	G
M00TM105	49	40	22.2	99	39	57.6	Murun West	Tsagaan tolgoi	Granite	Numrug complex	coarse grain, biotite+ k-feldsper+quartz+plagioclase	greisen (muscovite)	limonite	G, X
M00TM106	49	40	22.2	99	39	57.6	Murun West	Tsagaan tolgoi	Granite	Numrug complex	coarse grain, biotite+ k-feldsper+quartz+plagioclase	---	---	G, T
M00TM107	49	40	21.1	99	39	56.4	Murun West	Tsagaan tolgoi	Quartz porphyry?	Numrug complex	phenocryst: quartz, rare mafic mineral, medium grain, pale greenish	intensive greisenization (muscovite), silicification	limonite	G, X
M00TM108	49	40	20.9	99	39	54.7	Murun West	Tsagaan tolgoi	Quartz mass	Numrug complex	coarse grain, white-clear, partly brecciation	---	hematite (original: rutile?), limonite	PT, X
M00TM110	49	40	19.9	99	39	55.1	Murun West	Tsagaan tolgoi	Granitoid	Numrug complex	medium grain, pale greenish, rare mafic minerals, phenocryst: quartz+felsper	intensive greisenization (muscovite), silicification, quartz vein	limonite	KA
M00TM111	49	40	17.3	99	39	51.9	Murun West	Tsagaan tolgoi	Quartz vein		coarse grain, white-clear	---	hematite (original: rutile?), limonite	X
M00TM112	49	12	3	103	8	55.3	Erdenet West	Bulgan NW	Quartz vein		medium grain, white	---	---	G
M00TM113	48	42	3.3	102	45	44.5	Erdenet West	Undrakh	Aplitic granite	Selenge complex?	leucocratic, fine-medium grain, rare biotite, abundant K-feldsper	white argillization, weak silicification	limonite	G, X
M00TM114	48	45	51.7	103	15	22.3	Erdenet West	Tsookher mert	Quartz vein		network, coarse grain, clear, amethyst, zone W:2m, L:3m	---	---	G
M00TM115	48	45	25.1	103	21	31.6	Erdenet West	Tsookher mert	Granitoid	Selenge complex?	float, medium grain, phenocryst: quartz+ K-feldsper+felsper+biotite	silicification	---	T, X
M00TM116	48	45	27.1	103	21	26.4	Erdenet West	Tsookher mert	Granitoid	Selenge complex?	phenocryst: quartz, K-feldsper, feldsper, biotite, fine-medium grain	silicification (fine grained quartz)	---	G, T, X

