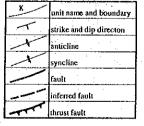
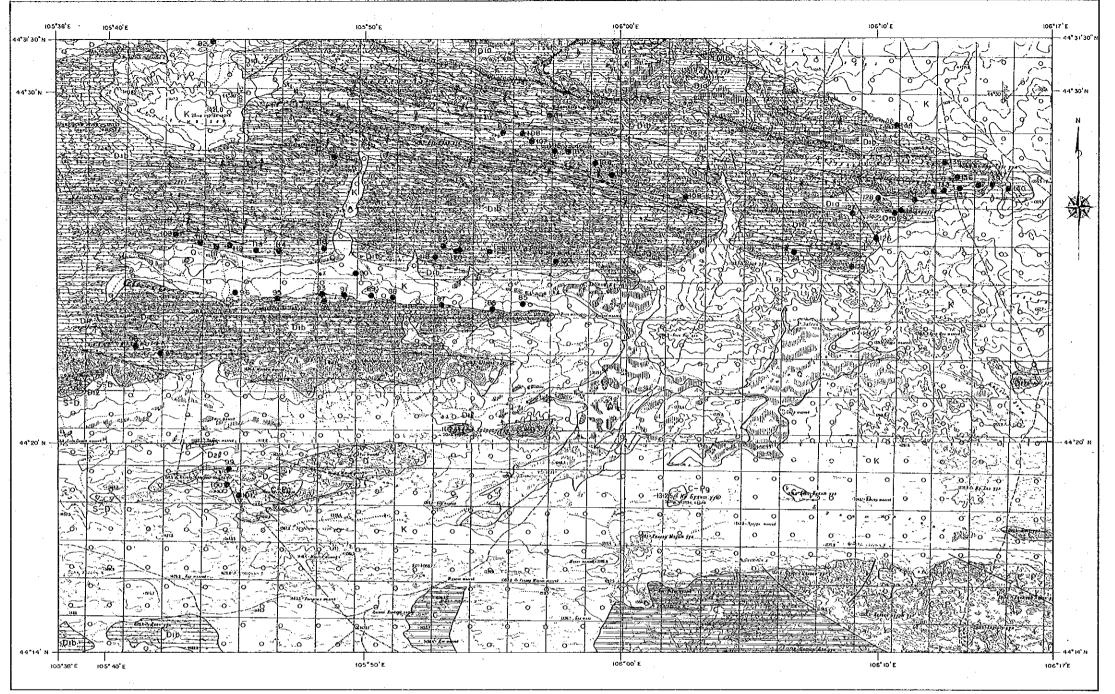


Geologic Age	Geologic Unit	Symbol	Rock Types
Quaternary	0	J 57	sand, gravel, loam
	Tv	Λ.Λ.Λ.	
Teniary	8.4 7 7	0 0 0 0	ofivine basalt
Cretaceous	K	000	sandstone, siltstone, conglomerate, limestone, coal
Jurassic-Cretaceous	J-K		conglomerate, siltstone, sandstone
	J-Kv	8 4 4 4	basalt, trachybasalt-trachyandesite, trachyte
Jerassic	J		conglomerate, silistone, sandstone
	Jv	V V V V	trachyle-dacite, trachyrhyolite
Permian	P	4 4 4	trachyte, andesite, trachyandesite, dacite, tuff
Carboniferous-Permian	C-P	V V V V	basalt, trachyandesite, andesite, tuff, conglomerate
Carboniferons	C		sandstone, siltstone, conglomerate, mudstone
Devonian-Carboniferous	D-C		tuffaceous conglomerate, sandstone, silistone
	D2f		limestone
7	DŽ		basalt, trachybasalt, andesite, dacite, rhyolite, tuff
Devonian	ĎI/		firmestone
	DIP		sandstone, shale, silistone
,	Dia		shale, siltstone, sandstone
Silurian-Devonian	S-D/		limestone
Onditali-Devolitali	S-D2		
		$\nabla \nabla \nabla$	dacité, rhyolite, andesite, toff, phyllite, shale
Silurian	S		sandstone, siltstone, shale, phyllite
Undifferentiated Paleozoic	PZ	, , , , , ,	sandstone, silistone, clayey shale
	R/	1777	recrystallized limestone
Ripheian	R2		quartzite, phyllite, siltstone, sandstone, amphibolite
	RI-2		shale, amphibolite, quartzite, phyllite, gneiss
	c	ANTINI LILIA	granodionite porphyry
	d		diorite, microdiorite, diorite porphyry
	Pq	+ + + +	granite, granosyenite
Intrusive Rocks	Pr	LLLL	rhyolite, quartz porphyry
	C-Po	,	granite, granodiorite, granosyenite, diorite
Ţ	D2g	XXXX	granite, granodiorite
	D2d	$X = \overline{X}$	diorite, gabbro
		$\frac{r_{r_1}r_{r_1}}{r_{r_2}}$	

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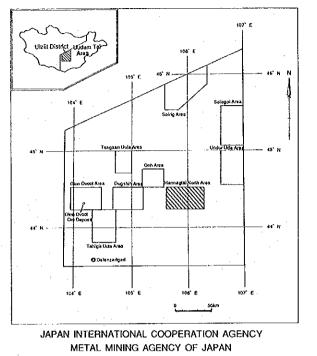


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• ore showing

unit name and boundar
strike and dip directon
anticline
syncline
fault
inferred fault
thrust fault

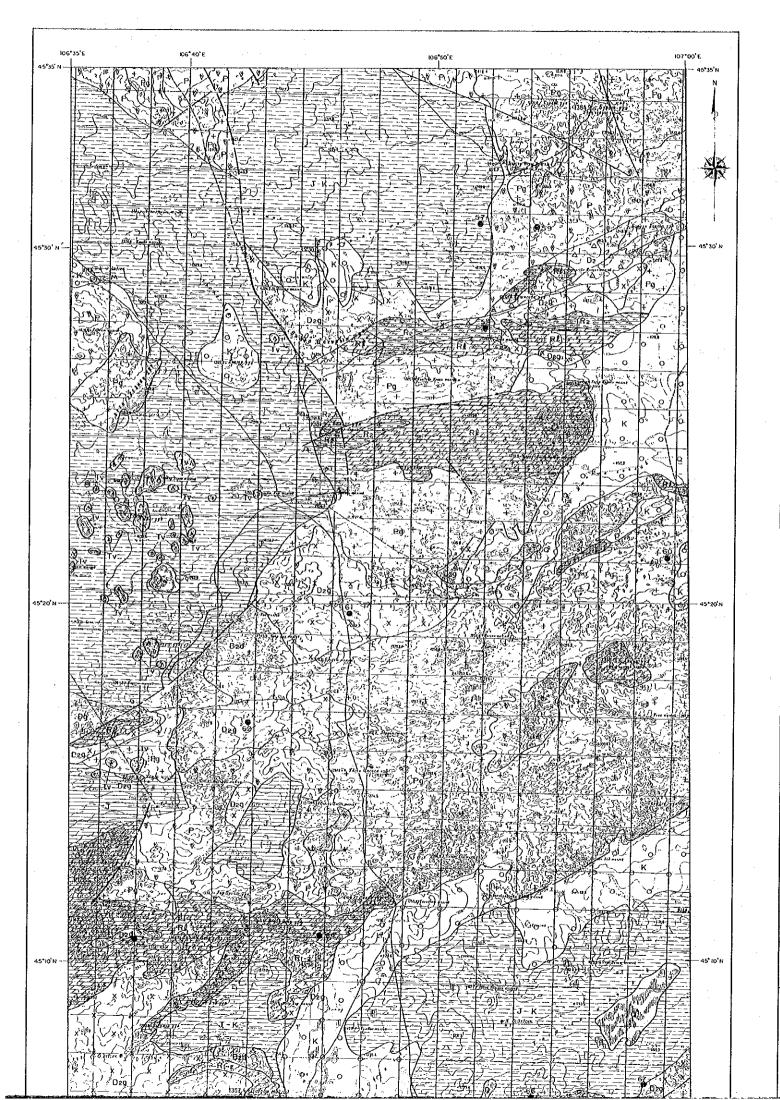
PL. II – 1 – 8 MINERAL EXPLORATION IN THE UUDAM TAL AREA, MONGOLIA (PHASE II) Geologic Map of the North Harmagtai Area

