



USGS Compilation of Geographic Information System (GIS) Data Representing Coal Mines and Coal-Bearing Areas in Mongolia

Compiled by Michael H. Trippi and Harvey E. Belkin

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Conversion Factors

Multiply	By	To obtain
Length		
meter (m)	3.28084	foot (ft)
kilometer (km)	0.62137	mile (mi)
meter (m)	1.09361	yard (yd)
Mass		
kilogram (kg)	2.205	pound, avoirdupois (lb)
megagram (Mg)	1	tonne (t) (2205 lb)
megagram (Mg)	1.10229	ton, short (2,000 lb)
megagram (Mg)	0.98425	ton, long (2,240 lb)

USGS Compilation of Geographic Information System (GIS) Data of Coal Mines and Coal-Bearing Areas in Mongolia

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Introduction

Mongolia increased its production of coal nearly sevenfold over the past decade to nearly 35 million short tons (32 million tonnes [megatonnes, Mt]) of coal in 2011 (Energy Information Administration, 2012b) (fig. 1). During that same decade Mongolia's consumption of coal almost doubled to slightly more than 10 million short tons (9 Mt) in 2011 (fig. 1), with the remaining amount (nearly 25 million short tons [22 Mt]) exported to other countries (fig. 2). Still, Mongolia produced less than 1 percent of the total amount of coal produced worldwide (8,461 million short tons [7,676 Mt]) in 2011 (Energy Information Administration, 2012a). However, Mongolia ranked seventh in 2011 (with 22 million short tons [20 Mt]) and fifth in 2010 (with 12 million short tons [11 Mt]) among the world's leading coking coal producers (World Coal Association, 2012).

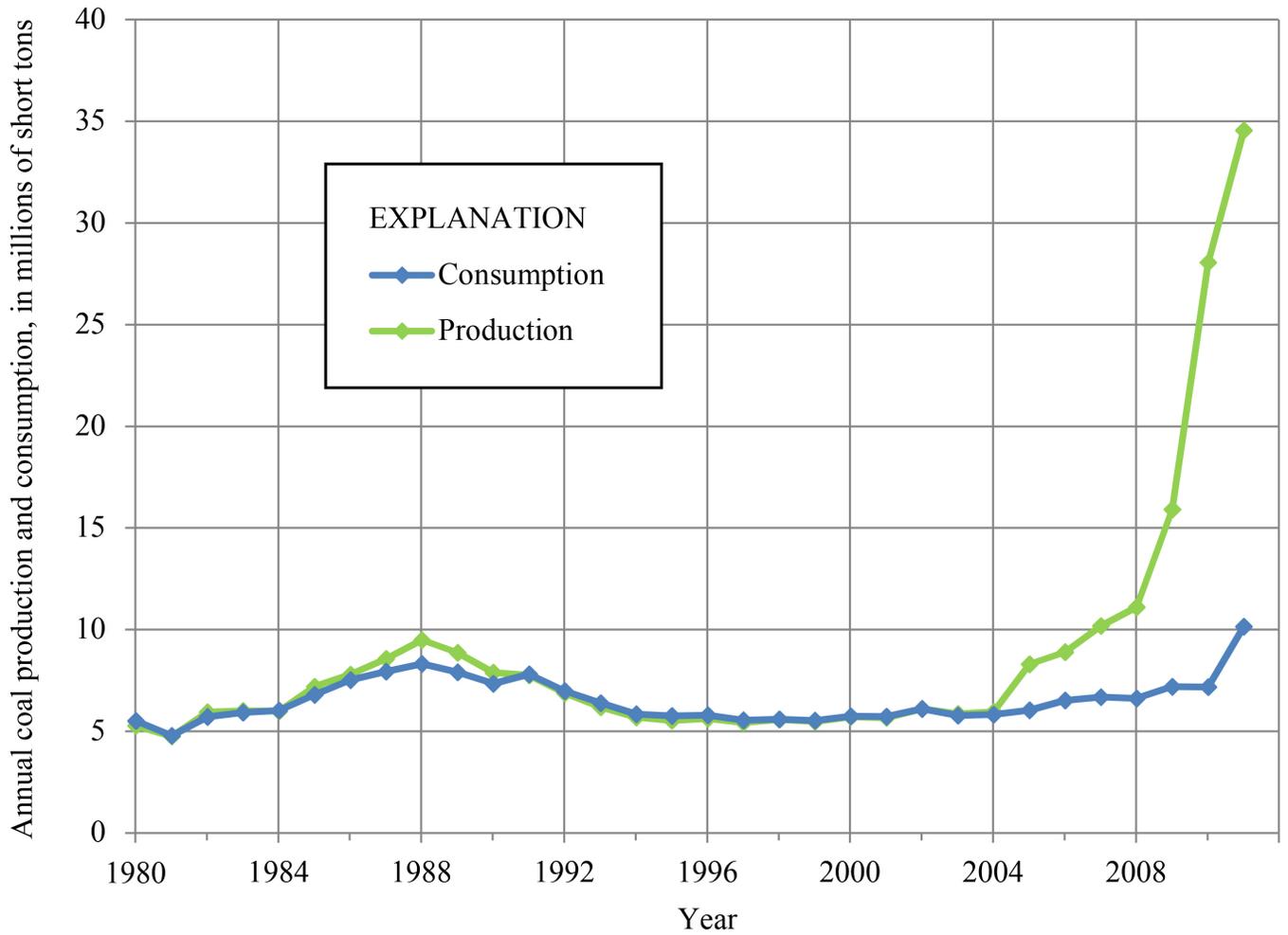


Figure 1. Annual coal production and consumption in millions of short tons (Data source: Energy Information Administration, 2012b).