Table A-10 Description of rock and ore samples

(22/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00TM117	48	45	27	103	21	26.2	Erdenet West	Tsookher mert	Granitoid	Selenge complex?	phenocryst: quartz, K-feldsper, feldsper, biotite, fine-medium grain	silicification (fine graind quartz), white argillization	---	G, X
M00TM119	48	10	42.5	102	55	31.8	Bulgan SW	Oyuut khonkhor	Tuff breccia	Mogot formation	breccia: andesitic-dacitic, 3cm (max)	moderate silicification, partly brecciated, white argillization	limonite	G, X
M00TM120	48	10	42.5	102	55	31.8	Bulgan SW	Oyuut khonkhor	Tuff breccia	Mogot formation	breccia: andesitic-dacitic	moderate silicification, partly brecciated, white argillization	limonite (abundance)	G, X
M00TM121	48	10	42.4	102	55	29.3	Bulgan SW	Oyuut khonkhor	Tuff breccia	Mogot formation	breccia: andesitic	moderate silicification	pyrite, limonite	G
M00TM122	48	10	42.1	102	55	22.2	Bulgan SW	Oyuut khonkhor	Andesite	Mogot formation	fine grain, mulsive, lava?	moderate silicification (network)	---	G
M00TM123	48	10	42.5	102	55	39.1	Bulgan SW	Oyuut khonkhor	Andesite	Mogot formation	fine grain, massive, granosyenite dyke? in	---	---	T
M00TM124	48	10	49.2	102	55	38.4	Bulgan SW	Oyuut khonkhor	Andesite	Mogot formation	float, fine grain, dark green	network silicification, fine grained sugery quartz	limonite	G
M00TM125	48	10	37.8	102	55	13.5	Bulgan SW	Oyuut khonkhor	Tuff breccia	Mogot formation	float, andesitic, dark green	silicification (network)	limonite	G
M00TM127	50	6	50.2	102	25	27.2	Tavt	Ereen No.2 ore body	Quartz vein		coarse grain, clear, N50W50SW, host: granodiorite	---	malachite (chalcopryite), pyrite (limonite)	G
M00TM128	50	7	44.4	102	27	2.3	Tavt	Ereen No.42 ore body	Granodiorite		coarse grain, biotite+plagioclase+quartz+ k-feldsper	epidote	malachite (chalcopryite)	KA, T
M00TM129	50	6	33.4	102	24	44.5	Tavt	Ereen No.1 ore body	Diorite		fine grain, microdiorite	---	---	KA, T
M00TM130	50	6	33.4	102	24	44.5	Tavt	Ereen No.1 ore body	Quartz vein		coarse grain, clear	muscovite, host: K-silicate alteration	---	G, KA
M00TM132	49	58	42.1	102	28	59	Tavt	Teshig	Skarn		---	silicification, magnetite, epidote	azurite, chalcopryite, malachite, limonite	G
M00TM133	50	9	40.8	104	25	9.9	Zelter	Gatsuunkhan	Granitoid		float, K-feldsper, pale green	silicification, epidote	---	G
M00TM134	50	9	51.4	104	25	18.3	Zelter	Gatsuunkhan	Granitoid		float, K-feldsper, pale green	silicification, calcite, epidote	---	G
M00TM135	50	9	52.5	104	25	55.4	Zelter	Gatsuunkhan	Basalt?		float, grey, in calcite nodule	calcite, weak silicification	limonite	G, T

Table A-10 Description of rock and ore samples

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00TM136	48	50	8.2	104	12	38.2	Erdenet West	Under	Tuff breccia		grey, andesitic tuff	weak silicification, limonitization along crack	limonite	G, T
M00TM137	48	50	17.6	104	12	44.4	Erdenet West	Under	Tuff breccia		float, grey-brown, tracy dacitic?, in K-feldsper and quartz	in quartz vein, W:2cm	limonite	G
M00TM138	48	50	30.7	104	12	47.2	Erdenet West	Under	Quartz vein		white, medium grain, W:1-5 cm, network, host: porphyritic andesite	host rock: propylitic alteration	---	G, F
M00TM139	48	51	17.4	104	13	40.8	Erdenet West	Under	Tuff breccia		grey-brown, trachy dacitic?, in K-feldsper and quartz	quartz veinlets, epidote	---	G, T
M00TM140	48	51	24	104	13	11.5	Erdenet West	Under	White altered rock		float, whitish	silicification, argillization	---	G, X
M00TM141	48	51	23.5	104	13	6.8	Erdenet West	Under	Granitoid?		float, porphyritic syenogranite, K-feldsper (abundance), plagioclase, hornblende, quartz	---	---	T
M00TM142	48	51	13.8	104	13	15.7	Erdenet West	Under	Altered rock		white-brown	silicification, white argillization	pyrite dissemination	G, X
M00TM143	49	3	9.6	104	4	41.2	Erdenet West	Tsagaan chuluut	Altered rock		whitish	intensive silicification	limonite	G, X
M00TM145	49	3	8.2	104	4	50.2	Erdenet West	Tsagaan chuluut	Altered rock		brown	silicification, intensive limonitization (gossan)	limonite	G
M00TM146	49	3	6.7	104	5	2.1	Erdenet West	Tsagaan chuluut	Altered rock		white-brown	intensive silicification	pyrite (limonite)	G, X
M00TM148	49	3	11.6	104	5	19.7	Erdenet West	Tsagaan chuluut	Syenite? Trachite?		porphyritic, K-feldsper (abundance)+hornblende+plagioclase	epidote	---	T
M00TM149	49	2	55.9	104	1	12.3	Erdenet West	Tsagaan chuluut	Altered rock		whitish	intensive silicification, weak argillization	limonite	G, X
M00TM150	49	2	53.6	104	1	15.6	Erdenet West	Tsagaan chuluut	Altered rock		whitish	silicification, white argillization	limonite	G, X
M00TM151	49	2	51.2	104	1	17.1	Erdenet West	Tsagaan chuluut	Altered rock		brown	argillization	limonite	X
M00TM152	49	2	51	104	1	18.2	Erdenet West	Tsagaan chuluut	Trachite porphyry?		K-feldsper (abundance)	weak silicification, argillization, limonitization	limonite	G, X
M00TM153	49	2	55.8	104	1	1.6	Erdenet West	Tsagaan chuluut	Altered rock		whitish	silicification, argillization, limonite along crack	limonite	G, X