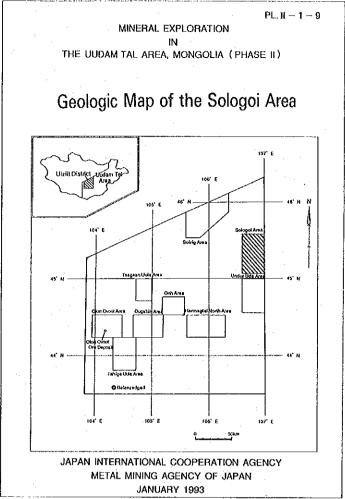


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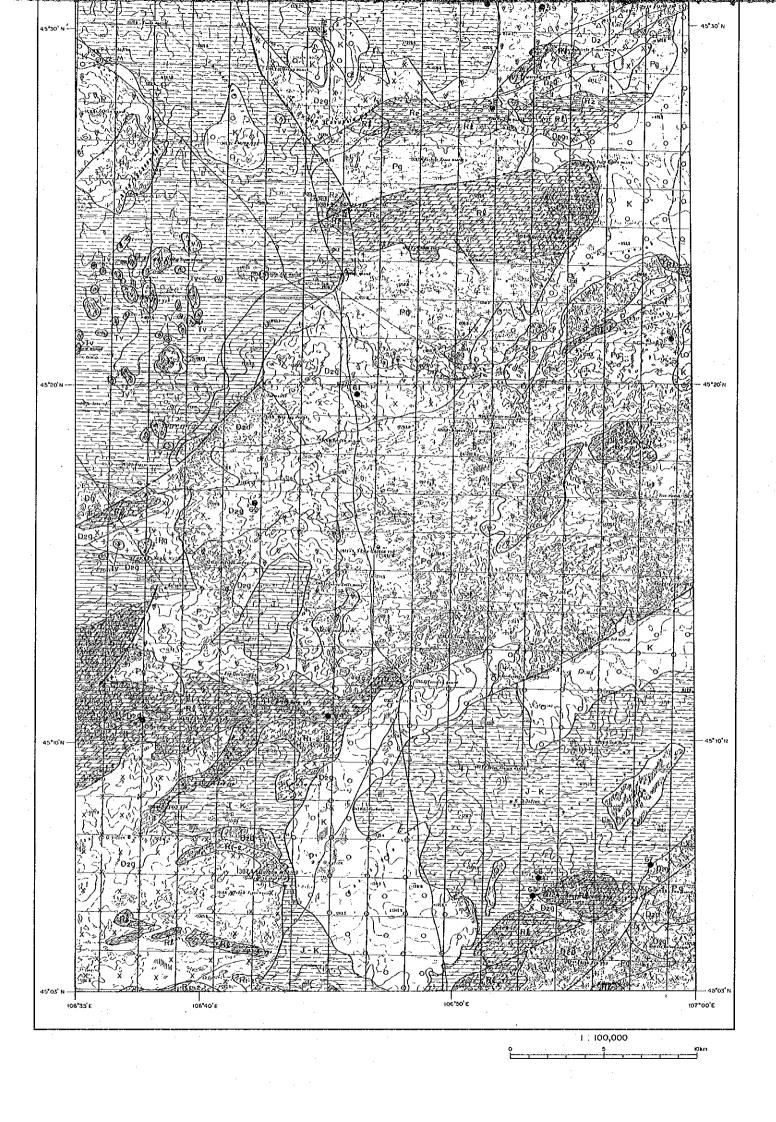
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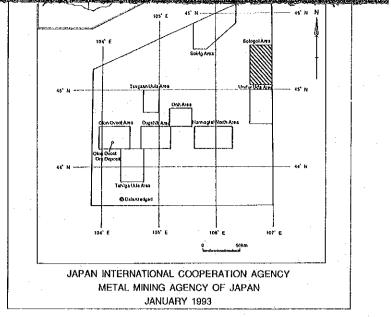
			-
Geologic Age	Geologic Unit	Symbol	Rock Types
Quaternary	Q		sand, gravel, loam
Testiary	Τv	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	olivine basalt
Cretaceous	K	0000	sandstone, siltstone, conglomerate, limestone, con
Jurassic-Cretaceous	J-K		conglomerate, siltstone, sandstone
	J-Kv	A A A A	basalt, trachybasalt-trachyandesite, trachyte
Jurassic	J.		conglomerate, siltstone, sandstone
	Jν	V V V	trachyte-dacite, trachymyolite
Permian	P	4 4 4 4 A A A A	trachyte, andesite, trachyandesite, dacite, tuff
Carboniferous-Permian	C-P	5	basalt, trachyandesite, andesite, tuff, conglomerate
Carboniferous	С		sandstone, siltstone, conglomerate, mudstone
Devonian-Carboniferous	D-C		tuffaceous conglomerate, sandstone, siltstone
	D2/		limestone
	D2		basalt, trachybasalt, andesite, dacite, rhyolite, tuff
Devonian	D17		limestone
	D1b		sandstone, shale, silistone
	Dla		shale, silistone, sandstone
Silurian-Devonian	S-Df		limestone
	S-D	Q Q Q Q	dacite, rhyolite, andesite, tuff, phyllite, shale
Silurian	S		sandstone, siltstone, shale, phyllite
Undifferentiated Paleozoic	PZ		sandstone, siltstone, clayey shale
	R/	1,1,1,1,1	recrystallized limestone
Ripheian	R2	~~~~	quartzite, phyllite, siltstone, sandstone, amphiboli
	RI-2	نه فرکه ورد. م م م م م درد	shale, amphibolite, quartzite, phyllite, gaeiss
	e	A STATE OF THE PARTY OF THE PAR	granodiorite porphysy
	<u></u>		diorite, microdiorite, diorite porphyry
	P¢	++++	granite, granosyenite
Intrusive Rocks	Pr	<u> </u>	thyolite, quartz porphyry
muosive reeks	C-Pg	10000	granite, granodiorite, granosyenite, diorite
	D2g	XXXX	grandie, granodiorite
	D2d	Ŕĸĸ	diorite, gabbro
	Dlr	£ L £ L	rhyolite, dacite





			<u> </u>
Geologic Age	Geologic Unit	Symbol	Rock Types
Quaternary	Q		sand, gravel, toam
Tèrtiary	Tv	^,^,^,^	ofivine basalt
Cretaceous	к	0000	sandstone, siltstone, conglomerate, limestone, coal
Jurassic-Cretaceous	J-K		conglomerate, silisione, sandstone
	J-Kv	A A A A	basalt, trachybasalt-trachyandesite, trachyte
Jorassic	j		conglomerate, siltstone, sandstone
72.2	Jv	V V V V	trachyte-dacite, trachyrhyolite
Permian	Ρ.	A 4 A A	trachyte, andesite, trachyandesite, dacite, toff
Carboniferous-Permian	C-P	5 6 6 6 6 6 6	basalt, trachyandesite, andesite, tuff, conglomerate
Carboniferous	c		sandstone, sillstone, conglomerate, mudstone
Devonian-Carboniferous	D-C		tuffaceous conglomerate, sandstone, siltsione
	D2/		limestone
	D2		basalt, trachybasalt, andesite, dacite, rhyolite, tuff
Devonian	D1f	竞选	limestone
	DIb .		sandstone, shale, siltstone
:	Dia		shale, siltstone, sandstone
Silurian-Devonian	S-D/		limestone
	\$-D	$\begin{array}{c c} \Delta & \Delta & \Delta \\ \Delta & \Delta & \Delta & \Delta \end{array}$	dacite, rhyolite, andesite, tuff, phyllite, shale
Silurian	S		sandstone, siltstone, shale, phyllite
Undifferentiated Paleozoic	PZ		sandstone, siltstone, clayey shale
: 1	R1		recrystallized limestone
Ripheian	R2		quartzite, phyllite, siltstone, sandstone, amphibolite
	R1-2	مه مدومه درمه مه مهمهمهم	shale, amphibolite, quantzite, phyllite, gneiss
	c	ACCULATION AND ADDRESS OF THE PARTY OF THE P	granodiorite porphyry
. [đ		diorite, microdiorite, diorite porphyry
:	Pø	++++	granite, granosyenite
Intrusive Rocks	Pr	<u> </u>	rhyolite, quartz porphyry
	C-Pg		granite, granodiorite, granosyenite, diorite
	D2g	XXXX	granite, granodiorite
	D2d		diorite, gabbro