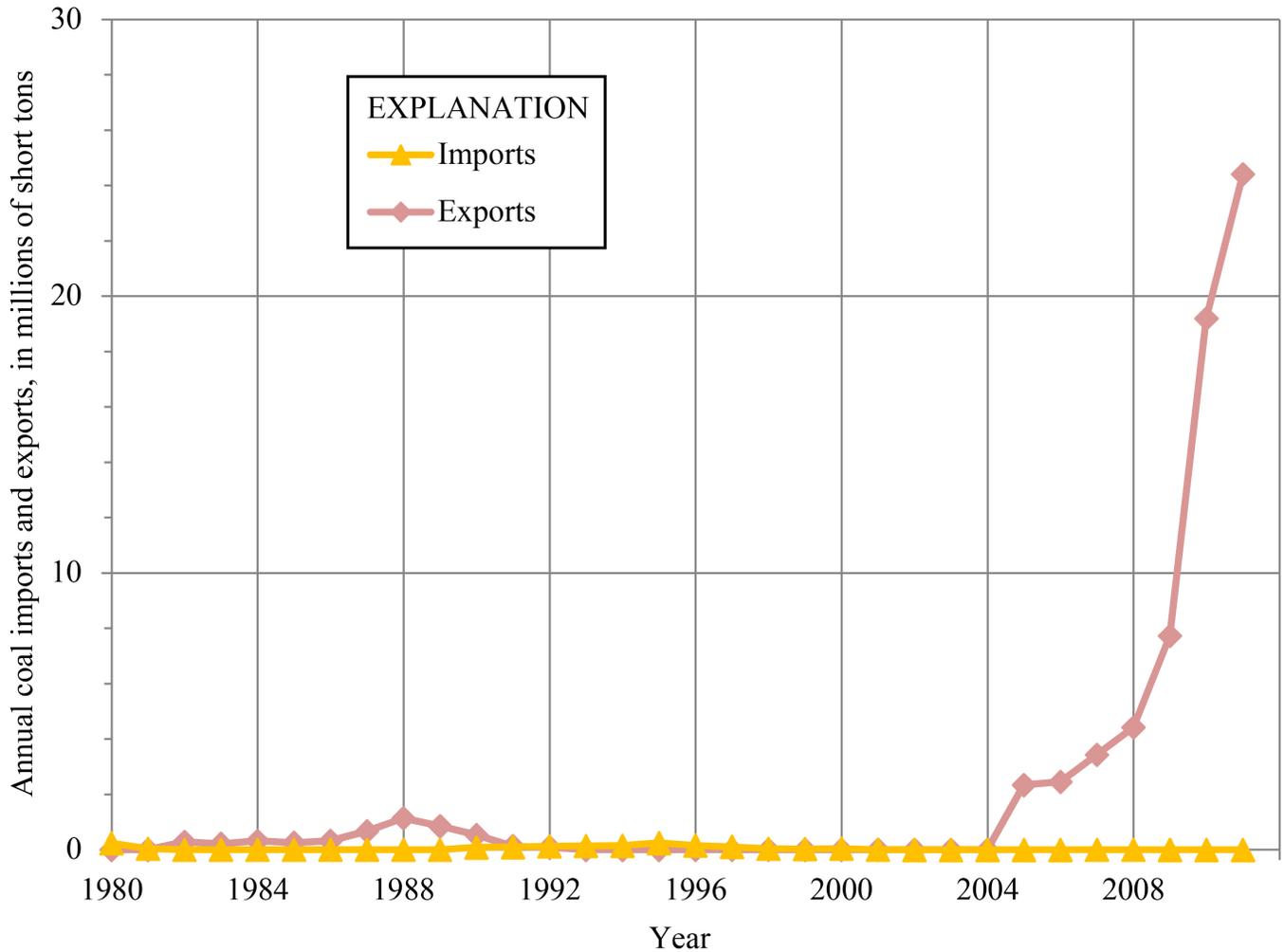


Figure 2. Annual coal imports and exports in millions of short tons (Data source: Energy Information Administration, 2012a).

The most predominant coal type in Mongolia is lignite, found in the eastern and central parts of the country, with bituminous coals present in the southern and western regions, and a small amount of subbituminous coal in the central and northern regions (fig. 3). The coals range in age from Late Carboniferous (Pennsylvanian) to Early Cretaceous, with late Carboniferous coals found in the western region, Middle Jurassic coals found in all regions, and late Permian to Early Cretaceous coals found in the eastern, northern, and central regions of the country (Erdenetsogt and others, 2009).

This report is not intended to be an authoritative or comprehensive study of the coals that are available for mining and combustion in Mongolia. Publications of the Mineral Resources Authority of Mongolia (MRAM) and the Mongolian Academy of Sciences (Sub-Assembly of Geology), as well as many recent research journal articles, are available for more detailed information.

