# MINUTES OF MEETINGS ON THE AFTERCARE PROGRAM

# FOR THE PROJECT OF THE INSTITUTE OF GEOLOGY AND MINERAL RESOURCES IN MONGOLIA

The Japanese Follow up Arrangements Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Yuhei Takahashi, visited Mongolia from June 17 to June 23, 2001, for the purpose of working out the details of the Aftercare Program for the project of the Institute of Geology and Mineral Resources in Mongolia (hereinafter referred to as "the Program").

During its stay in Mongolia, the Team exchanged views and had a series of discussions with the authorities concerned of the Government of Mongolia (hereinafter referred to as "the Mongolian Side") in respect of the desirable measures to be taken by both Governments for successful implementation of the Program.

As a result of the study and discussions, both sides agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Ulaanbaatar, June 22, 2001

Dr. Yuhei Takahashi

Leader,

Follow up Arrangements Team,

Japan International Cooperation Agency,

Japan.

Dr. Oidoviin Chuluun

Director,

Geological Survey,

Mineral Resources Authority,

Mongolia.

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Dr. Dashiin Bat-Erdene

Director,

Policy and Regulation Department for Geology and Mineral Resources of the Ministry of Industry and Trade,

Mongolia.

# THE ATTACHED DOCUMENT

### I. COOPERATION BETWEEN BOTH GOVERNMENTS

- 1. The Government of Japan and the Government of Mongolia cooperate in implementing the Program in order to strengthen the effect of the project of the Institute of Geology and Mineral Resources of Mongolia (hereinafter referred to as "the Project") through the Aftercare Program of technical cooperation, and thus contributing to the promotion of mineral resources development in Mongolia through the activities of the Geological Survey of the Mineral Resources Authority of Mongolia (hereinafter referred to as "GS").
- 2. The Program will be carried out under the framework of the Aftercare Program of technical cooperation that consists of the dispatch of Japanese experts and provision of equipment.
- 3. The Program will be implemented in accordance with the Tentative Schedule of Implementation as shown in Annex 1.
- 4. The Ministry of Industry and Trade (hereinafter referred to as "MIT") will bear overall responsibility for the implementation of the Program. The present organization chart of the MIT is shown in Annex 2-2.

The Mineral Resources Authority of Mongolia, MIT (hereinafter referred to as "MRAM") is the implementation agency. The present organization chart of the MRAM is shown in Annex 2-3.

The Program will be implemented at the GS.

The present organization chart of the GS is shown in Annex 2-4.

Address: Ulaanbaatar-211238, State building-5, Builder's square-13,

Mineral Resources Authority of Mongolia

Phone : 976-11-322940 Fax. : 976-11-322940

# II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

### 1. PROVISION OF EQUIPMENT

1-1 The Mongolian side requested the equipment, spare parts and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Program as listed in Annex 3-1.

The Team agreed to convey the request of the Mongolian side to the Japanese authorities concerned, stating that the actual provision will be subject to the budget appropriation of the Government of Japan.

Both sides agreed that the alphabetical order with number given to each item of the Equipment of the said Annex expresses its priority order. Moreover, it is understood by both

MIT

sides that, when a higher order item has a difficulty in procurement and the succeeding items do not, the lower order items will be selected as long as total amount of them does not surpass the budget appropriation.

- 1-2 The Team explained and the Mongolian side agreed that the costs and responsibility necessary for domestic transport, installation, calibration and maintenance of the Equipment should be borne by the Mongolian side. The present budget of the GS is shown in Annex 4.
- 1-3 Application form called Form A-4 for the Equipment as referred in the said Annex should be submitted to the Government of Japan by the Mongolian side immediately after Minutes of Meetings (hereinafter referred to as "the M/M") signed.
- 1-4 The existing machinery and equipment provided by the government of Japan are maintained in a good condition and are utilized at most.

### 2. DISPATCH OF JAPANESE EXPERTS

- 2-1 The Mongolian Side requested the dispatch of one (1) long-term expert and two (2) short-term experts. Both sides worked out the list of Japanese experts in the fields that are expected to encourage the Program as shown in Annex 5. The Team said that the possibility to dispatch Japanese experts in the mentioned fields would be investigated in Japan, taking into account availability of the said experts and the budget appropriation of the Government of Japan.
- 2-2 Application form called Form A-1 for the Japanese experts as referred in the said Annex should be submitted to the Government of Japan by the Mongolian side at least two (2) months prior to their scheduled arrivals in the Mongolia.