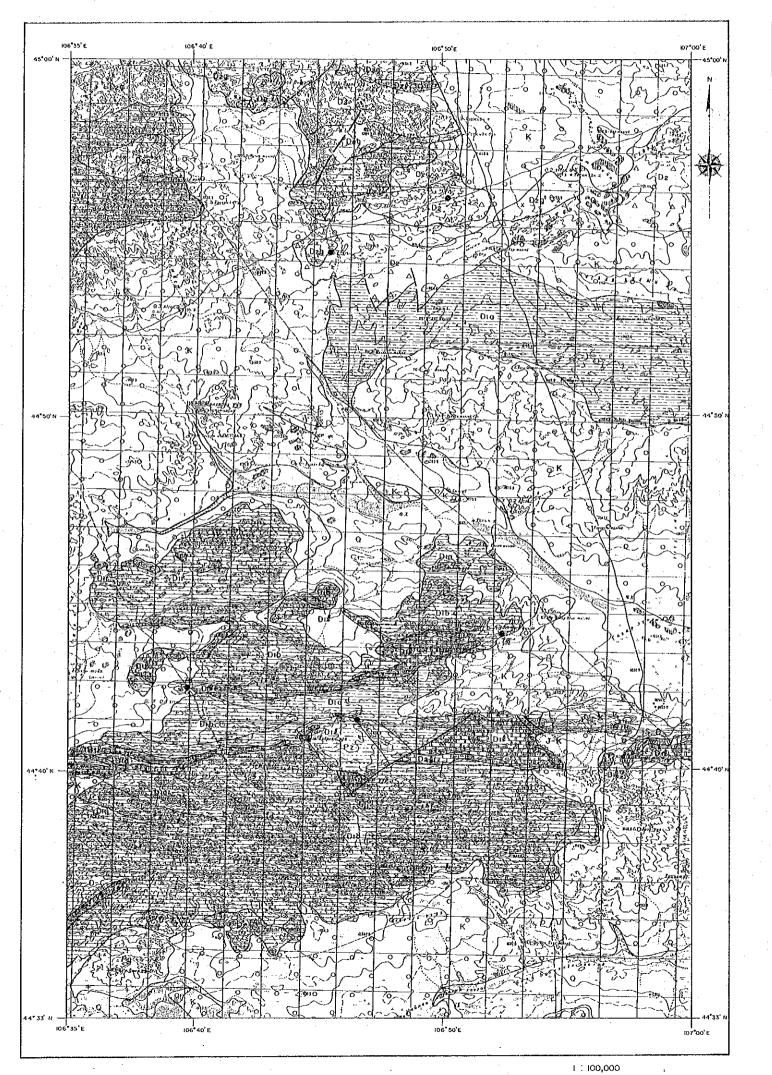


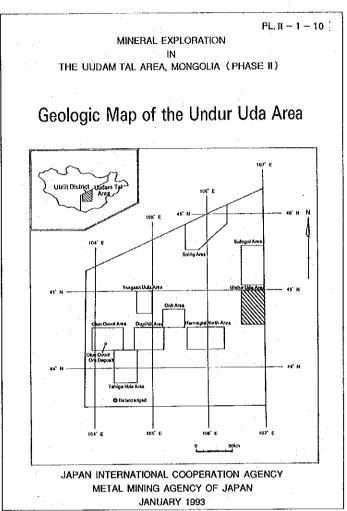


Geologic Age	Geologic Unit	Symbol	Flock Types
Quaternary	Q		sand, gravet, loam
Tertiary	Tν	V V V	olivine basalt
Cretaceous	К	0000	sandstone, siltstone, conglomerate, limestone, coal
Jurassic-Cretaceous	J-K		conglomerate, siltstone, sandstone
	J-Ky	A A A A	basalt, trachybasalt-trachyandesite, trachyte
Jurassic	J		conglomerate, silisione, sandstone
	Jv	V V V V	trachyte-dacite, trachythyolite
Permian.	P	A A A A	trachyte, andesite, trachyandesite, dacite, tuff
Carboniferous-Permian	C-P	1 1 1 1	basalt, trachyandesite, andesite, tuff, conglomerate
Carbonîferous	С		sandstone, siltstone, conglomerate, mudstone
Devonian-Carboniferous	D-C		tuffaceous conglomerate, sandstone, silistone
	D2f		limestone
	D2		basalt, trachybasalt, andesite, dacite, rhyofite, tuff
Devonian	DH		timestone
	Dib		sandstone, shale, siltstone
	Dla		shale, siltstone, sandstone
Silurian-Devonian	S-D/		limestone
	S-D		dacite, rhyolite, andesite, tuff, phyllite, shale
Silurian	S		sandstone, siltstone, shale, phyllite
Undifferentiated Paleozoic	PZ		sandstone, siltstone, clayey shale
	R/		recrystallized limestone
Ripheian	R2		quartzite, phyllite, siltstone, sandstone, amphibolite
·	R1-2	ئەرىرىم مەرەرىم	shale, amphibolite, quartzite, phyllite, gneiss
	e	ACCULATION AND ADDRESS OF THE PARTY OF THE P	granodiurite porphyry
ì	d .		diorite, microdiorite, diorite porphyty
	Po	++++	granite, granosyenite
Intrusive Rocks	Pr	E L L E	rhyolite, quartz porphyry
	C Pq		granite, granodiorite, granosyenite, diorite
	D2;	XXXX	granite, granodiorite
	D2d	$X \cup X \cup$	diorite, gabbro
	Ð1г	ггте	rhyolite, dacite

ore showing

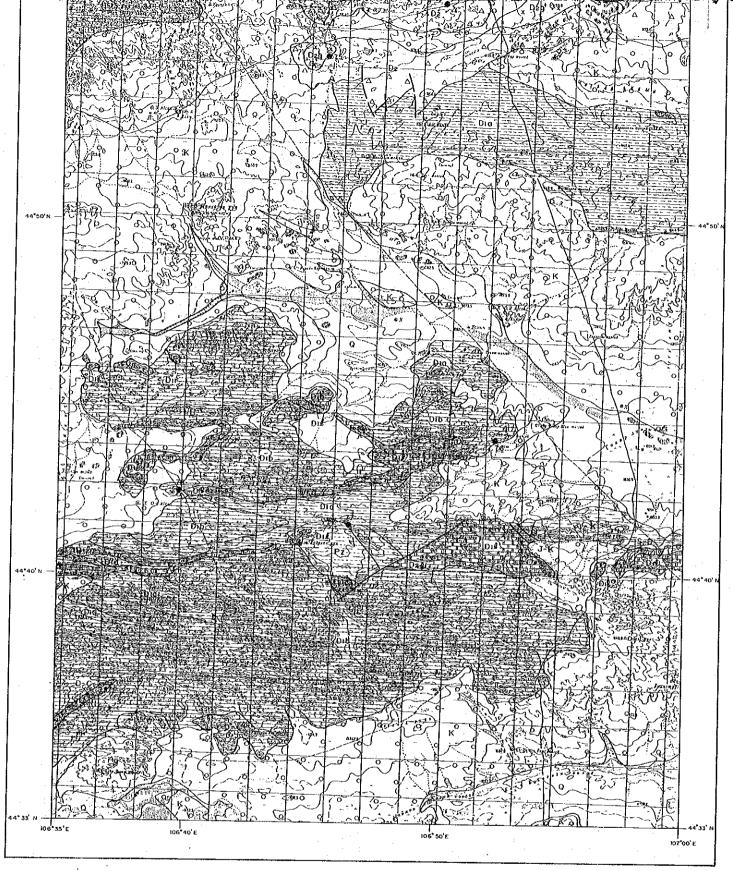
K	unit name and boundary
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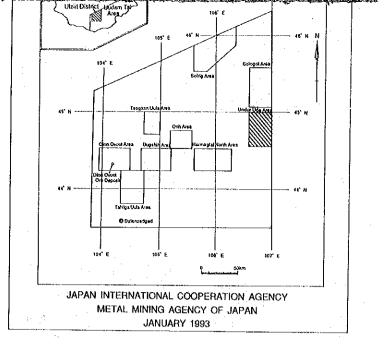




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Geologic Age	Geologic Unit	Symbol	Rock Types
Quaternary	Q		sand, gravel, loam
Tertiary	Tv	v v v v	olivine basalt
Cretaceous	К	0000	sandstone, siltstone, conglomerate, limestone, coal
Jurassic-Cretaceous	J-K		conglomerate, silistone, sandstone
[J-Kv	2 A A A	basalı, trachybasalı-trachyandesile, trachyte
Jurassic	1		conglomerate, sillstone, sandstone
	Jν	VVVV	trachyte-dacite, trachythyolite
Permian	P	4 4 4 A	trachyte, andesite, trachyandesite, dacite, tuff
Carboniferous-Permian	C-P	\$ \$ \$ \$	basalt, trachyandesite, andesite, tuff, conglomerate
Carboniferous	С		sandstone, siltstone, conglomerate, mudstone
Devonian-Carboniferous	D-C	======	tuffaceous conglomerate, sandstone, siltstone
	D2/		limestone
	D2		basalı, trachybasalt, andesite, dacite, rhyolite, tuff
Devonian	DI		limestone
	Dlb		sandstone, shale, siltstone
	Dla		shale, siltstone, sandstone
Silurian-Devonian	\$ DI		limestone
	S-D	$\triangle \land \Diamond $ $\triangle \land \Diamond \Diamond$	dacite, rhyolite, andesite, tuff, phyllite, shale
Silurian	s		sandstone, siltstone, shale, phytlite
Undifferentiated Paleozoic	PZ		sandstone, siltstone, clayey shale
	R.		recrystallized limestone
Riphcian	R2		quartzite, phyllite, siltstone, sandstone, amphibolite
'	R1-2	تر درد درد. در دردردر	shale, amphibolite, quartzite, phyllite, gneiss
	c	- TATALITATION	granodiorite porphyry
	d	**	diorite, microdiorite, diorite porphyry
	Pg	++++	granite, granosyenite
Intrusive Rocks	Pr		rhyolite, quartz porphyry
[C-Pg		granite, granodiorite, granosyenite, diorite
	D2ç	XXXX	granite, granodkyrite
	D2d	V V	diorite, gabbro