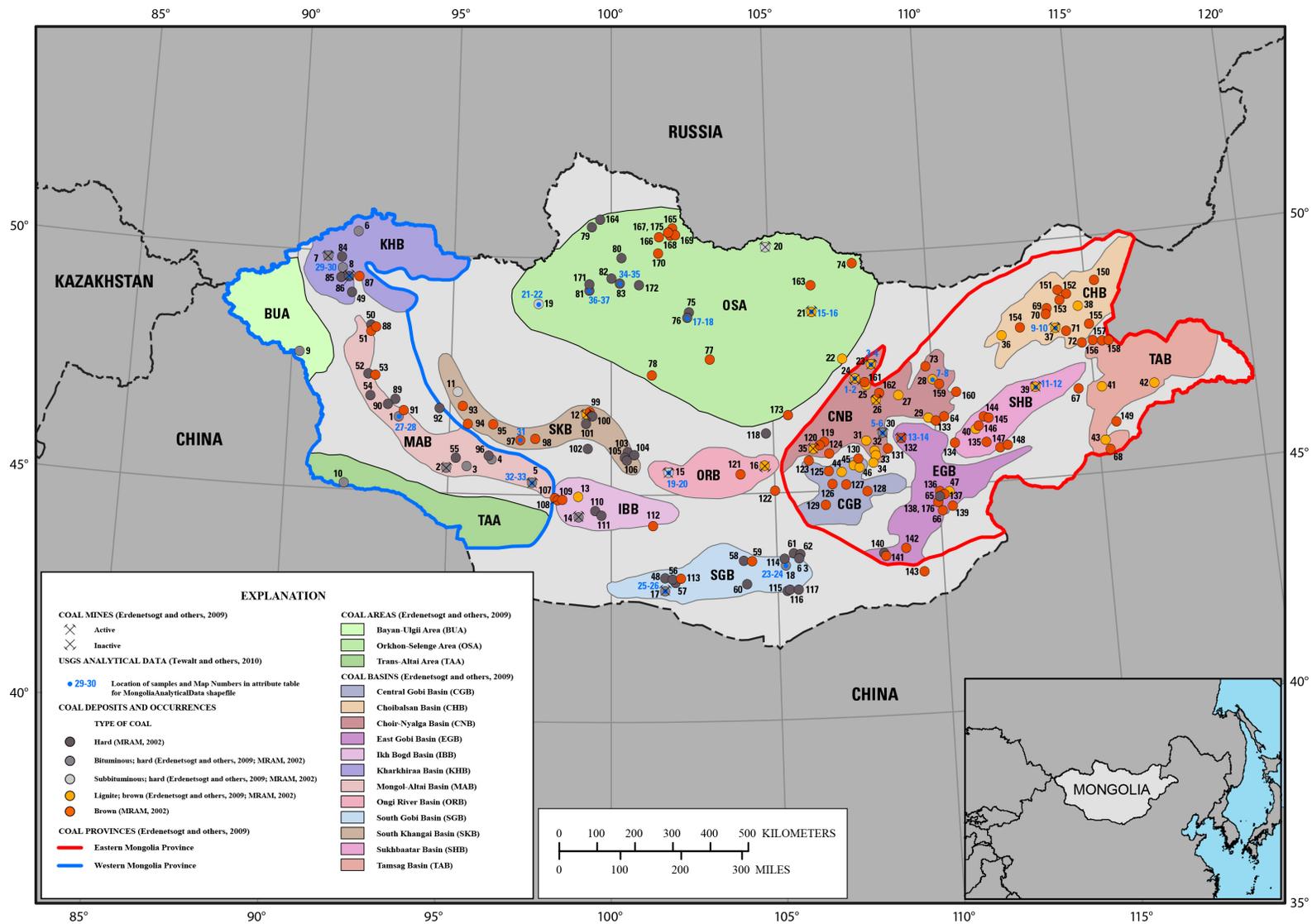


Figure 3. Coal mines, deposits, occurrences, areas, basins, and provinces of Mongolia with USGS analytical data sample locations.

GIS Data and Methodology

The U.S. Geological Survey (USGS) has compiled geographic information system (GIS) data representing coal mines, deposits (including those with and without coal mines), occurrences, areas, basins, and provinces of Mongolia. These data are now available as GIS data files for download and may be used in a GIS for a variety of energy resource and environmental studies of Mongolia. These files were made by digitizing features on maps previously published by Erdenetsogt and others (2009) and the MRAM (2002). These maps showing locations of coal mines, deposits, occurrences, areas, basins, and provinces were scanned and georeferenced to recognizable deviations in international boundary lines. Base-map projection information for the original paper maps was unknown, so the scanned images were adjusted to fit a base map with the following parameters: Projection, Lambert Conformal Conic; False Easting, 500,000 meters; False Northing, 500,000 meters; Central Meridian, 100° W.; Standard Parallel 1, 18° N.; Standard Parallel 2, 24° N.; Latitude of Origin, 21° N.; Linear Unit, Meter; Datum, World Geodetic System 1972 Beijing. Point locations of coal mines, deposits, and occurrences were digitized from the original source maps and labeled with the map ID numbers listed in table 1.

The following data from Erdenetsogt and others (2009) were captured in table 1: feature name, feature type (deposit), mine activity (when present; active or inactive), comments (mine size, open-pit mine, coking coal reserves), coal type (bituminous, subbituminous, or lignite), coal province, coal area, coal basin, group and (or) formation names (coal-bearing stratigraphic units), age of coal, data source, and original source map numbers. Data captured from the map in MRAM (2002) include the following: feature name, aimag (Mongolian province), feature type (deposit or occurrence), type of coal (hard or brown), data source, and original source map numbers. Latitude and longitude values (in decimal degrees) for each feature were also determined in ArcMap and recorded in table 1. All of the coal deposits from the map in Erdenetsogt and others (2009) matched deposits or occurrences in the map from MRAM (2002), so for these features, data from the two sources are listed in the same row. When two data values are shown in these rows (separated by a semicolon), the first value is from Erdenetsogt and others (2009) and the second value is from MRAM (2002). These point locations were saved in shapefile format in a file named “MongoliaCoalDeposits.” Coal area, basin, and province polygons were also digitized from the map in Erdenetsogt and others (2009) and saved in a shapefile named “MongoliaCoalAreasBasinsProvinces.” Metadata files describing all GIS processing are included for these shapefiles. A map of Mongolia was created to display the locations of coal mines, deposits, occurrences, areas, basins, and provinces, and locations of coal samples from the USGS World Coal Quality Inventory (WoCQI) project (fig. 3).

In general, the polygons depicting coal areas, basins, and provinces should not be used to calculate resources. Likewise, the locations of coal mines, deposits, and occurrences should not be used for precise calculations of locations. International political boundaries and shorelines used in these figures come from shapefiles downloaded from the U.S. Department of State (2011) Web site. Shapefiles representing the political boundaries and shorelines are not being offered for download at this time.

Chemistry of Coal Samples

Chemical data for 37 Mongolian coal samples, collected in 2002 by Mr. Ganbaatar Badгаа of the Mongolian Ministry of Infrastructure’s Department for Fuel and Energy with guidance from John SanFilipo of the USGS for the USGS World Coal Quality Inventory (WoCQI) project (Tewalt and

others, 2010), are in a GIS point shapefile called “MongoliaAnalyticalData” with an accompanying metadata. There were 28 channel samples, 2 channel bench samples, 2 bench samples, 2 partial channel samples, and 2 core samples; the remaining sample was a grab sample. All of the samples were raw unprocessed coal. Four samples came from underground mines, with the remaining 33 from surface mines. Eleven samples were Carboniferous in age, 4 were Permian, 10 were Jurassic, and 12 were Cretaceous. Locations of these samples are displayed in figure 3. Chemical attributes include proximate and ultimate analyses, sulfur-form data, ash-fusion temperatures, and free-swelling indices from a commercial laboratory, and major-, minor-, and trace-element abundances from a USGS laboratory, all analyzed between 2002 and 2005. All chemical analyses and physical property determinations were done using routine American Society for Testing and Materials (ASTM) methods. Descriptive data for the samples on mine name, operator, stratigraphic unit and location are included.

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- World Coal Association, 2012, Coal Statistics: World Coal Association Web site, accessed May 17, 2013, at <http://www.worldcoal.org/resources/coal-statistics/>.