# III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF MONGOLIA

- 1. The Government of Mongolia will take necessary measures to ensure that the self-reliant operation of the GS will be sustained during and after the period of Japanese technical cooperation, through the full and active involvement in the Program, of all related authorities, beneficiary groups and institutions.
- 2. In accordance with the laws and regulations in force in Mongolia, the Government of Mongolia will take necessary measures to provide at its own expense, common tools, equipment, spare parts and any other materials necessary for the daily implementation of the Program other than those to be provided through JICA under the Article II.1.
- 3. In accordance with the laws and regulations in force in Mongolia, the Government of Mongolia will take necessary measures for tax exemption, customs clearance and storage of the Equipment mentioned in the Article II.1. upon their arrivals at the ports and/or airports of disembarkation.

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- 4. The Government of Mongolia will assign suitable qualified counterparts from the personnel shown in Annex 6, corresponding to each Japanese expert for the effective and successful transfer of technology under the Program.
- 5. The Government of Mongolia will make any other necessary arrangements for the successful implementation of the Program.

# IV. CLAIMS AGAINST JAPANESE EXPERTS

The Government of Mongolia undertakes to bear claims, if any arises, against the Japanese experts mentioned in the Article II.2. above engaged in the Program resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in Mongolia.

#### V. DURATION OF COOPERATION

The duration of the technical cooperation for the Program will start on March 9, 2002 and terminate at March 31, 2004.

# VI. ACHIEVEMENT OF THE PROJECT ACTIVITIES

The lists of activities and outputs of the GS in 1999-2001 are shown in Annex 7. The plan of the GS in 2002-2004 is shown in Annex 8.

On the basis of the plan in Annex 8, the dispatch of Japanese experts in the said fields is considered by both sides to contribute to enhance activities of the Program.

### VII. THE LIST OF PARTICIPANTS IN THE MEETINGS

The list of participants in the meetings is shown in Annex 9.

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# LIST OF ANNEXES

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ANNEX 2-1	Organization of the Government of Mongolia
ANNEX 2-2	Organization of the MIT
ANNEX 2-3	Organization chart of the MRAM
ANNEX 2-4	Organization chart of the GS
ANNEX 3-1	List of Equipment requested by the Mongolian side
ANNEX 3-2	List of Existing Equipment and Condition
ANNEX 4	Settlement Account & Budget of the GS
ANNEX 5	The Japanese Experts
ANNEX 6	List of Personnel in Geological Investigation Center (hereinafter referred to as
	"GIC") and Central Geological Laboratory (hereinafter referred to as "CGL")
ANNEX 7	Technical Activities of GIC and CGL
ANNEX 8	Activity Plan of GIC and CGL for the years 2002~2004
ANNEX 9	The list of participants in the discussions

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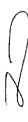


# ANNEX 1 TENTATIVE SCHEDULE OF IMPLEMENTATION

CALENDAR YEAR	20	01								OCCUPANIAN	MARKET AND	2	200	2		· · · · · · · · · · · · · · · · · · ·	Sec 1 Sec 2 Se		· · · · · · · · · · · · · · · · · · ·			***************************************	**************************************	2	003	3				New York Control of the Control of	***********	2	004	-
MONTH	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
DISPATCH OF THE STUDY TEAM	*																							2000 AL H A										
DISPATCH OF THE JAPANESE EXPERTS										*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PROVISION OF THE EQUIPMENT																																		
(1)Procurement in Mongolia or Japan					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Submission of A1 and A4 forms by Mongolian Side				A4 *		A1 *																												

# NOTE:

The dispatch of the Japanese experts and the provision of the Equipment are subject to the recruitment of the expert and the Japanese budgetary condition.