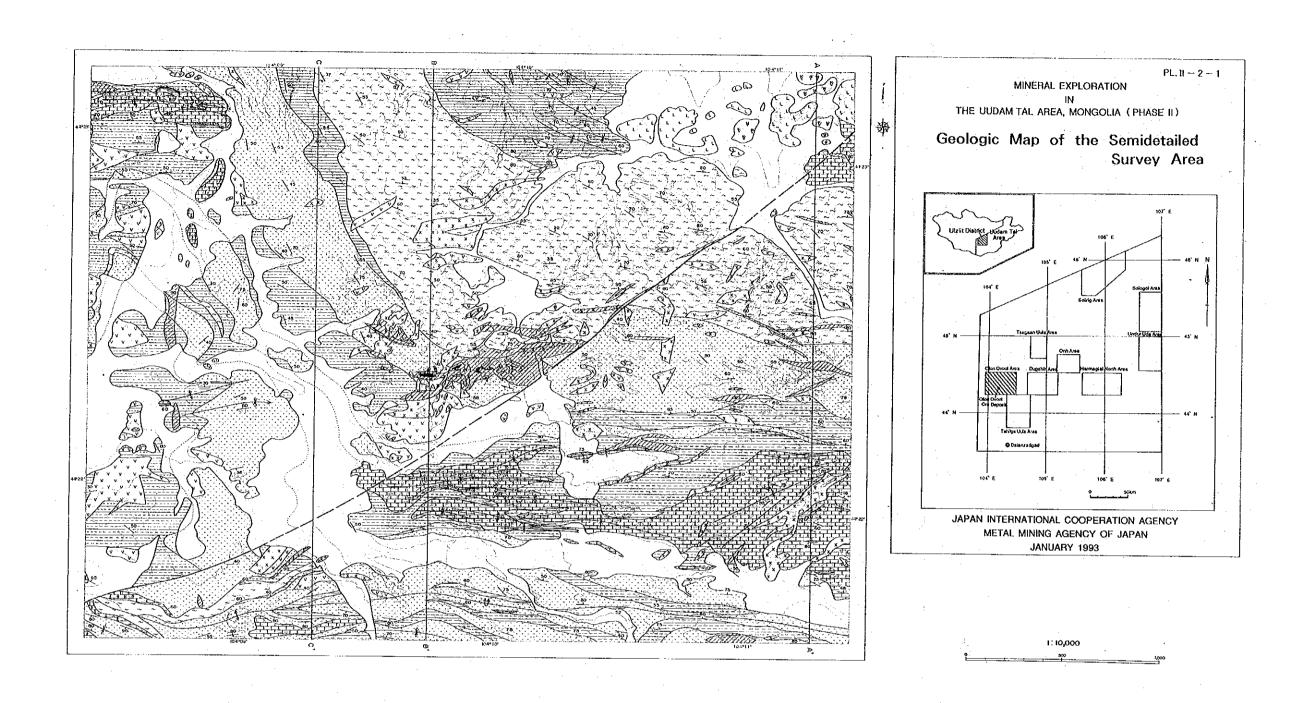


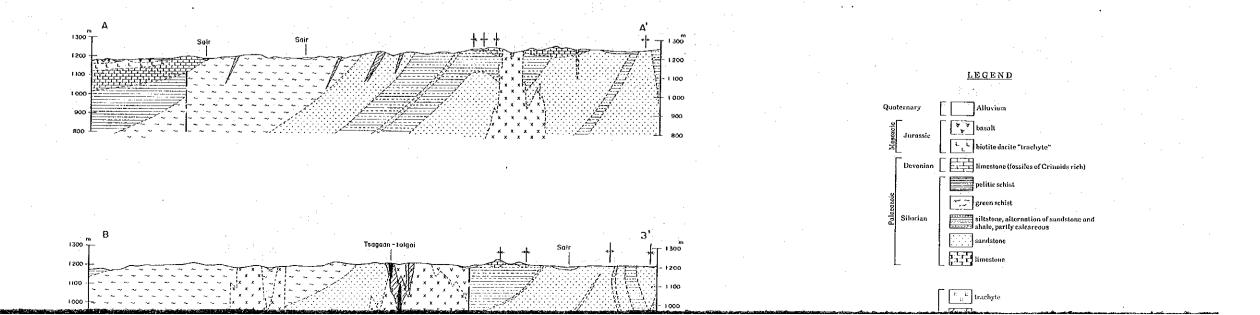
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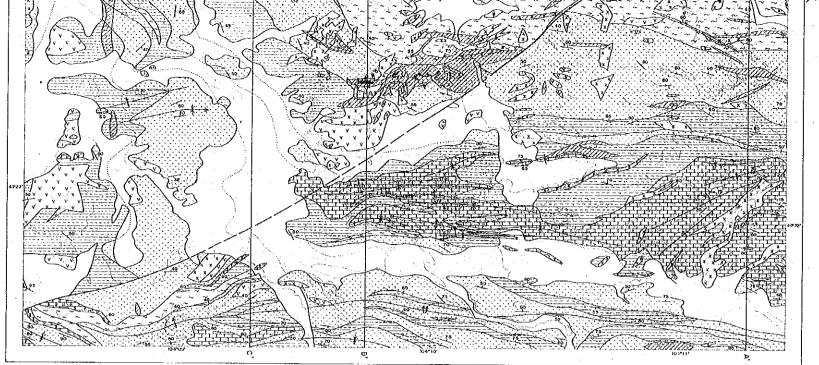
Quaternary Q sand, gravel, loam olivine basalt Cretaceous K O O O O O O O O O O O O O O O O O O	Carlantia	0-1-11-	T.	<u> </u>
Tertiary Tertiary Tertiary Try A A A A O Olivine basalt Cretaceous J.K. J.K. A A A A O O O O O O O O O O O O O O O	Geologic Age	Geologic Unit	Symbol	Rock Types
Certacous Certacous Certacous Certacous J. K Cooo Sandstone, siltstone, conglomerate, limestone, co.	Quaternary	Q	ļ	sand, gravel, loam
Jurassic Cretaceous J. K.	Tentiary	Tv Tv	ΛΛΛ	olivine basalt
Jurassic Jurass	Cretaceous	. К		sandstone, siltstone, conglomerate, limestone, coal
Jurassic J V V V V V V V V V V V V	Jurassic-Cretaceous	J-K		conglomerate, siltstone, sandstone
Pennian P Pennian P Pennian P Pennian P P P P P P P P P P P P P P P P P P P		J-Kv	A A A A	basalt, trachybasalt-trachyandesite, trachyte
Pennian P Pennian P Pennian P Pennian P P P P P P P P P P P P P P P P P P P	Jurassic	J		conglomerate, siltstone, sandstone
Perman Perman Perman Perman Carboniferous Carboniferous Carboniferous Carboniferous Devonian Carboniferous Devonian Carboniferous D2t D2t D2t D2t D2t D2t D2t D2t		Jv	V V V	trachyte-dacite, trachythyolite
Carboniferous C Sandstone, siltstone, conglomerate, mudstone Devonian Carboniferous D21 D22 \[\begin{array}{cccccccccccccccccccccccccccccccccccc	Pennian	. P	4 4 4	trachyte, andesite, trachyandesite, dacite, tuff
Devonian Carboniferous D2/ D2/ D2/ D2/ D2/ D2/ D2/ D2	Carboniferous-Permian	C-P	\$ 1 b b	basalt, trachyandesite, andesite, tuff, conglomerate
Devonian D1	Carboniferous	с -		sandstone, siltstone, conglomerate, mudstone
Devonian D1	Devonian-Carboniferous	D-C		tuffaccous conglomerate, sandstone, silistone
Devonian D1f. Silurian-Devonian Silurian-Devonian S.D Silurian Sandstone, siltstone, shale, phyllite sandstone, siltstone, clayey shale recrystallized limestone quartzite, phyllite, siltstone, sandstone, amphibolite, quartzite, phyllite, gneiss granodiorite porphyry diorite, microdiorite, diorite porphyry granite, granodiorite, granosyenite, diorite D24 X X X X X granite, granodiorite, granosyenite, diorite granite, granodiorite, granodiorite diorite, gabbto		D2!		limestone
D1b sandstone, shale, siltstone Silurian-Devonian S-D/ limestone S-D VVV dacite, rhyolite, andesite, tuff, phyllite, shale Silurian S sandstone, sandstone Undifferentiated Paleozoke P2 sandstone, siltstone, shale, phyllite Replician R2 quartzite, phyllite, siltstone, sandstone, amphibolite, phyllite, siltstone, sandstone, amphibolite, phyllite, siltstone, sandstone, amphibolite, andesite, tuff, phyllite, shale Replician R2 quartzite, phyllite, siltstone, sandstone, amphibolite, and store, sandstone, sandstone, sandstone, amphibolite, and store, sandstone, sandstone, amphibolite, and store, sandstone, sandstone, amphibolite, shale, amphibolite, quartzite, phyllite, gnesis grandiorite, quartzite, phyllite, gnesis grandiorite, granosyenite, diorite grantie, grandoirite, grandoir	:	D2		basalt, trachybasalt, andesite, dacite, rhyolite, tuff
Silurian-Devonian S-D/	Devonian	D17 .		limestone
Silurian Devonian S-D S-D Silurian S-D Sandstone, siltstone, shale, phyllite sandstone, siltstone, clayey shale recrystallized limestone quartzite, phyllite, siltstone, sandstone, amphibolite, quartzite, phyllite, gneiss recrystallized limestone quartzite, phyllite, siltstone, sandstone, amphibolite, quartzite, phyllite, gneiss granodiorite porphyry diorite, microdiorite, diorite porphyry G-Pq S-D S-D Sandstone, siltstone, clayey shale recrystallized limestone quartzite, phyllite, gneiss granodiorite porphyry diorite, microdiorite, diorite porphyry granite, granosyenite thyolic, quartz porphyry granite, granodiorite, granosyenite, diorite pranite, granodiorite, granosyenite, diorite granite, granodiorite, granodiorite, granosyenite, diorite		Dib		sandstone, shale, silistone
S.D		Dla		shale, siltstone, sandstone
Silurian S sandstone, siltstone, shale, phyllite sandstone, siltstone, clayey shale Rt Rt Rt Rt Rt Rt Rt Rt Rt R	Silurian-Devonian	S-D/		limestone
Undifferentiated Paleozoke Rf Ripheian R2 quartzite, phyllite, siltstone, sandstone, amphibolite quartzite, phyllite, gneiss granodiorite porphyry d granite, granosyenite, diorite porphyry The property of the propert		S-D	$\begin{array}{c} A & A & A \\ A & A & A & A \end{array}$	dacite, rhyolite, andesite, tuff, phyllite, shale
Ripheian R2 quartzite, phyllite, siltstone, sandstone, amphibolite R1-2 e quartzite, phyllite, siltstone, sandstone, amphibolite shale, amphibolite, quartzite, phyllite, gneiss granodiorite porphyry diorite, microdiorite, diorite porphyry P\$ The first state of the present of the porphyry C-P\$ The first state of the present of the porphyry granite, granosyenite thyolite, quartz porphyry granite, granodiorite, granosyenite, diorite D24 X X X X granite, granodiorite D24 Cdiorite, gabboo	Silurian	5		sandstone, siltstone, shale, phyllite
Ripheian R2 quartzite, phyllite, siltstone, sandstone, amphibolite R1-2 e granodiorite porphyry diorite, microdiorite, diorite porphyry pe t t t t t t t t t t t t t t t t t	Undifferentiated Paleozoic	P2		sandstone, siltstone, clayey shale
R1-2 shale, amphibolite, quartzite, phyllite, gneiss granodiorite porphyry d diorite, microdiorite, diorite porphyry pq + + + + granite, granosyenite Intrusive Rocks Pr	į	Rf :		recrystallized limestone
e granodiorite porphyry diorite, microdiorite, diorite porphyry Port + + + + granite, granosyenite Pr	Ripheian	R2		quartzite, phyllite, silestone, sandstone, amphibolite
granodiorite porphyry d work diorite, microdiorite, diorite porphyry ps + + + + + granite, granosyenite t t t t t hybrite, quartz porphyry C-Pq granite, granodiorite, granosyenite, diorite D2q		R1-2	مرمدمرم مرم مرمرمرم	
Intrusive Rocks Pr		e		
Intrusive Rocks Pr LLL Intrusive Rocks Pr LLL Intrusive Rocks C-Pq X X X X granite, granosyenite, diorite granite, granodiorite, granosyenite, diorite granite, granodiorite, granosyenite, diorite granite, granodiorite, granosyenite, diorite diorite, gabbto		d		liorite, microdiorite, diorite porphyry
Thrusive Rocks Pr L L Inhyolite, quartz porphyry C-Pq T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T-T	. [Pş	++++ +++	granite, granosyenite
D2q XXXX granite, granodiorite D2d \(\sqrt{\sq}}}}}}}}}}}} \end{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	Intrusive Rocks	Pr	i i i i	hyolite, quartz porphyry
D2d X X X granite, granodiorite	Ĺ	C-Po		ranite, granodiorite, granosyenite, diorite
y y yaranto (garatto		D29	XXXX	granite, granodiorite
Dlr frrr rhyolite, dacite			$\times \times \times \times$	liorile, gabbro
		Dlr	ררנון	hyolite, dacite