Table 1. List of coal deposits and occurrences in Mongolia.
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Feature name	Aimag (province)	Latitude (decimal degrees)	Longitude (decimal degrees)	Feature type	Mine activity	Comments	Coal type
1	Khushuut; Khoshoot	Khovd	46.601415	93.427470	Deposit	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
2	Maanit	Govi-Altay	45.538290	94.944719	Deposit	Active	Map location from Erdenetsogt and others, 2009; Small open-pit mine	Bituminous; Hard
3	Khuren gol	Govi-Altay	45.594109	95.560117	Deposit	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
4	Tsagaan gol	Govi-Altay	45.743372	96.328589	Deposit; Occurrence	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
5	Zeegt	Govi-Altay	45.265571	97.582782	Deposit	Active	Map location from Erdenetsogt and others, 2009; Small open-pit mine	Bituminous; Hard
6	Khuden	Uvs	50.422282	91.899481	Deposit	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
7	Nuurst khotgor	Uvs	49.890920	90.965064	Deposit	Active	Map location from Erdenetsogt and others, 2009; Small open-pit mine	Bituminous; Hard
8	Khartarvagatai	Uvs	49.662296	91.451739	Deposit	Active	Map location from Erdenetsogt and others, 2009; Small open-pit mine	Bituminous; Hard
9	Rashaant gol	Bayan-Ulgii	47.875994	90.237297	Deposit	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
10	Olonbulag	Khovd	45.133262	91.831589	Deposit	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
11	Tsakhir urt	Govi-Altay	47.170954	95.227393	Deposit	NA	Map location from Erdenetsogt and others, 2009	Subbituminous; Hard
12	Uvurchuluut	Bayanhongor	46.736797	99.242467	Deposit	Active	Map location from Erdenetsogt and others, 2009	Lignite; Brown
13	Alagtsakhir	Bayanhongor	44.963250	98.991401	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
14	Khotgor (Jinst)	Bayanhongor	44.527192	99.016211	Deposit	Active	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
15	Bayanteeg	Uvurkhangay	45.482043	101.760085	Deposit	Active	Map location from Erdenetsogt and others, 2009	Subbituminous; Hard
16	Tsagaan-Ovoo	Dundgovi	45.589133	104.709367	Deposit	Inactive	Map location from Erdenetsogt and others, 2009	Lignite; Brown
17	Nariin sukhait	Umnugovi	42.908301	101.615536	Deposit	Active	Map location from Erdenetsogt and others, 2009; Coking coal reserves	Bituminous; Hard
18	Tavantolgoi	Umnugovi	43.414299	105.253701	Deposit	NA	Map location from Erdenetsogt and others, 2009; Coking coal reserves	Bituminous; Hard
19	Mogoin gol	Huvsgul	49.046161	97.698404	Deposit	NA	Map location from Erdenetsogt and others, 2009	Subbituminous; Hard
20	Ulaan-Ovoo	Selenge	50.173374	104.924014	Deposit	Active	Map location from Erdenetsogt and others, 2009	Subbituminous; Hard
21	Shariin gol; Sharyn gol	Selenge	48.801572	106.321504	Deposit	Active	Map location from Erdenetsogt and others, 2009	Lignite; Brown
22	Nalaikh	Tuv	47.803133	107.227077	Deposit	Inactive	Map location from Erdenetsogt and others, 2009	Lignite; Brown
23	Baganuur	Tuv	47.653728	108.116427	Deposit	Active	Map location from Erdenetsogt and others, 2009; Large coal mine	Lignite; Brown
24	Maanit (Khangai)	Tuv	47.377493	107.606167	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
25	Tsaidam; Ikh tsaidam nuur	Tuv	47.221062	107.927470	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Coal province	Coal area	Coal basin	Group and (or) formation	Age of coal	Data sources	Original map numbers
1	Western Mongolian	NA	Mongol-Altai	Altai Group, middle formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	1; 1-10
2	Western Mongolian	NA	Mongol-Altai	Altai Group, middle formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	2; 1-11
3	Western Mongolian	NA	Mongol-Altai	Altai Group, middle formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	3; 1-12
4	Western Mongolian	NA	Mongol-Altai	Altai Group, middle formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	4; 1-45
5	Western Mongolian	NA	Mongol-Altai	Altai Group, middle formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	5; 1-16
6	Western Mongolian	NA	Kharkhiraa	Altai Group, top formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	6; 1-6
7	Western Mongolian	NA	Kharkhiraa	Altai Group, top formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	7; 1-1
8	Western Mongolian	NA	Kharkhiraa	Altai Group, top formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	8; 1-5
9	Western Mongolian	Bayan-Ulgii	NA	Altai Group, bottom formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	9; 1-2
10	Western Mongolian	Trans-Altai	NA	Altai Group, bottom formation	Pennsylvanian	Erdenetsogt and others, 2009; MRAM, 2002	10; 1-3
11	NA	NA	South Khangai	unnamed; Bakhar Formation; Andkhudag Formation	Permian; Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	11; 1-14
12	NA	NA	South Khangai	unnamed; Bakhar Formation; Andkhudag Formation	Permian; Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	12; 2-4
13	NA	NA	Ikh Bogd	unnamed; Bakhar Formation; Andkhudag Formation	Permian; Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	13; 2-3
14	NA	NA	Ikh Bogd	unnamed; Bakhar Formation; Andkhudag Formation	Permian; Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	14; 1-17
15	NA	NA	Ongi River	unnamed; Bakhar Formation; Andkhudag Formation	Permian; Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	15; 1-23
16	NA	NA	Ongi River	unnamed; Bakhar Formation; Andkhudag Formation	Permian; Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	16; 2-8
17	NA	NA	South Gobi	Tavantolgoi Group, upper coal-bearing formation	Late Permian	Erdenetsogt and others, 2009; MRAM, 2002	17; 1-27
18	NA	NA	South Gobi	Tavantolgoi Group, upper coal-bearing formation	Late Permian	Erdenetsogt and others, 2009; MRAM, 2002	18; 1-36
19	NA	Orkhon-Selenge	NA	Saikhan Formation; Khukhteeg Formation	Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	19; 1-15
20	NA	Orkhon-Selenge	NA	Saikhan Formation; Khukhteeg Formation	Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	20; 1-30
21	NA	Orkhon-Selenge	NA	Saikhan Formation; Khukhteeg Formation	Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	21; 2-10
22	NA	Orkhon-Selenge	NA	Saikhan Formation; Khukhteeg Formation	Early to Middle Jurassic; Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	22; 2-15
23	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	23; 2-17
24	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	24; 2-12
25	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	25; 2-13