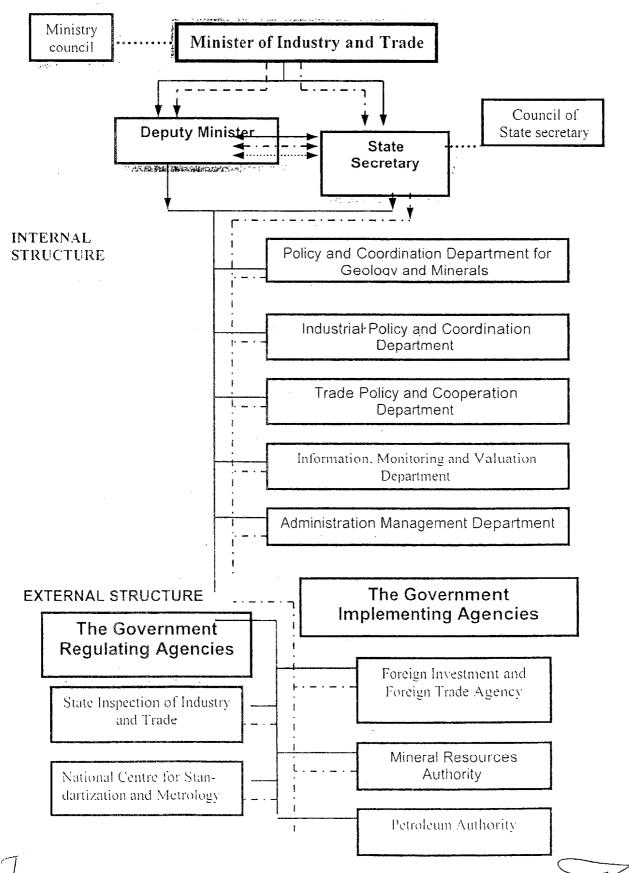


# ANNEX 2-1 THE ORGANIZATION OF MONGOLIAN GOVERNMENT

,	Ministry of foreign affairs
	Ministry of finance and economy
	Ministry of law and domestic affairs
	Ministry of environments
	Ministry of Military
	Ministry of culture, science and education
	Ministry of infrastructure
	Ministry of welfare and labor
	Ministry of industrial and trade
	Dep. of geology and mineral resources strategy
	Dep. of industrial strategy
	Dep. of trade strategy and cooperation
	Dep. of managements
	Dep.of information, test-control and evaluation
	Ministry of agriculture
	Ministry of health

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# ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF INDUSTRY AND TRADE



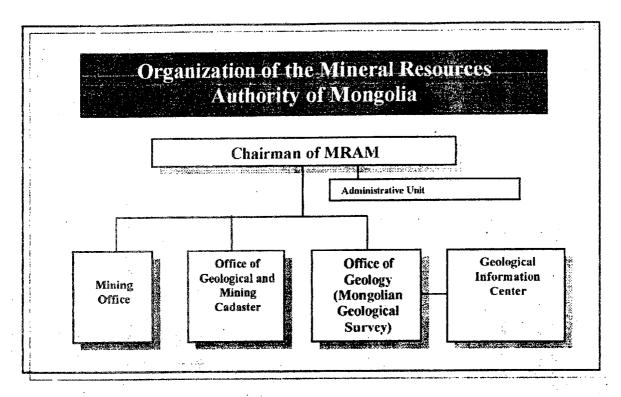


Figure 16

The primary responsibilities of MRAM are:

- To register and make decisions with the respect to applications for exploration and mining licenses.
- To provide governmental institutions in charge of geology and mining with information to enable those institutions to develop policies and programs with respect to geological and mineral resources.
- To do research on development of the mining sector and provide interested individuals and companies with pertinent information.
- To advise, assist, and provide information to individuals and business entities that seek to invest in Mongolia's minerals sector.
- To inform individuals and companies about Mongolia's mineral resource opportunities and investment climate.

The primary objectives of MRAM are:

- To encourage private investment in the minerals sector.
- To increase State Treasury earnings from the minerals sector.
- To increase export earnings and create jobs by encouraging investment in the minerals sector.

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# 7.2 The Office of Geology (Mongolian Geological Survey)

The Office of Geology is the department responsible for providing the government with the geological information necessary for the formation of policies and programs concerning geological research and development. The largest single division within the Office of Geology is the Geological Information Center, which is responsible for archiving all geological information, maps, and records concerning geological research in Mongolia (see section 7.5). The primary activities of the Office of Geology include:

- Administration of the Geological Information Center.
- Conducting regional geological and hydrogeological mapping of Mongolia.
- Conducting geophysical research.
- Conducting research and evaluation of mineral resource types, occurrences, and distribution on Mongolian Territory.
- Conducting geo-environmental research on natural and anthropogenic factors that may impact the social and economic development of Mongolia.