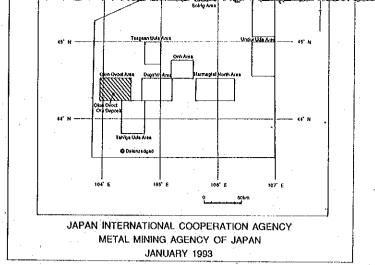
ore showing

K	unit name and boundary
	strike and dip directon
X	anticline
	syncline
	fault
	inferred fault
	thrust fault

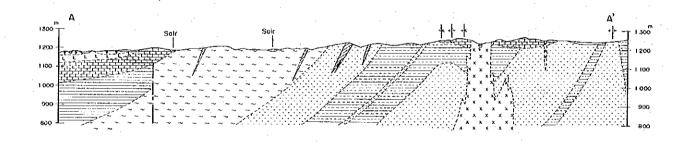


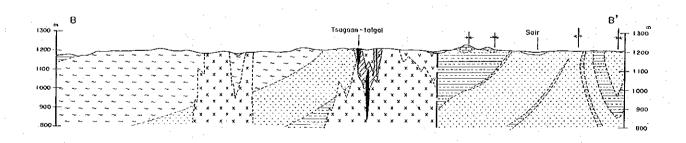


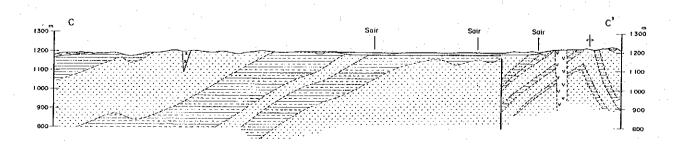




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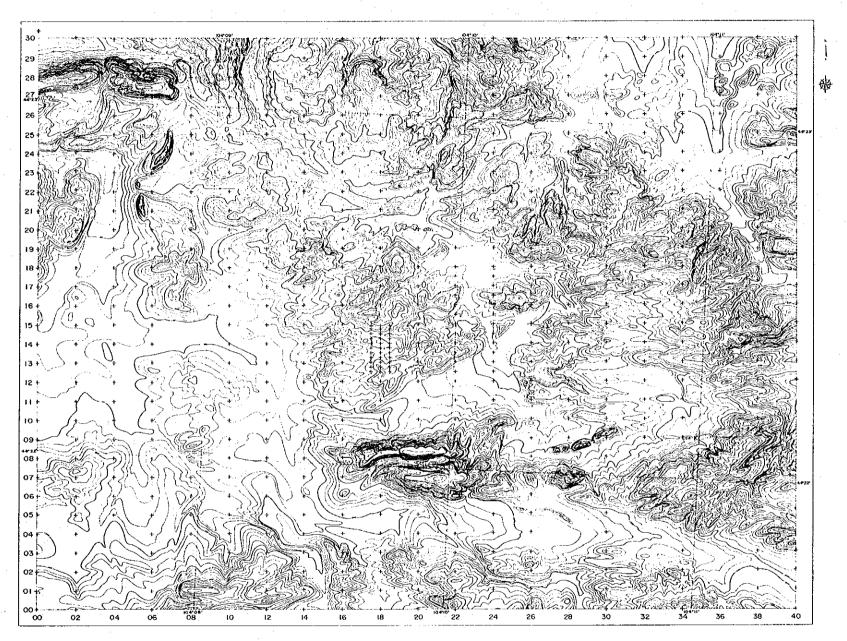


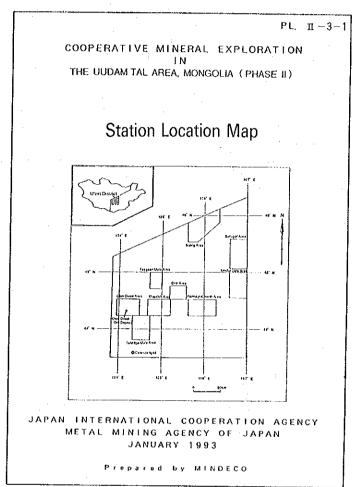


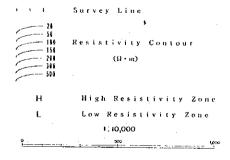
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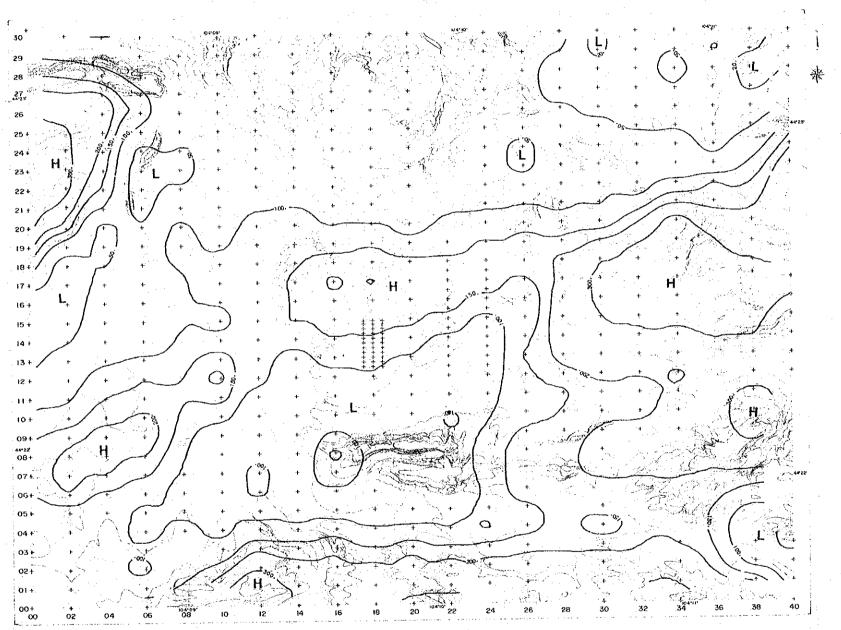
Quaternary	Atluvium
Jurassic	basalt
≱L :	biotite dacite "trachyte"
Devonian	limestone (fossiles of Crinoids rich)
	pelitic schist
ozzonala Siturian	green schist
Siturian	siltstone, alternation of sandstone and
	sandstone
	limestone
	trachyte
Intrusive rocks	basalt, dolerite
introsive tocks	basaltic andesite, andesite
	x x diorite (micro~fine grained)
Mineralization	quariz vein
	alteration zone
	geologic boundary
	inferred geologic boundary
	dip and strike of bed

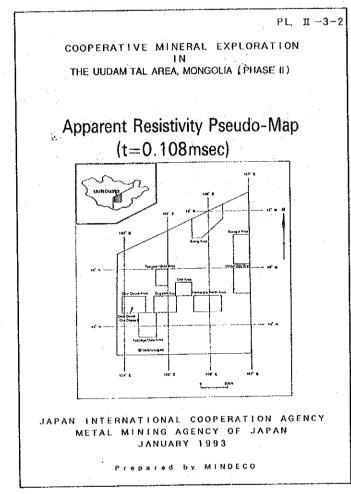
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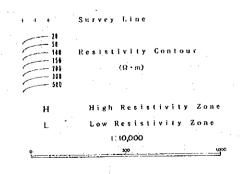