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Feature name	Aimag (province)	Latitude (decimal degrees)	Longitude (decimal degrees)	Feature type	Mine activity	Comments	Coal type
26	Tugrug; Togrog nuur	Tuv	46.904257	108.213529	Deposit	Active	Map location from Erdenetsogt and others, 2009	Lignite; Brown
27	Khumuult; Khumuultei	Govi-Sumber	46.971754	108.927405	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
28	Tsaidam nuur (Chandgana tal)	Khentii	47.265387	110.008077	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
29	Olongiin Ukhaa; Longiin uhaa	Dornogovi	46.458273	109.808008	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
30	Alagtagoo	Dornogovi	46.196035	108.373833	Deposit	Active	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
31	Shivee-Ovoo	Govi-Sumber	46.040415	107.861164	Deposit	Active	Map location from Erdenetsogt and others, 2009; Large coal mine	Lignite; Brown
32	Ulaan nuur	Dundgovi	45.823779	108.093915	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
33	Ikh Ulaannuur	Dundgovi	45.721393	108.136228	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
34	Uvdugkhudag	Dundgovi	45.565841	108.040867	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
35	Tevshiin gobi	Dundgovi	45.917616	106.226977	Deposit	Active	Map location from Erdenetsogt and others, 2009	Lignite; Brown
36	Khulstnuur	Khentii	48.083438	112.254173	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
37	Aduunchuluun	Dornod	48.149827	113.956984	Deposit	Active	Map location from Erdenetsogt and others, 2009	Lignite; Brown
38	Utaat minjuur	Dornod	48.568788	114.725452	Deposit; Occurrence	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
39	Talbulag	Sukhbaatar	46.950902	113.178052	Deposit	Active	Map location from Erdenetsogt and others, 2009	Lignite; Brown
40	Ulziit	Sukhbaatar	46.155397	111.251992	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
41	Zuunbulag	Dornod	46.837892	115.245270	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
42	Bulangiin khooloi	Dornod	46.804069	116.873847	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
43	Bayantsogt	Sukhbaatar	45.687833	115.195023	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
44	Taliin khudag	Dundgovi	45.398834	107.057587	Deposit; Occurrence	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
45	Nukhet	Umnugovi	45.527278	107.435854	Deposit; Occurrence	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
46	Khootiin khonkhor	Dundgovi	45.475651	107.609416	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
47	Khamriin khural; Khamar khural	Dornogovi	44.858490	110.314217	Deposit	NA	Map location from Erdenetsogt and others, 2009	Lignite; Brown
48	Gurvantes	Umnugovi	43.084562	101.935476	Deposit	NA	Map location from Erdenetsogt and others, 2009	Bituminous; Hard
49	Yavar	Uvs	49.168747	91.779950	Deposit	NA	Map location from MRAM, 2002	Hard
50	Mayngad	Khovd	48.509854	92.436845	Deposit	NA	Map location from MRAM, 2002	Hard
51	Matag	Khovd	48.375694	92.456423	Deposit	NA	Map location from MRAM, 2002	Brown

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Coal province	Coal area	Coal basin	Group and (or) formation	Age of coal	Data sources	Original map numbers
26	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	26; 2-16
27	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	27; 2-18
28	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	28; 2-28
29	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	29; 2-25
30	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	30; 1-37
31	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	31; 2-22
32	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	32; 2-19
33	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	33; 2-21
34	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	34; 2-20
35	Eastern Mongolian	NA	Choir-Nyalga	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	35; 2-9
36	Eastern Mongolian	NA	Choibalsan	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	36; 2-30
37	Eastern Mongolian	NA	Choibalsan	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	37; 2-35
38	Eastern Mongolian	NA	Choibalsan	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	38; 2-105
39	Eastern Mongolian	NA	Sukhbaatar	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	39; 2-33
40	Eastern Mongolian	NA	Sukhbaatar	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	40; 2-29
41	Eastern Mongolian	NA	Tamsag	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	41; 2-38
42	Eastern Mongolian	NA	Tamsag	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	42; 2-41
43	Eastern Mongolian	NA	Tamsag	Zuunbayn Group, Khukhteeg Formation	Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	43; 2-40
44	Eastern Mongolian	NA	Central Gobi	Sharilyn, Tsagantsav, and Zuunbayan Formations	Late Jurassic to Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	44; 2-77
45	Eastern Mongolian	NA	Central Gobi	Sharilyn, Tsagantsav, and Zuunbayan Formations	Late Jurassic to Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	45; 2-78
46	Eastern Mongolian	NA	Central Gobi	Sharilyn, Tsagantsav, and Zuunbayan Formations	Late Jurassic to Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	46; 2-14
47	Eastern Mongolian	NA	East Gobi	Sharilyn, Tsagantsav, and Zuunbayan Formations	Late Jurassic to Early Cretaceous	Erdenetsogt and others, 2009; MRAM, 2002	47; 2-27
48	NA	NA	South Gobi	Tavantolgoi Group, upper coal-bearing formation	Late Permian	Erdenetsogt and others, 2009; MRAM, 2002	48; 1-26
49	Western Mongolian	NA	Kharkhira	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-4
50	Western Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-7
51	Western Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-1