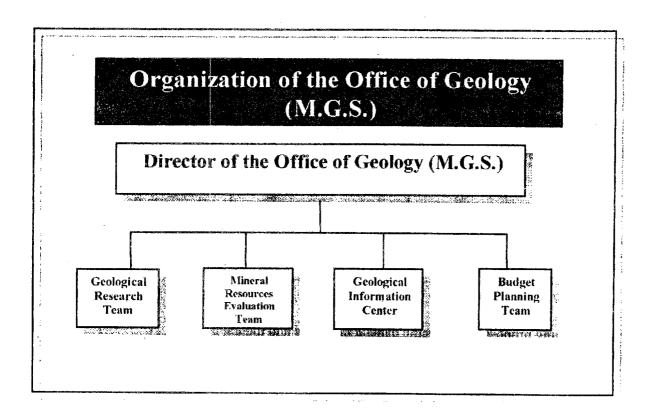


Figure 17

For more information please contact:

O. Chuluun - Director Office of Geology (Mongolian Geological Survey) Mineral Resources Authority of Mongolia State Property Building #5 - Room 310 Builders' Square 13

Ulaanbaatar 211238 Mongolia Tel.: (976)(11) 322-940 E-mail: chuluun@macignet.mn

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# Annex 3-1

# List of equipments reguested by Mongolian side. (Geological Investigation Center and Central Geological Laboratory)

No	Name of eguipments	Speification	Quant	Duration
1	Plotter HP 2500 or more version		1	
	(720x720 dpi)	V		
2	For AAS (AA-6501F):	200		
	Mercury vaporizer unit MVU -1A			
	attachment for AA-6501F	defination for mercury	1 set	
	Hollow cathod lamp Ba, Cr		1 pcs	
	Pyrolytic coating graphite tube /for		500	
	graphite furnace/		pcs	
	Parts for HVG-1		_	
	Absorption cell		2 pcs	
	Fluorinated rubber tube (Part		5 pcs	
Ì	No.206-60250-01)		each	
3	For SXF-1100 XRF spectrometer			
	Crystals set: (Ge, TAP, ADP, NaCl,		1 set	
	SX)			
	Anode for flow proportional counter		5 pcs	
	Window for flor proportional counter		5 pcs	
	NaJ-scintellator for scintellation		<b></b>	
	Counter		5 pcs	
	Lithium tetraboride (Li <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ) Cellulose (C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> )		15 kg 20 kg	
4	For Melting fumace		20 kg	
7	Haeting material Carbonization silicon			
	MHA-15S		36pcs	
	MHA-20S		36pcs	
5	ICP /ICPS-7500/:			
	Nebulizer 046-00092-02 (Conical)		5 pcs	
	Plasma torch 204-70272		1 pcs	
	Sample suction tube 211-46700		5 pcs	
6	The computer	digitaizing the geological	2	·
	e Contraction of a contraction retroit and contraction of the contract	maps (Pentium-III or more)	garage, a pagagara, ya nenda wa mata wa na	nonemper demonstrate and the control of the control
7	Objective magnifying power -2.5x and			
	Universal EPI-ILLUMINATOR for		1pcs	
	microscope OPTIPHOT2-POL		1 pcs	
8	For XRD /D/max-2200/;	occana con comenco com esta come come estado de esta estado de estado en estado de estado en estado de estado e	mana arang arang kan	and a second of the second of
	Monochromator /CAT. No.		1 set	
	2726E5/serial:SD 10785			
9	Color printer (720x720 dpi)	Color printer for maps	1	
10	Software (ERDAS, ARCVIEW,	医克洛德氏试验检检检试验检检试验检检验 医皮肤病 化对抗性原因 经自然的现在分词 医皮肤病 网络马克斯克萨斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯克斯	1	The second secon
	ARCINFO)		complex	was a second
11	The geochemical and petrochemical		1	
	calculation software	geochemical and	complex	
<u></u>		petrochemical composition	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	