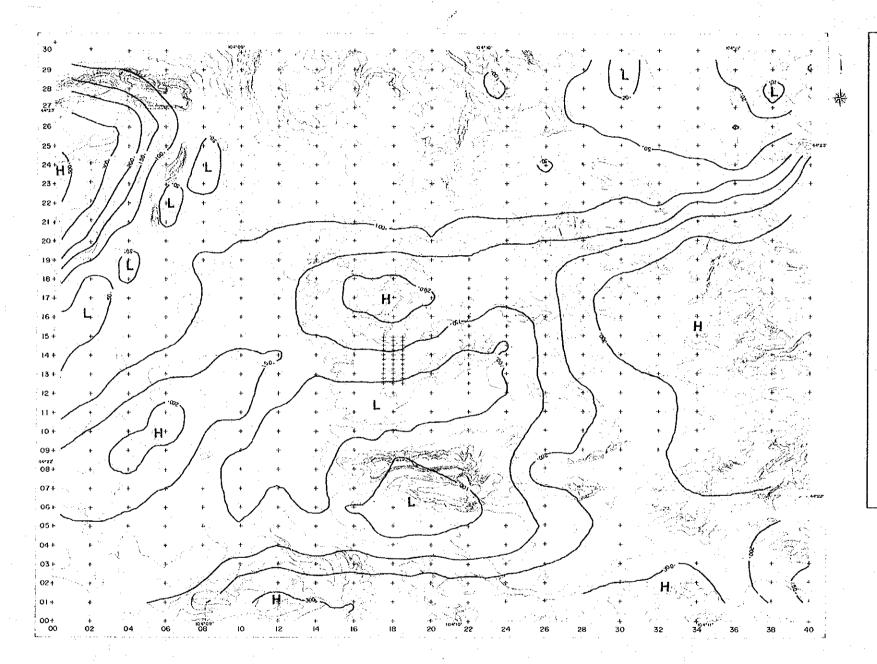


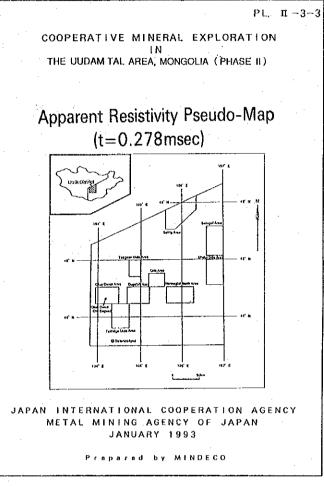


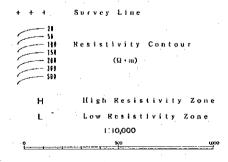


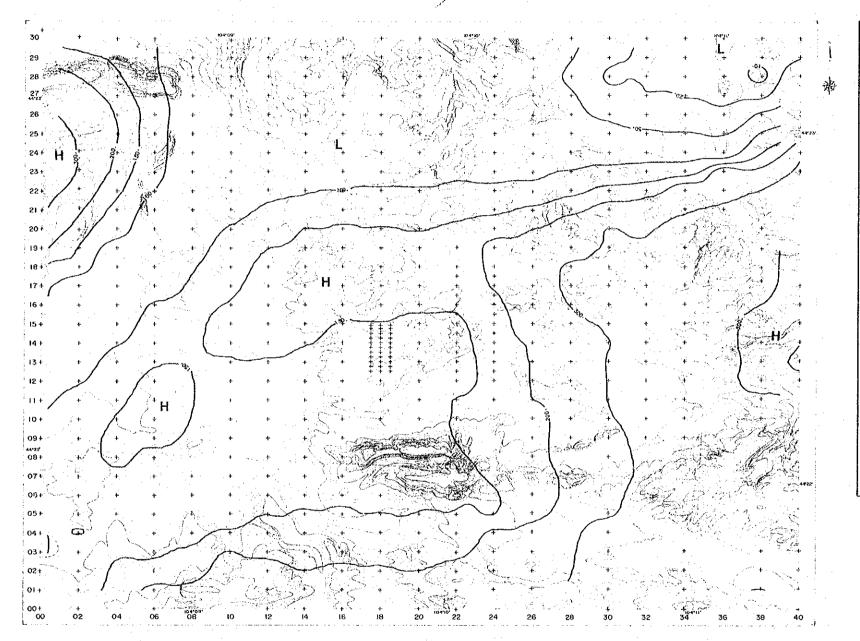


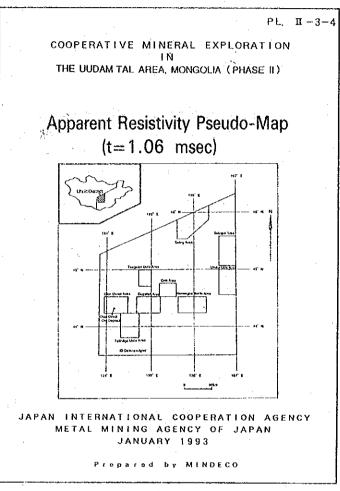


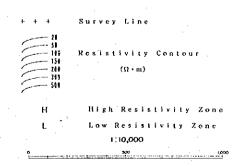


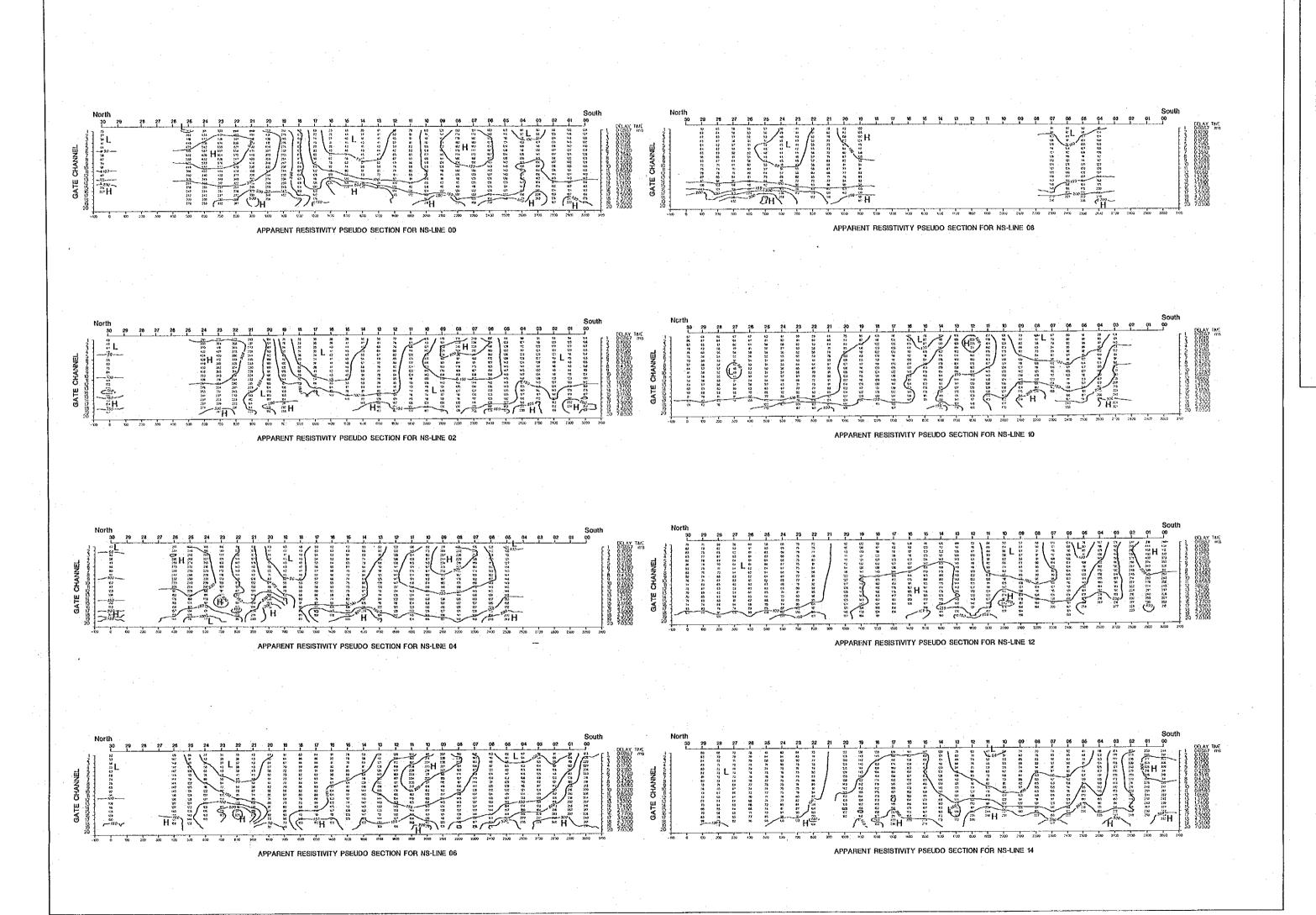












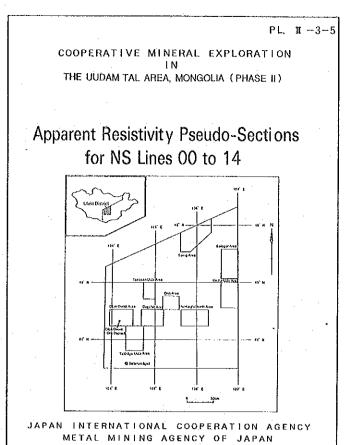
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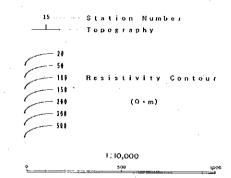