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Feature name	Aimag (province)	Latitude (decimal degrees)	Longitude (decimal degrees)	Feature type	Mine activity	Comments	Coal type
52	Zulegt	Khovd	47.479323	92.417707	Deposit	NA	Map location from MRAM, 2002	Hard
53	Jargalant	Khovd	47.463296	92.638373	Deposit	NA	Map location from MRAM, 2002	Brown
54	Gants mod	Khovd	47.023844	92.515102	Deposit	NA	Map location from MRAM, 2002	Hard
55	Khujirtlin bulag	Govi-Altay	45.763625	95.225167	Deposit	NA	Map location from MRAM, 2002	Hard
56	Khokh dovlin	Umnugovi	43.192916	101.617056	Deposit	NA	Map location from MRAM, 2002	Hard
57	Noyn	Umnugovi	43.158320	101.851798	Deposit	NA	Map location from MRAM, 2002	Hard
58	Jargalant	Umnugovi	43.541743	103.994201	Deposit	NA	Map location from MRAM, 2002	Hard
59	Suuj khudag	Umnugovi	43.532576	104.248084	Deposit	NA	Map location from MRAM, 2002	Brown
60	Erdene bulag	Umnugovi	43.032794	104.079270	Deposit	NA	Map location from MRAM, 2002	Hard
61	Uhaa khudag	Umnugovi	43.675563	105.511842	Deposit	NA	Map location from MRAM, 2002	Hard
62	Bor tolgoi	Umnugovi	43.653452	105.712868	Deposit	NA	Map location from MRAM, 2002	Hard
63	Onch	Umnugovi	43.559349	105.665425	Deposit	NA	Map location from MRAM, 2002	Hard
64	Khashaat khudag	Dornogovi	46.467595	110.301223	Deposit	NA	Map location from MRAM, 2002	Brown
65	Tushleg	Dornogovi	44.764471	110.015129	Deposit	NA	Map location from MRAM, 2002	Hard
66	Khongor tsagaan khudag	Dornogovi	44.451841	110.074713	Deposit	NA	Map location from MRAM, 2002	Brown
67	Khoot	Sukhbaatar	46.838125	114.517497	Deposit	NA	Map location from MRAM, 2002	Brown
68	Bayantsogt-1	Sukhbaatar	45.481930	115.331614	Deposit	NA	Map location from MRAM, 2002	Brown
69	Khutag	Dornod	48.575321	113.738252	Deposit	NA	Map location from MRAM, 2002	Brown
70	Tsagaan nuur	Dornod	48.452345	113.691296	Deposit	NA	Map location from MRAM, 2002	Brown
71	Bayanbulag	Dornod	48.072384	114.284706	Deposit	NA	Map location from MRAM, 2002	Brown
72	Jargalant	Dornod	47.798257	114.752823	Deposit	NA	Map location from MRAM, 2002	Brown
73	Murun	Khentii	47.552870	109.822217	Deposit	NA	Map location from MRAM, 2002	Brown
74	Tsogt gol	Selenge	49.779276	107.671505	Deposit	NA	Map location from MRAM, 2002	Brown
75	Ereen	Bulgan	48.867820	102.451715	Deposit	NA	Map location from MRAM, 2002	Hard
76	Saikhan ovoo	Bulgan	48.758701	102.404064	Deposit	NA	Map location from MRAM, 2002	Hard
77	Bayanduureh	Bulgan	47.873855	103.081183	Deposit	NA	Map location from MRAM, 2002	Brown
78	Bayantsagaan	Arkhangay	47.559861	101.269297	Deposit	NA	Map location from MRAM, 2002	Brown
79	Mungush	Huvsgul	50.633995	99.375889	Deposit	NA	Map location from MRAM, 2002	Hard
80	Egiin gol	Huvsgul	50.000734	100.334428	Deposit	NA	Map location from MRAM, 2002	Hard
81	Deed nuur	Huvsgul	49.328964	99.307846	Deposit	NA	Map location from MRAM, 2002	Hard
82	Murun	Huvsgul	49.582670	100.013636	Deposit	NA	Map location from MRAM, 2002	Hard
83	Jilchig bulag	Huvsgul	49.473685	100.279824	Deposit	NA	Map location from MRAM, 2002	Hard
84	Khetiin khotol (Khovt)	Uvs	49.888308	91.406365	Occurrence	NA	Map location from MRAM, 2002	Hard
85	Namirilin gol	Uvs	49.463271	91.413603	Occurrence	NA	Map location from MRAM, 2002	Hard
86	Kharagait	Uvs	49.487477	91.663181	Occurrence	NA	Map location from MRAM, 2002	Hard
87	Burgastain gol	Uvs	49.501146	92.000119	Occurrence	NA	Map location from MRAM, 2002	Brown
88	Damba khudag	Khovd	48.466075	92.597163	Occurrence	NA	Map location from MRAM, 2002	Brown
89	Tsagaan chuluut	Khovd	46.967343	93.303503	Occurrence	NA	Map location from MRAM, 2002	Hard
90	Baatarin nuruu	Khovd	46.853566	93.068310	Occurrence	NA	Map location from MRAM, 2002	Hard
91	Darvi	Khovd	46.735393	93.574141	Occurrence	NA	Map location from MRAM, 2002	Brown

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Coal province	Coal area	Coal basin	Group and (or) formation	Age of coal	Data sources	Original map numbers
52	Western Mongolian	NA	Mongol-Altai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-9
53	Western Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-2
54	Western Mongolian	NA	Mongol-Altai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-8
55	Western Mongolian	NA	Mongol-Altai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-13
56	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-25
57	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-24
58	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-31
59	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-7
60	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-32
61	NA	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-34
62	NA	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-35
63	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-33
64	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-26
65	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-38
66	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-24
67	Eastern Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-37
68	Eastern Mongolian	NA	Tamsag	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-39
69	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-31
70	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-32
71	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-34
72	Eastern Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-36
73	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-23
74	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-11
75	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-28
76	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-29
77	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-6
78	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-5
79	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-18
80	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-21
81	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-19
82	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-22
83	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-20
84	Western Mongolian	NA	Kharkhiraa	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-40
85	Western Mongolian	NA	Kharkhiraa	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-41
86	Western Mongolian	NA	Kharkhiraa	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-39
87	Western Mongolian	NA	Kharkhiraa	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-42
88	Western Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-43
89	Western Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-42
90	Western Mongolian	NA	Mongol-Altai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-43
91	Western Mongolian	NA	Mongol-Altai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-44