Annex 3-2 The existing equipment and its condition of Central Geological Laboratory

(Donated by JICA)

1. 2. 3. 4. 5. 6.	Disk mill Pronto Press Pt crucible	1997 1997	2		T-100
3. 4. 5. 6.	Pt crucible	1997			
4. 5. 6.			1		ProntoPress-10
4. 5. 6.		1998	5		
5. 6.	Uninterruptable Power Supply	1998	I		HIGH-SFT
6.	Desktop Computer	1998	2		Compaq Prolinea 4/66
	Laser Printer	1998	2	defective	Kyocera LS-1550
	Transformer	1998	3		
8.	Sample Crusher	1995	3		OSK-107-C
9.	Disk mill	1995	3		OSK-147-B-2030
10.	Magnetic separator	1998	1		Model L-I
11.	Desktop Computer	1998	1		Macintosh LC-630
12.	Laser Printer	1998	1		Lasershot A-404 Gn
13.	Analytic Balances	1997	12		
14.	Technical Balances	1997	2		
15.	Microscope	1997	3		Nikon
16.	Binocular	1997	2		Nikon
17.	Saw for rock cutting	1997	1		Model AC-24
18.	Drying oven	1997	3		Sanyo MOY-212
19.	Microwave for sample digestion	1997	1		MLS-1200 mg
20.	Electromagnetic machine for filtration	1998	ı		AS-200
21.	Automatic grinding	1998	1		AMM-178 DWES
22.	Water bath	1998	1		FB-7
23.	Printer of balance	1997	7		AEM, AEX
24.	Distillation apparatus	1995	2		GS-200
25.	Atomic Absorption Spectrometer	1997	I		AA-6501F
26.	Compressor for AAS	1997	1		Air
27.	Hydride Generator for AAS	1997	1		HYG-1
28.	X-ray Fluorescence Spectrometer	1991	1		SXF-1100
29.	Glass bead sample preparation apparatus for XRF	1991	[		
30.	Sample pressing apparatus for XRF	1991	1		MP-35
31.	Inductively Coupled Plasma Spectrometer	1998	. 1	defective	ICPS-7500 S
32.	Hydride Generator for ICP	1998	1		HYG ICP
33.	Ultrasonic Aerosol Generator for ICP	1998	i		UAG-1
34.	Cooling water system for ICP	1998	1		
35.	Desk for balance	1997	5	<del>                                     </del>	
36.	High Temperature Furnace (small)	1997	1	<del> </del>	MHA-15S
37.	High Temperature Furnace (big)	1997	1		MHA-20S
38.	Muffle Furnace	1997	5		CWF-12/1391
39.	Centrifuge	1998	1	<del> </del>	KOKUSAN H-18
40.	Plate with magnetic mixer	1997	<del>                                     </del>	1	MIRAK
41.	Shaking apparatus	1998	<del>                                     </del>	<del> </del>	FINE FNX-55D
42.	Spectrophotometer	1998	1		AHA-700
43.	Ultrasonic bath	1998	;		Sharp UT-305
44.	Laser Printer	1998	1	<del> </del>	Laser Select -300

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45.	UPS	1998	1	Consip-1000 AF
46.	Photo Camera	1998	1	NIKON-WS1000
47.	Photo Developer	1998	I .	ENLABGER
48.	Film Dryer	1998	1	
49	Picture Dryer	1998	1	Fc AIR DRYER JRC-55
50.	Compressor	1998	1	
51.	Conductometer	1998	1	CM-14 P
52.	Glass shelves	1997	4	
53.	Desk	1998	5	
54.	Safe	1998	I.	EX-88ST
55	Fax machine	1998	l defective	e Canon-B400
.56.	Ventillator	1995	1	OS-180
57.	Laptop Computer	1996	4	Toshiba SS-475
58.	Laptop Computer	1998	l	Macintosh Power Boo- 180

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# **ANNEX 3-2**

# The existing equipments and condition of Geological Investigation Center (Donated by JICA)

In the frame of executed by JICA in the Geological investigation center, the equipments donated by JICA office of Japan. The list of existing equipments and their condition shows in the below table.