Table A-10 Description of rock and ore samples

(24/25)

## Phase II survey

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00TM154	49	2	44.1	104	0	30.6	Erdenet West	Tsagaan chuluut	Tuff breccia		white-grey	moderate silicification, white argillization	---	G, X
M00TM155	49	3	49.2	103	59	19.7	Erdenet West	Tsagaan chuluut (Talbulag)	Tuff breccia		grey-brown, andesitic?	silicification, limonitization, translucent-white colored mineral (kaolin) stain along crack	limonite	G, X
M00TM156	49	3	50.9	103	59	30.7	Erdenet West	Tsagaan chuluut (Talbulag)	Tuff breccia		float, grey-brown, andesitic	clear-white colored minerals stain along crack	---	X
M00TM157	49	3	32.9	103	59	28.7	Erdenet West	Tsagaan chuluut (Talbulag)	Tuff breccia		andesitic tuff breccia?	silicification	pyrite (limonite)	G, X
M00TM158	49	3	7.5	103	59	54.2	Erdenet West	Tsagaan chuluut (Talbulag)	Rhyolite		grey-white	weak silicification, white argillization, limonitization along crack	limonite	G, X
M00TM159	49	3	5	103	59	50	Erdenet West	Tsagaan chuluut (Talbulag)	Altered rock		whitish	intensive silicification, whitish argillization, crystalline quartz in cavity	---	X
M00TM160	49	10	13.8	103	45	15.6	Erdenet West	Mogoin gol	Altered rock		white-brown	weak silicification, white argillization, fine grained muscovite	limonite	G, X
M00TM161	49	8	18.3	103	38	41.7	Erdenet West	Khujiriin gol	Quartz vein		white-clear, coarse grain, W:40 cm, host:trachy andesite porphyry	---	pyrite, chalcopyrite, malachite	---
M00TM162	49	8	12.1	103	38	30.5	Erdenet West	Khujiriin gol	Quartz vein		white-clear, coarse grain, network, brecciate, druzy, host: syenite porphyry?	---	---	G
M00TM163	49	12	50.4	104	13	41.9	Erdenet West	Zhuukhiin gol	Granodiorite		coarse grain, equigranular	potassium silicate alteration	fine grained pyrite dissemination, malachite (dot)	O
M00TM164	49	12	51.7	104	13	39.6	Erdenet West	Zhuukhiin gol	Granodiorite		coarse grain, equigranular	potassium silicate alteration	fine grained pyrite dissemination, malachite (dot)	---
M00TM165	49	12	52.7	104	13	33.9	Erdenet West	Zhuukhiin gol	Granodiorite		coarse grain, equigranular	---	---	T
M00TM166	49	14	13.2	104	3	44.7	Erdenet West	Zhuukhiin gol	Quartz vein		white-clear, network, brecciate, host: andesitic tuff?	---	---	G, F
M00TM167	49	14	13.2	104	3	44.7	Erdenet West	Zhuukhiin gol	Volcanic rock		andesitic tuff?	silicification along quartz vein	---	T, X
M00TM168	49	13	6.2	104	36	38	Erdenet West	SAR139	Andesite?		dark green, andesitic tuff?	silicification, epidote, host: propylitic alteration	chalcopyrite dissemination, malachite, azurite (along crack)	PT
M00TM169	49	12	56.8	104	36	18.1	Erdenet West	SAR139	Andesite porphyry		phenocryst: plagioclase+biotite+biotite (abundance)	silicification and epidotization, potassium-silicate alteration (biotite)	pyrite dissemination and malachite (dot and along crack)	G, T