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Feature name	Aimag (province)	Latitude (decimal degrees)	Longitude (decimal degrees)	Feature type	Mine activity	Comments	Coal type
92	Bayan nuur	Govi-Altay	46.813636	94.678998	Occurrence	NA	Map location from MRAM, 2002	Hard
93	Yalaat khudag	Govi-Altay	46.868890	95.396328	Occurrence	NA	Map location from MRAM, 2002	Brown
94	Sharqlin gobi	Govi-Altay	46.489663	95.574344	Occurrence	NA	Map location from MRAM, 2002	Brown
95	Altan gadas	Govi-Altay	46.494379	96.353728	Occurrence	NA	Map location from MRAM, 2002	Brown
96	Khuurai sair	Govi-Altay	45.824591	96.231711	Occurrence	NA	Map location from MRAM, 2002	Hard
97	Khuv bulag	Govi-Altay	46.170320	97.199033	Occurrence	NA	Map location from MRAM, 2002	Brown
98	Bumbat khudag	Govi-Altay	46.197678	97.655686	Occurrence	NA	Map location from MRAM, 2002	Brown
99	Shariglin nuruu	Bayanhongor	46.779130	99.339172	Occurrence	NA	Map location from MRAM, 2002	Brown
100	Aartsaglin khoit salaa	Bayanhongor	46.689157	99.411796	Occurrence	NA	Map location from MRAM, 2002	Hard
101	Urlin gol	Bayanhongor	46.531840	99.220042	Occurrence	NA	Map location from MRAM, 2002	Hard
102	Oortsog tavan tolgoi	Bayanhongor	45.995020	99.278391	Occurrence	NA	Map location from MRAM, 2002	Hard
103	Tsagaan buht khudag	Bayanhongor	45.926632	100.504374	Occurrence	NA	Map location from MRAM, 2002	Hard
104	Tuin gol	Bayanhongor	45.867476	100.714077	Occurrence	NA	Map location from MRAM, 2002	Hard
105	Aman us	Bayanhongor	45.808539	100.416366	Occurrence	NA	Map location from MRAM, 2002	Hard
106	Tevshiin khudag	Bayanhongor	45.753313	100.487638	Occurrence	NA	Map location from MRAM, 2002	Hard
107	Aman gol	Bayanhongor	44.936577	98.279187	Occurrence	NA	Map location from MRAM, 2002	Brown
108	Choijin	Bayanhongor	44.889445	98.377861	Occurrence	NA	Map location from MRAM, 2002	Brown
109	Khuslent	Bayanhongor	44.903472	98.518494	Occurrence	NA	Map location from MRAM, 2002	Brown
110	Muu bulag	Bayanhongor	44.656664	99.510438	Occurrence	NA	Map location from MRAM, 2002	Hard
111	Bayan ovoo	Bayanhongor	44.563594	99.712292	Occurrence	NA	Map location from MRAM, 2002	Hard
112	Unegt	Bayanhongor	44.335537	101.273615	Occurrence	NA	Map location from MRAM, 2002	Brown
113	Noyn-I	Umnugovi	43.177144	102.093390	Occurrence	NA	Map location from MRAM, 2002	Brown
114	Baruun naran	Umnugovi	43.561342	105.229962	Occurrence	NA	Map location from MRAM, 2002	Hard
115	Buduunil khyar	Umnugovi	42.860081	105.284389	Occurrence	NA	Map location from MRAM, 2002	Hard
116	Khachig uul	Umnugovi	42.886380	105.357394	Occurrence	NA	Map location from MRAM, 2002	Hard
117	Tsagaan tolgoi	Umnugovi	42.873895	105.616100	Occurrence	NA	Map location from MRAM, 2002	Hard
118	Khongor	Dundgovi	46.276544	104.780519	Occurrence	NA	Map location from MRAM, 2002	Hard
119	Imtiin nuur	Dundgovi	46.057941	106.559605	Occurrence	NA	Map location from MRAM, 2002	Brown
120	Tsagaan nuur	Dundgovi	45.993019	106.416025	Occurrence	NA	Map location from MRAM, 2002	Brown
121	Ongiin gol	Dundgovi	45.421583	103.961276	Occurrence	NA	Map location from MRAM, 2002	Brown
122	Delgerkhangai	Dundgovi	45.050713	105.006792	Occurrence	NA	Map location from MRAM, 2002	Brown
123	Taliin khudag	Dundgovi	45.667029	106.067001	Occurrence	NA	Map location from MRAM, 2002	Brown
124	Khalgain chuluu	Dundgovi	45.800053	106.707845	Occurrence	NA	Map location from MRAM, 2002	Brown
125	Solgoit khudag	Dundgovi	45.430974	106.662223	Occurrence	NA	Map location from MRAM, 2002	Brown
126	Lug unstei	Dundgovi	45.149220	106.768909	Occurrence	NA	Map location from MRAM, 2002	Brown
127	Uvdug hudag	Dundgovi	45.119367	107.185215	Occurrence	NA	Map location from MRAM, 2002	Brown
128	Oldokhiin gobi	Dundgovi	44.957363	107.823437	Occurrence	NA	Map location from MRAM, 2002	Brown
129	Toirom	Dundgovi	44.704240	106.539048	Occurrence	NA	Map location from MRAM, 2002	Brown
130	Bayanjargalan	Dundgovi	45.666847	107.589579	Occurrence	NA	Map location from MRAM, 2002	Brown
131	Erenn-2	Dornogovi	45.852037	108.507445	Occurrence	NA	Map location from MRAM, 2002	Brown

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Coal province	Coal area	Coal basin	Group and (or) formation	Age of coal	Data sources	Original map numbers
92	Western Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-44
93	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-45
94	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-46
95	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-47
96	Western Mongolian	NA	Mongol-Altai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-46
97	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-48
98	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-49
99	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-53
100	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-48
101	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-49
102	NA	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-47
103	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-56
104	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-57
105	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-54
106	NA	NA	South Khangai	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-55
107	NA	NA	Ikh Bogd	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-50
108	NA	NA	Ikh Bogd	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-51
109	NA	NA	Ikh Bogd	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-52
110	NA	NA	Ikh Bogd	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-52
111	NA	NA	Ikh Bogd	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-53
112	NA	NA	Ikh Bogd	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-54
113	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-61
114	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-61
115	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-62
116	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-63
117	NA	NA	South Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-64
118	NA	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-60
119	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-71
120	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-70
121	NA	NA	Ongi River	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-62
122	NA	NA	Ongi River	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-64
123	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-66
124	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-65
125	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-69
126	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-67
127	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-74
128	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-75
129	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-68
130	Eastern Mongolian	NA	Central Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-76
131	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-83