No	Equipments	Date	Number	Condition	Explanation
1	Land cruiser /31-64/	1994	1		
2	Land cruiser /31-24/	1994	1		
3	Land cruiser /31-23/	1995	1		
4	Land cruiser /31-25/	1995	1		
5	Truck /Russian/	1994	1		
6	Car /Russian/	1994	1		
7	AMKI radiometer	1994	4		
8	SHOWA kapameter	1994	1		
9	Transceiver FHT-2008	1994	6		
10	Microscope	1994	5		
11	Stereoscope	1994	3		
12	Petro-thin section machine	1994	2		
13	Slaw saw	1994	2		-
14	Slaw saw	1994	1		
15	Video camera	1994	1		
16	Video player	1994	1		
17	TV color	1994	2		
18	Preparation disk of thin	1994	2		
	section				
19	Personal computer	1994	4		
20	Personal computer	1994	1	Unable to use	Japanese font
21	Printer	1994	1	Unable to use	_*_
22	Copier machine NP1215	1994	2		
23	X-ray difractometer	1995	1	Shifted to Lab	
24	Inclusion measurement	1995	1		
	microscope				
25	Projector OHP CX-500	1995	1		
26	PIMA spectrometer	1995	1	Unable to use	Guide book
27	Transceiver HP	1995	1		
28	Notebook	1995	4		
29	Battery measurement	1995	1		
30	Centrifuge	1996	1		
31	Electric microscope	1997	1		
32	Camera for microscope	1997	1		
33	Fine coater JFC-1200	1997	11		
34	Transformer	1997	1		
35	Cooling water circulating	1997	1		
	system				
36	Scan jet A3, A4	1997	2		
37	Technical balance /200	1997	1	1	
	kg/		1		
38	Plotter Design Jet 350C	1998	1	Unable to use	Since 1998
			<del></del>		





40	Color printer DV1200C/PS		1	Unable to use	Since 1998
41	Film for Polaroid camera		1	Unable to use	
42	Canon copier CD330A		1		
43	GPS	1994	4		
44	Mineral light ML	1994	1		
45	Spare part for Microscope	1994	2		
46	Table V5X	1994	1		
47	Portable florine meter F- 1F	1994	1		
48	Chloride meter CL-1F	1994	1		
49	TV table	1994	1		
50	Cassete player	1994	1		
51	Printer KYOCERA	1994	8 .	Unable to use	
52	Transformer 100AF	1994	7		
53	Electronic distance meter	1994	2		
54	UFS 100AF	1994	7		
55	Spare part for projector	1995	1		
56	Spare part for centrifuge	1996	1		
57	Coater MS POUCH H- 3202	1996	1		
58	Master bind MUTOH	1996	1		
59	PH meter	1996	2		
60	Spare part for microscope	1997	1		
61	Spare part for scan jet	1997	2		

- 1. For the personal computer: The hardware and software are already become old. In case will be must to renew the hardware and software.
- 2. For the printers: The printers are unable to use, because the cartridge quality is changed, heavy cartridge are finished and now don't product this printers again. In this case will be must to renew all it.
- 3. For the color plotter: The plotter Design Jet 350C, since 1998 doesn't work and now will be must to renew or repaire. The hardware is become old version now.
- 4. For the Color printer DJ 1200 C/PS, now doesn't work and will be must to repaire.

# SETTLEMENT ACCOUNT AND BUDGET OF GEOLOGICAL SURVEY OF THE MINERAL RESOURCES AUTHORITY OF MONGOLIA

The Geological Survey of MRAM (hereinafter referred to as GS) is an executive organization for conducting of regional geological investigations, including mapping, general exploration of mineral resources, regional geophysical and geochemical survey, geoecological and hydrogeological investigations in accordance with the Minerals Law of Mongolia. Also, it provides interested persons with geological and mining related information, including non-confidential information provided by license holders and maintaining and up-dating information in the national geological fund and related resources.

The Geological Survey is in charge, annually, for conducting of 37-45 projects of regional geological mapping at scale 1:200,000 and 1:50,000 which are conducted by national organizations and companies. At the same time, GS executives of 8-10 international geological joint projects.

Total budget for above mentioned activities was exceeding one billion tugreg (MNT) annually. The budget for the year of 2001 is around 1,300,000,000 tugregs. According to Governmental program budgeting for geological surveys will be increased 2.5 times by 2004. Estimated budget of GS, Geological Investigation Center (GIC) and Central Geological Laboratory (CGL) is shown in the table as below.