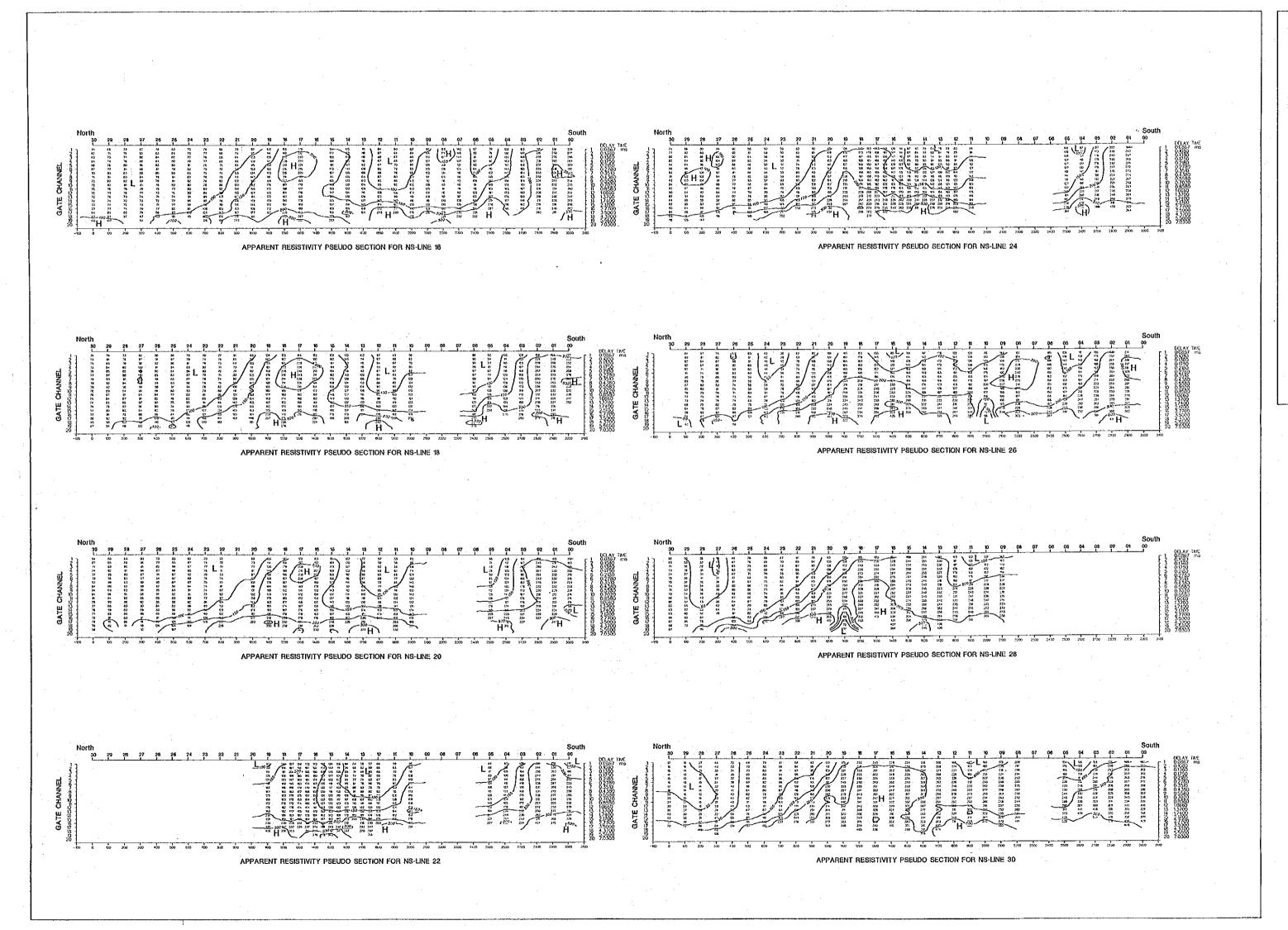
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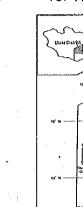
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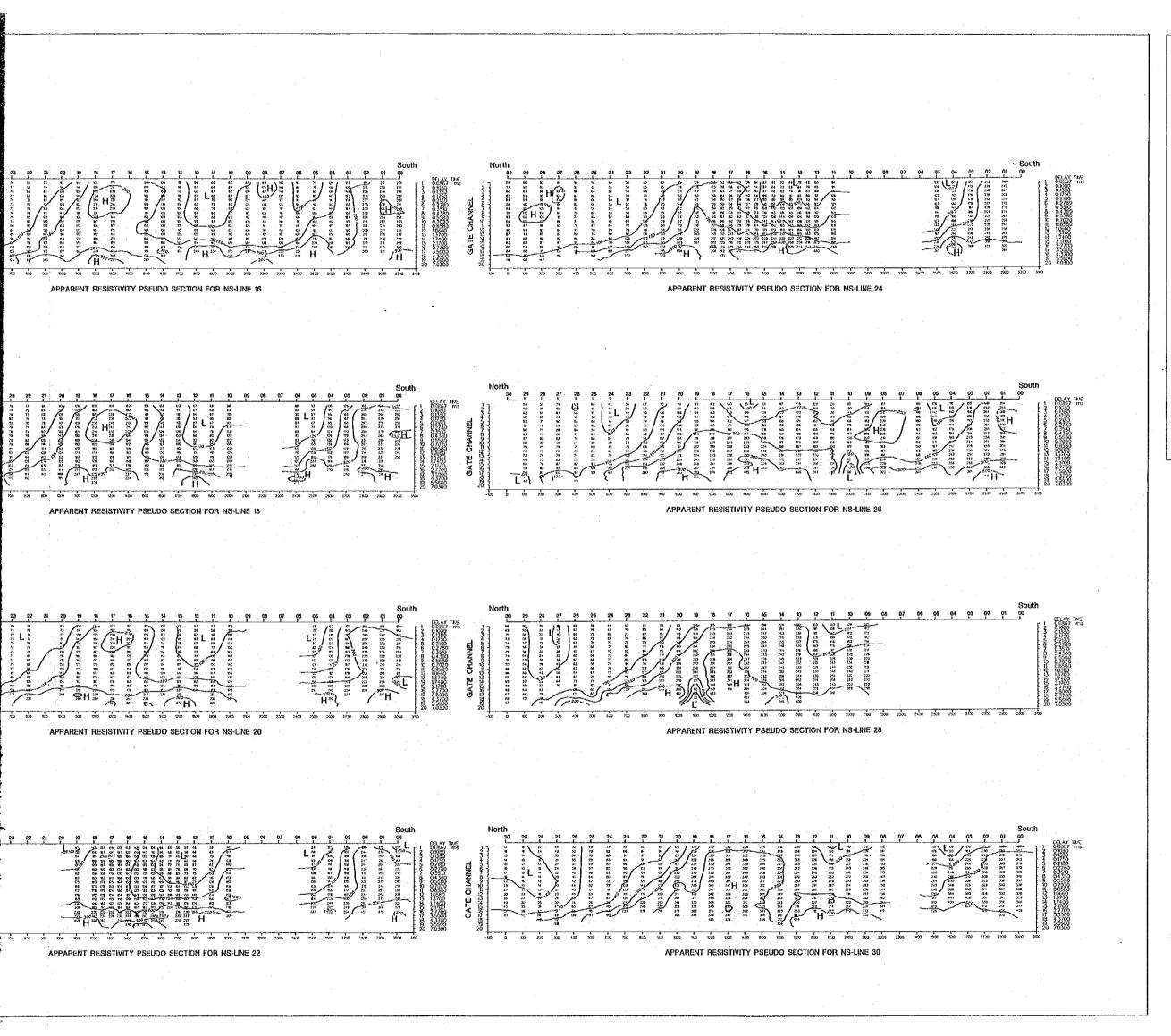
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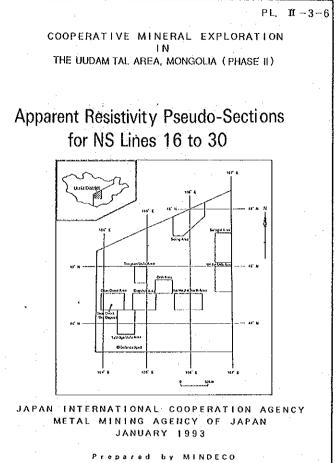
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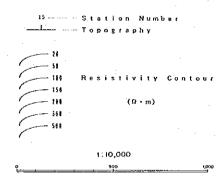
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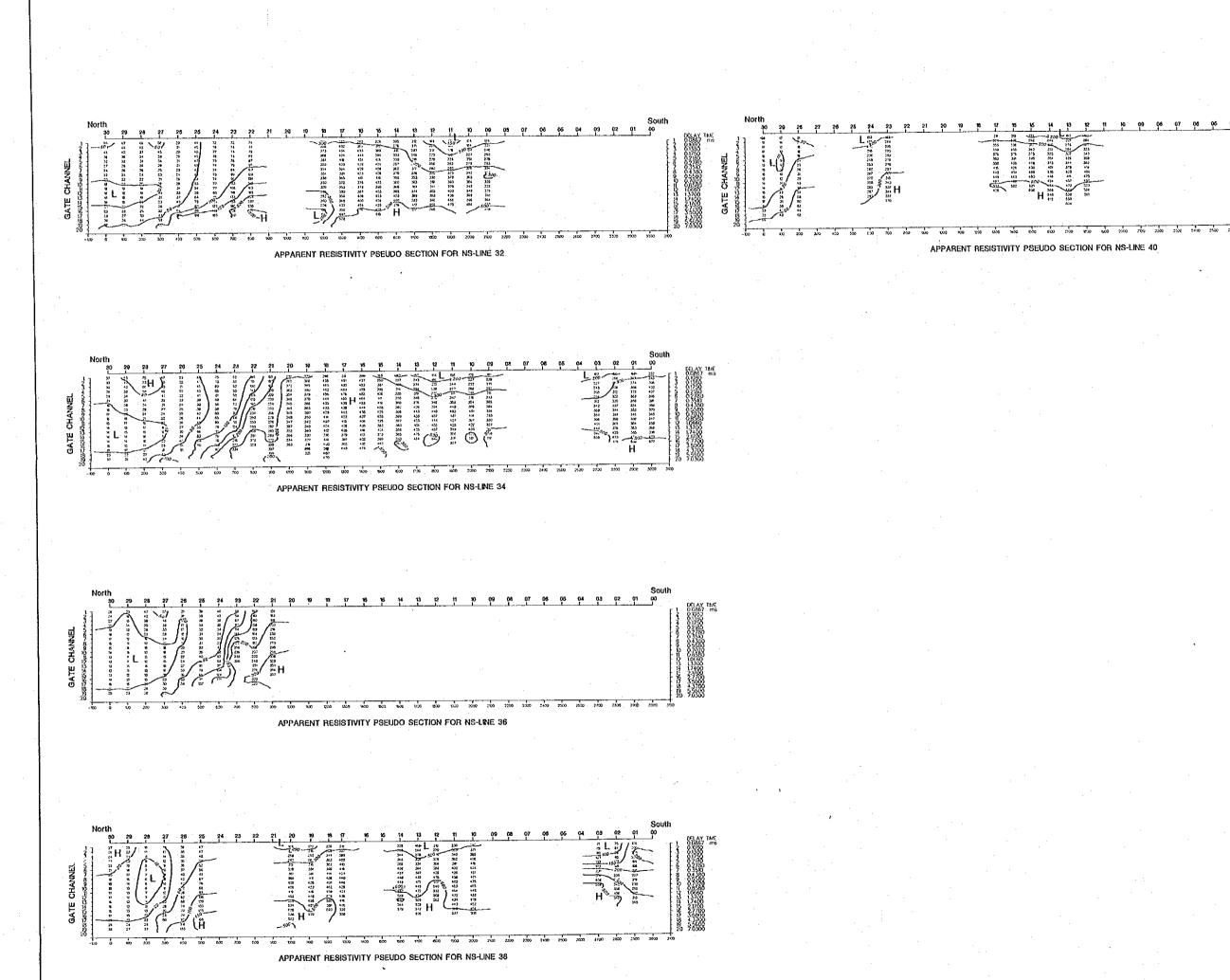
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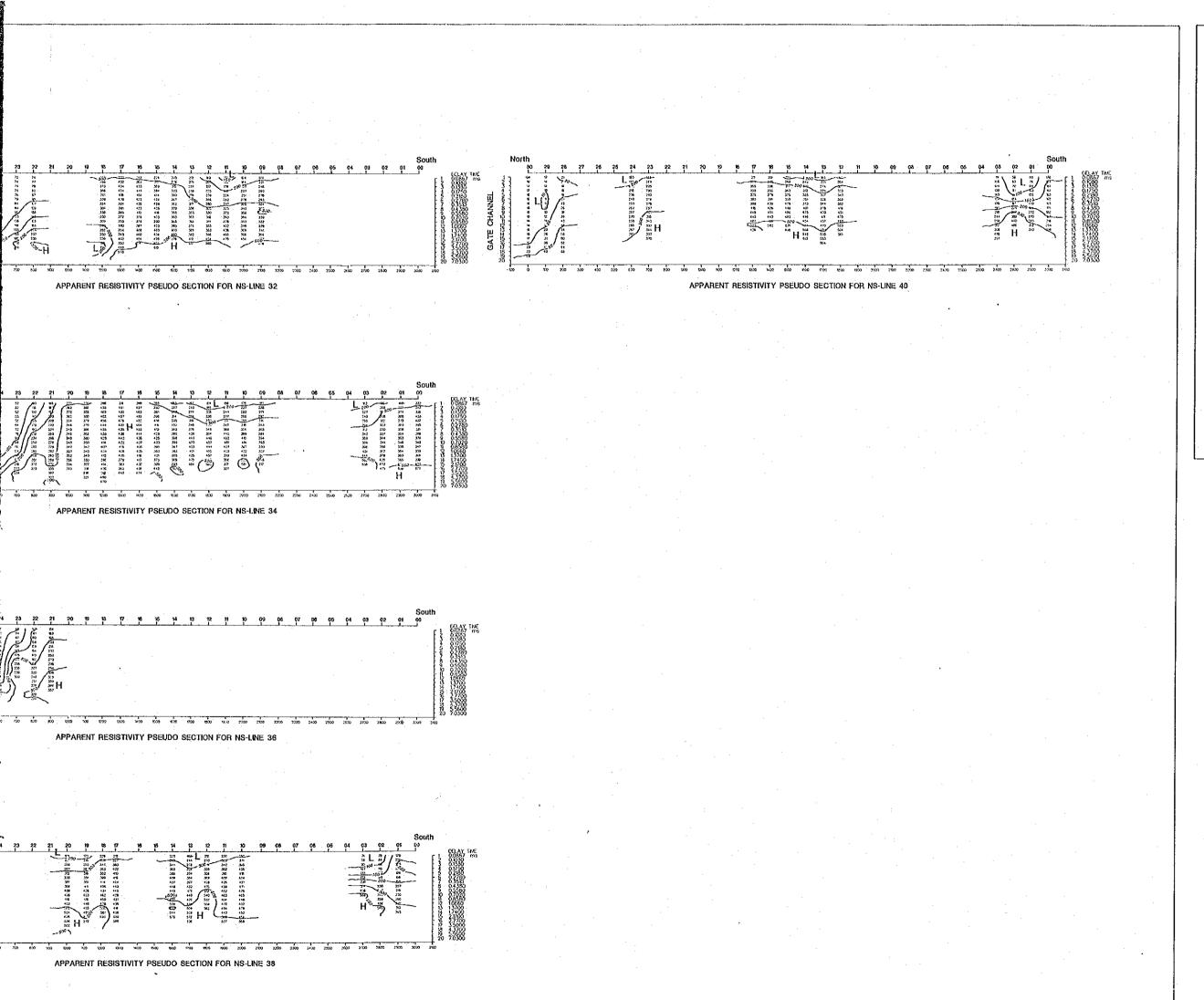
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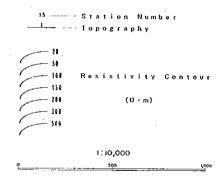
COOPERATIVE MINERAL EXPLORATION
THE UUDAM TAL AREA, MONGOLIA (PHASE II)