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Feature name	Aimag (province)	Latitude (decimal degrees)	Longitude (decimal degrees)	Feature type	Mine activity	Comments	Coal type
132	Zuun dalan	Dornogovi	46.060584	108.922770	Occurrence	NA	Map location from MRAM, 2002	Brown
133	Zahariin khudag	Dornogovi	46.386070	110.018951	Occurrence	NA	Map location from MRAM, 2002	Brown
134	Erdenetsogtiin gobi	Dornogovi	45.893492	110.581389	Occurrence	NA	Map location from MRAM, 2002	Brown
135	Erdenetsogt uul	Dornogovi	45.864167	111.544319	Occurrence	NA	Map location from MRAM, 2002	Brown
136	Sainshand	Dornogovi	44.872022	110.023991	Occurrence	NA	Map location from MRAM, 2002	Brown
137	Sainshand-1	Dornogovi	44.798270	110.154523	Occurrence	NA	Map location from MRAM, 2002	Brown
138	Khongor ulann khudag	Dornogovi	44.638353	109.954422	Occurrence	NA	Map location from MRAM, 2002	Brown
139	Khuree khashir khiid	Dornogovi	44.533939	110.385228	Occurrence	NA	Map location from MRAM, 2002	Brown
140	Ilgii Khiid	Dornogovi	43.595525	108.235478	Occurrence	NA	Map location from MRAM, 2002	Hard
141	Khailaastiin khudag	Dornogovi	43.536287	108.291738	Occurrence	NA	Map location from MRAM, 2002	Brown
142	Bayan ail	Dornogovi	43.686392	108.903843	Occurrence	NA	Map location from MRAM, 2002	Brown
143	Shar khuree	Dornogovi	43.149052	109.413269	Occurrence	NA	Map location from MRAM, 2002	Brown
144	Nuurst gol	Sukhbaatar	46.405408	111.519306	Occurrence	NA	Map location from MRAM, 2002	Brown
145	Khar nuur	Sukhbaatar	46.370484	111.672505	Occurrence	NA	Map location from MRAM, 2002	Brown
146	Khalzan ovoo	Sukhbaatar	46.216207	111.349864	Occurrence	NA	Map location from MRAM, 2002	Brown
147	Khoot	Sukhbaatar	45.722173	111.964862	Occurrence	NA	Map location from MRAM, 2002	Brown
148	Baishint	Sukhbaatar	45.763787	112.191486	Occurrence	NA	Map location from MRAM, 2002	Brown
149	Khaniin gol	Sukhbaatar	46.062647	115.588684	Occurrence	NA	Map location from MRAM, 2002	Brown
150	Uhert nuur	Dornod	49.077561	115.311247	Occurrence	NA	Map location from MRAM, 2002	Brown
151	Khureetiin nuur	Dornod	48.935627	114.129385	Occurrence	NA	Map location from MRAM, 2002	Brown
152	Emgenet	Dornod	48.844001	114.400692	Occurrence	NA	Map location from MRAM, 2002	Brown
153	Shine bulag	Dornod	48.725070	114.167495	Occurrence	NA	Map location from MRAM, 2002	Brown
154	Tosongiin ovoo	Dornod	48.224189	112.849886	Occurrence	NA	Map location from MRAM, 2002	Brown
155	Khoovor bulag	Dornod	48.175763	115.032439	Occurrence	NA	Map location from MRAM, 2002	Brown
156	Bumbain bulag	Dornod	47.827313	115.096278	Occurrence	NA	Map location from MRAM, 2002	Brown
157	Bayan us	Dornod	47.801474	115.376943	Occurrence	NA	Map location from MRAM, 2002	Brown
158	Urt tsagaan	Dornod	47.792675	115.591726	Occurrence	NA	Map location from MRAM, 2002	Brown
159	Bus ovoo	Khentii	47.160559	110.212216	Occurrence	NA	Map location from MRAM, 2002	Brown
160	Zuun shar ereg	Khentii	46.966371	110.724559	Occurrence	NA	Map location from MRAM, 2002	Brown
161	Nuurst khonhor	Tuv	47.287010	107.891812	Occurrence	NA	Map location from MRAM, 2002	Brown
162	Bayanjargalan	Tuv	47.041683	108.333453	Occurrence	NA	Map location from MRAM, 2002	Brown
163	Buyan	Selenge	49.360771	106.334575	Occurrence	NA	Map location from MRAM, 2002	Brown
164	Bosgot	Huvsgul	50.782545	99.646815	Occurrence	NA	Map location from MRAM, 2002	Hard
165	Baga nuur	Huvsgul	50.598181	101.966852	Occurrence	NA	Map location from MRAM, 2002	Brown
166	Nariin tsaram	Huvsgul	50.427437	101.528545	Occurrence	NA	Map location from MRAM, 2002	Brown
167	Ongon uul	Huvsgul	50.519100	101.822969	Occurrence	NA	Map location from MRAM, 2002	Brown
168	Dondol tolgoi	Huvsgul	50.452754	101.900732	Occurrence	NA	Map location from MRAM, 2002	Brown
169	Arbulag	Huvsgul	50.466875	102.060737	Occurrence	NA	Map location from MRAM, 2002	Brown
170	Bulgan tal	Huvsgul	50.089113	101.496505	Occurrence	NA	Map location from MRAM, 2002	Brown
171	Bauun iht	Huvsgul	49.455875	99.306229	Occurrence	NA	Map location from MRAM, 2002	Hard

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Coal province	Coal area	Coal basin	Group and (or) formation	Age of coal	Data sources	Original map numbers
132	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-80
133	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-88
134	Eastern Mongolian	NA	Sukhbaatar	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-87
135	Eastern Mongolian	NA	Sukhbaatar	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-97
136	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-90
137	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-91
138	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-85
139	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-93
140	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-65
141	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-82
142	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-81
143	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-84
144	Eastern Mongolian	NA	Sukhbaatar	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-95
145	Eastern Mongolian	NA	Sukhbaatar	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-94
146	Eastern Mongolian	NA	Sukhbaatar	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-96
147	Eastern Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-100
148	Eastern Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-99
149	Eastern Mongolian	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-108
150	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-110
151	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-101
152	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-102
153	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-103
154	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-98
155	Eastern Mongolian	NA	Choibalsan	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-104
156	Eastern Mongolian	NA	Tamsag	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-106
157	Eastern Mongolian	NA	Tamsag	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-107
158	Eastern Mongolian	NA	Tamsag	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-109
159	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-89
160	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-92
161	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-73
162	Eastern Mongolian	NA	Choir-Nyalga	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-76
163	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-72
164	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-50
165	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-58
166	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-55
167	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-56
168	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-59
169	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-59
170	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-60
171	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-51

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Feature name	Aimag (province)	Latitude (decimal degrees)	Longitude (decimal degrees)	Feature type	Mine activity	Comments	Coal type
172	Tosontsengel	Huvsgul	49.439691	100.887174	Occurrence	NA	Map location from MRAM, 2002	Hard
173	Unjuul	Dundgovi	46.653275	105.480835	Occurrence	NA	Map location from MRAM, 2002	Brown
175	Uilgan Armagiin	Huvsgul	50.516690	101.822926	Occurrence	NA	Map location from MRAM, 2002	Brown
176	Khamar khoovriin khudag	Dornogovi	44.638353	109.954422	Occurrence	NA	Map location from MRAM, 2002	Brown

Table 1. List of coal deposits and occurrences in Mongolia.--Continued
 [NA - not applicable; n.d. - no data; MRAM - Mineral Resources Authority of Mongolia]

Map ID number	Coal province	Coal area	Coal basin	Group and (or) formation	Age of coal	Data sources	Original map numbers
172	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	1-58
173	NA	NA	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-63
175	NA	Orkhon-Selenge	NA	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-57
176	Eastern Mongolian	NA	East Gobi	n.d	n.d	Mineral Resources Authority of Mongolia, 2002	2-86