Table 1. Estimated budget of GS, GIC and CGL (unit 1,000 ₹)

Fiscal year	2001	2002	2003	2004
Geological Survey of MRAM, total	1,300,000	1,600,000	2,000,000	2,500,000
GIC	390,000	400,000	600,000	750,000
CGL	130,000	160,000	200,000	250,000

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# ANNEX 5 THE JAPANESE EXPERTS

The requested experts are for the technical fields as follows (in the order of priority):

# long-term expert

1. Geology

# short-term expert

- 1. Analytical Equipment (ICP, XRF & others)
- 2. Geology (Field Investigation)

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#### ANNEX 6

List of Personnel in the "Geological Investigation Center (hereinafter GIC)" and "Central Geological Laboratory (hereinafter CGL)"

# (1) GIC

Total: 134 personnel

Director:	1
Chief Geologist:	1
Senior geologist:	1
Geologists:	56
Geochemists:	6
Geophysician	2
Paleontologist	1
Technologist of drilling:	1
Hydro geologist:	1
Auto engineer:	1
Thermal engineer:	1
Economist:	5
Technician geologist:	14
Drivers and others:	43

From them: PhD-1 and MSc-17

85% of total personnel are skilled by Russian language. 25% of total personnel are skilled by English, Japan and other languages.

Counterparts of Mongolian side (GIC)

Mr. Sh. Baasandorj (director)

Mr. B. Ochirkhuyag (chief geologist)

Mr. Turmagnai (senior geologist)

Mr. O.Gungaadorj (technician geologist)

Mrs. G.Oyunchimeg (Geologist)

Mrs. D.Byambasuren (Geologist)

Mrs. N.Ichinnorov (Paleontologist)

Mrs. Kh. Bolormaa (Petrographist)

Mrs. M.Arvinzun (Specialist of database)

# (2) CGL

Total: 101 personnel Director: 1 Vice Director: 1 Chief Engineer: 1 Chemists: 14 Physicists: 9 19 Geologists: Engineers: 5 2 Electric engineer: Economist: 5

Drivers and Others: 44

# Counterparts of Mongolian side (CGL)

Mr. B. Batjargal (director)

Mr. G. Bat-Erdene (vice director)

Ms. S. Tuul (chief engineer)

Mr. B. Erdenebayar (physicist)

Mr. A. Karivai (physicist)

Mr. Sh. Batkhuu (physicist)

Mrs. P. Tsetsgee (chemist)

Mrs. T. Tsetsegmaa (chemist)

Mrs. T. Enkhbat (chemist)

Mrs. Ch. Tserenkhuu (chemist)

Mrs. T. Altantsetseg (geochemist)

Mrs. Sainzaya (geologist)



#### ANNEX 7

### TECHNICAL ACTIVITIES OF GEOLOGICAL INVESTIGATION CENTER

### 1999-2000 year.

The GIC conducted 13 projects of domestic and foreign in that time.

- 1. By the state finance, our organization conducted 8 project of 1:50000 scale geological mapping and successfully reported the result some of them. The total fields are 5127.7 sq.km. In this period our organization conducted 300-400 million tugregs work.
- 2. The international cooperation project:
  - -German:

Survey of non-metal minerals in all territory of Mongolia. 1995-2002 year.

-South Korean:

The detailed survey on the polymetallic deposit of Bayan dun. 2000-2003 year.

### -Russian:

The 1:50000 scale geological mapping and prospecting in Bayankhongor area. 2000-2005 year.

-Czech:

The 1:200000 scale geological mapping and prospecting in TransAltai area. 1999-2002 year.

-Sweden:

The hydro geological drilling in Southern part of Mongolia. 1993-2001 year.