Table A-10 Description of rock and ore samples

(25/25)

*Phase II survey*

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Rock Name	Geol. Unit	General Description	Alteration	Mineralization	Analysys type
M00TM170	49	12	53.7	104	36	20.1	Erdenet West	SAR139	Silicified rock		whitish	intensive silicification, epidote, potassium-silicate alteration	pyrite dissemination, malachite (dot and along crack)	G, PT, X
M00TM171	48	52	49.8	104	15	35.6	Erdenet West	Under	Tuff breccia		trachy andesitic, brown, phenocryst: K-feldsp+plagioclase	weak silicification	weak pyrite dissemination	G, X
M00TM172	48	59	59.6	104	1	50.9	Erdenet West	Chuluut	Granite		coarse grain, plagioclase+quartz+biotite	potassium silicate alteration	---	G, T

**Analysis type**

G: Geochemical analysis (ICP; Au+27elements)

W: Petrochemical analysis (XRF; major and rare earth elements)

O: Ore grade assay

34S: Sulfur isotope composition

18O: Oxygen isotope composition

KA: K-Ar radiometric age

T: Observation of thin section

PT: Observation of polish and thin section

X: Powdery X-ray diffraction

F: Temperature and salinity of fluid inclusions

E: EPMA

## Phase I survey

Table A-11 Description of pan concentrated samples

Sample	N	E	District	Occurrence	Geology	Geol. Unit	Width(m)	Flow	Size	Color	Comments
M99HH501P	50°13'27.1'	101°39'32.0'	Southern Camp	25f	gravel	---	---	---	3	brown	trench
M99HH502P	50°13'12.6'	101°38'51.3'	Southern Camp	---	---	---	3	2	2	dk brown-black	Erdenbulgan Camp site
M99MZ501P	49°51'05.4'	100°23'58.2'		---	aplite	---	5	3	1	reddish brown	
M99MZ502P	49°55'59.8'	100°21'06.4'	Altgana gol	---	serpentinite	---	30	4	1	reddish gray	
M99MZ503P	50°17'07.8'	100°18'11.7'	Altgana gol NW	---	limestone	---	10	0	1	gray	
M99MZ504P	50°38'24.3'	100°46'56.9'	Khokhoo	20	granite	---	3	4	1	reddish brown	
M99MZ505P	50°25'29.2'	100°55'55.7'	Khokhoo	20a	granodiorite	---	5	3	1	reddish brown	
M99MZ506P	50°30'40.8'	101°12'33.7'	Khokhoo	20c	granitoid	---	25	4	1	reddish brown	
M99MZ507P	49°08'22.7'	103°40'13.8'	Erdenet	---	granodiorite	---	5	3	1	reddish brown	
M99MZ508P	48°56'27.5'	104°18'06.8'	Erdenet	---	granitic rock	---	5	3	1	d-brown	
M99MZ509P	48°50'00.8'	102°45'21.8'	Bulgan West	---	volcanics	---	2	3	1	reddish brown	
M99MZ510P	48°43'54.7'	103°23'31.4'	Bulgan	---	volcanics	---	2	3	1	reddish brown	
M99MZ511P	48°47'25.1'	103°39'39.8'	Bulgan	SAR205	andesite	---	5	4	1	dark grey	
M99RK500P	49°06'04.1'	103°23'50.2'	Erdenet	---	basalt, basic tuff	---	6	3	2	brown	rock fragments rich
M99RK501P	49°05'25.6'	104°00'39.9'	Erdenet	---	dacitic andesite	---	0.6	1	2	reddish brown	rock fragments rich
M99RK502P	49°06'55.2'	104°01'63.1'	Erdenet	SAR136	granite	Selenge complex?	1	1	2	reddish brown	rock fragments, Magnetite
M99RK503P	48°51'17.7'	104°25'18.5'	Erdenet	SAR200	granite	Selenge complex?	2	3	2	brown	rock fragments rich
M99RK504P	49°20'42.7'	104°07'34.0'	Erdenet	SAR127	granodiorite	Selenge complex?	1	2	3	dark grey	magnetite rich

Flow : none = 0, puddle = 1, slow = 2, moderate = 3, fast = 4

Size : coarse grained = 1, medium grained = 2, fine grained = 3, clayey = 4



## Phase II survey

Table A-11 Description of Pan concentrated samples

Sample No.	Lat(D)	Lat(M)	Lat(S)	Lon(D)	Lon(M)	Lon(S)	District	Occurrence	Geology	Geol. Unit	Width(m)	Flow	Size	Color	Comments
M00NK600P	49	13	41	102	36	31.7	Erdenet West	Bulgan NW	gravel		3	2	4	brown	rock fragments rich
M00NK601P	49	15	13.8	102	41	51.1	Erdenet West	Bulgan NW			0.3	2	4	brown	clayey
M00NK602P	49	15	17.2	102	41	50.6	Erdenet West	Bulgan NW			3.5	2	4	brown	clayey
M00NK603P	49	15	29.8	102	42	53.4	Erdenet West	Bulgan NW			1	1	4	brown	clayey
M00NK604P	49	17	17.6	102	58	6.9	Erdenet West	Bulgan NW			5	2	4	brown	clayey
M00NK605P	49	12	55.6	102	55	33.6	Erdenet West	Bulgan NW			2	1	4	brown	clayey
M00HH601P	50	1	39.9	98	28	44.7	Tsagaan uul	Nariin azarga			15	3	2	black	rock fragments rich
M00MZ600P	48	9	39.7	99	27	47.1	Tariat	Tariatin gol	plutonics	Riphean	5	3	2	light brown	
M00MZ601P	48	43	39.2	98	15	39.9	Tosontsengel	Khuurai sair	granitoid	Devonian?	50	3	2	light brown	
M00MZ602P	50	9	3.3	98	44	42.8	Tsagaan uul	Khaisiin belchir	pelitic schist	Riphean	30	4	2	light brown	
M00MZ603P	50	9	3.6	98	44	40.3	Tsagaan uul	Khaisiin belchir	pelitic schist	Riphean	3	2	1	light brown	
M00MZ604P	50	9	51.1	104	26	33.9	Zelter	Gatsuunkhan	sediments	Cambrian	1	4	1	light brown	
M00TM600P	49	8	21.3	103	10	52.4	Erdenet West	Bulgan NW	basalt		4	3	1	brown	rock fragments rich
M00TM601P	49	14	42.4	103	5	0.6	Erdenet West	Bulgan NW	sandstone, shale		6	3	1	brown	rock fragments rich
M00TM602P	49	14	41.3	103	4	48.8	Erdenet West	Bulgan NW	sandstone, shale		4	3	1	brown	rock fragments rich
M00TM603P	49	19	29.6	103	4	50.9	Erdenet West	Bulgan NW	sandstone, shale		10	3	1	brown	rock fragments, magnetite

Flow : none = 0, puddle = 1, slow = 2, moderate = 3, fast = 4

Size : coarse grained = 1, medium grained = 2, fine grained = 3, clayey = 4