3. In this periods, from our organization belonging totally 50 personnel to domestic and foreign training course, seminar and international seminars

### The publications are:

- 1. The final report of 1:200000 scale mapping in Zuramtai area
- 2. The final report of 1:200000 scale mapping in Munhk-khaan and Tsats uul area3. The final report of 1:50000 scale mapping in Onch uul area
- 4. The final report of 1:50000 scale mapping in Buural uul area
- 5. The final report of 1:50000 scale mapping Bayanbulag area
- 6. The final report of 1:50000 scale mapping Bayan under area
- 7. The final report of 1:50000 scale mapping Khar tolgoi area

### Technical condition:

Car -13 -4 Jeep -17 Truck -2

Drilling machine

Tractor -1 and others

# Technical activities of Central Geological Laboratory in the years 1999-2001

The Central Geological Laboratory has performed analyses in 157000 samples of 24 objects of 12 state owned organizations and 70 private organizations by chemical, optical spectrographycal, x-ray fluorescence, mineralogical, petrographycal, technological and non ferrous analysis methods in 1999.

The Central Geological Laboratory has performed analyses in over 200000 samples of 28 objects of 13 state owned organizations and other foreign and home organizations by chemical, optical spectrographycal, x-ray fluorescence, mineralogical, petrographycal, technological and non ferrous analysis methods in 2000. Thus the performance is increased by 30% in 2000 than 1999.

The Central Geological Laboratory has accredited third times by the National Center of Standardization and Metrology.

The Central Geological Laboratory has awarded certification of as Customer Friendly Organization.

The Central Geological Laboratory has extended its foreign relationships.

The Central Geological Laboratory has improved the quality and reliability of analytical works due to application of modern analytical equipment in analytical and research works. Now the CGL is able to analyze app. 70 elements and components.

The Central Geological Laboratory has worked out several new analytical methods such the analytical method for the determination of Platinum group elements in mineral resources.

The Central Geological Laboratory has created several standard and reference materials and submitted its report.

#### Annex 8

# Activity plan of the Central Geological Laboratory in the period of 2002-2004

The scale of geological surveying work by 2004 that will be done by State budget will be increased 2.5 times of 2000. The work of Central Geological Laboratory will be increased amount of budget in 2000.

CGL is planning to improve the laboratory's management and structure, evaluate economical activities in short time and improve production benefits. The quality, accuracy and sensitivity of analytical work of Central Geological Laboratory will be improved.

The Central Geological Laboratory will train 6 analytical and mineralogical engineers for 7.5 months each in the BGR-Laboratories of Germany in order to gain complete the knowledge of analytical techniques and technologies such as ICP, XRF and XRD. Through this measure we will be able to improve the application of equipment significantly.

We will start the accreditation of quantitative analysis methods of Central Geological Laboratory at the international level.

We intend to perform quantitative analysis of mercury (Hg) that meets customers demand.

# Activity plan of the Geological Investigation Center

The Geological Investigation Center's (GIC) task of 2002-2004 is as follows:

- 1. To increase the Geological prospecting works by the state finance two times or to reach 500-600 million tugrugs in 2002-2004.
- 2. For this goal will be must 1.5 times increasing the fixed and circulation capital and will be must to increase the staffs of engineers and technical workers and to reach 90-95 persons.
- 3. To increase two times the project of foreign investments or to reach 10 projects.
- 4. To develop the regional and thematic geological investigation and planning to execute the special program of geophysical, geochemical, geoecological and drillings.
- 5. For the training is planning to belong the 20-30 persons to domestic and foreign training course in year.
- 6. Also modernising the organisation structure and financial achievements and the organisation decide the 20-30% of real expenses self.

### ANNEX 9

# THE LIST OF PARTICIPANTS IN THE DICUSSIONS

# A. The Mongolian side

(1) Ministry of Industry and Trade

Mr. Ts. Enkhbold

Deputy Director

Mr. D.Sengedorj

Staff

(2) Mineral Resources Authority of Mongolia

Dr. O.Chuluun

Director, Geological Survey

Mr. D.Batbold

Staff, geologist

(3) Geological Investigation Center

Mr. Sh.Baasandorj

Director

Mr. B.Ochirkhuyag

Chief geologist

(4) Central Geological Laboratory

Mr. B.Batjargal

Director

Ms. S.Tuul

Chief engineer

Mr. B.Erdenebayar

Engineer

# B. The Japanese side

Dr. Yuhei Takahashi

Geological Survey of Japan

Mr. Kunio Takagi

ЛСА

Mr. Youichi Sato

**JMEC** 

Mr. Akira Shimizu

ЛСА