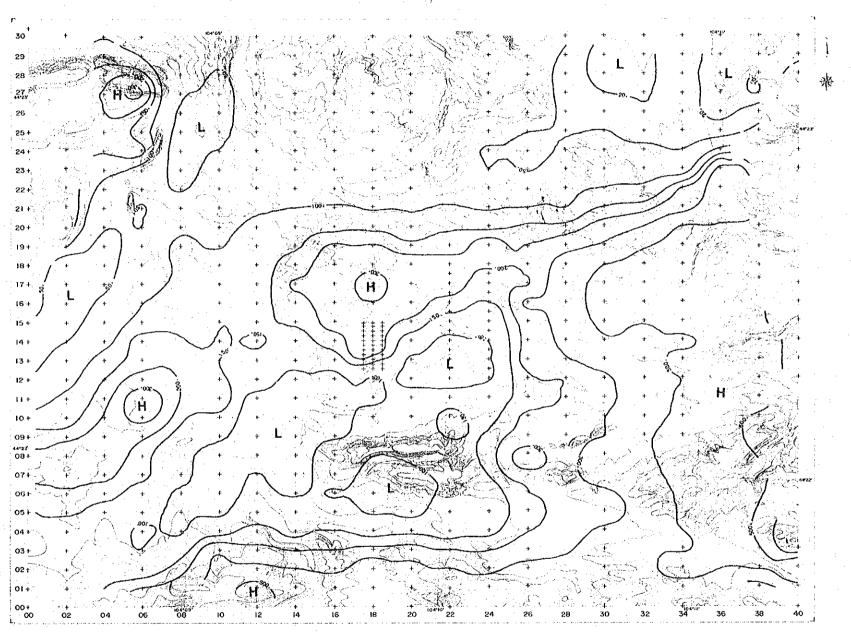
Apparent Resistivity Pseudo-Sections
for NS Lines 32 to 40

UURINOUS AREA INTERNATIONAL COOPERATION AGENCY METAL MINING AGENCY OF JAPAN
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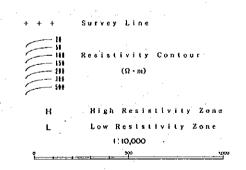


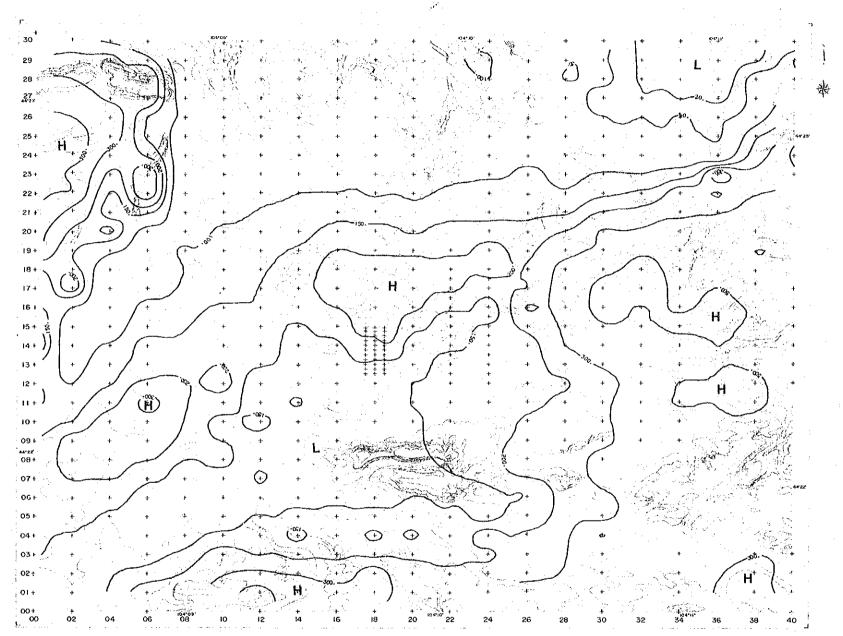
COOPERATIVE MINERAL EXPLORATION
IN
THE UUDAM TAL AREA, MONGOLIA (PHASE II)

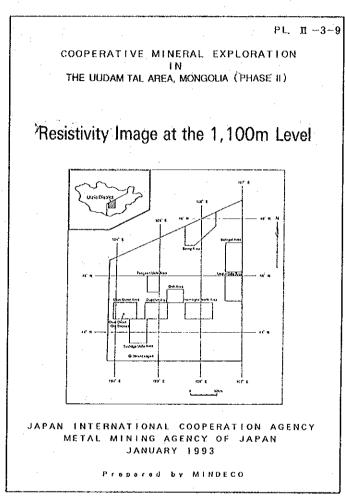
Resistivity Image at the 1,150m Level

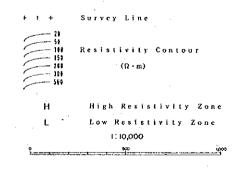
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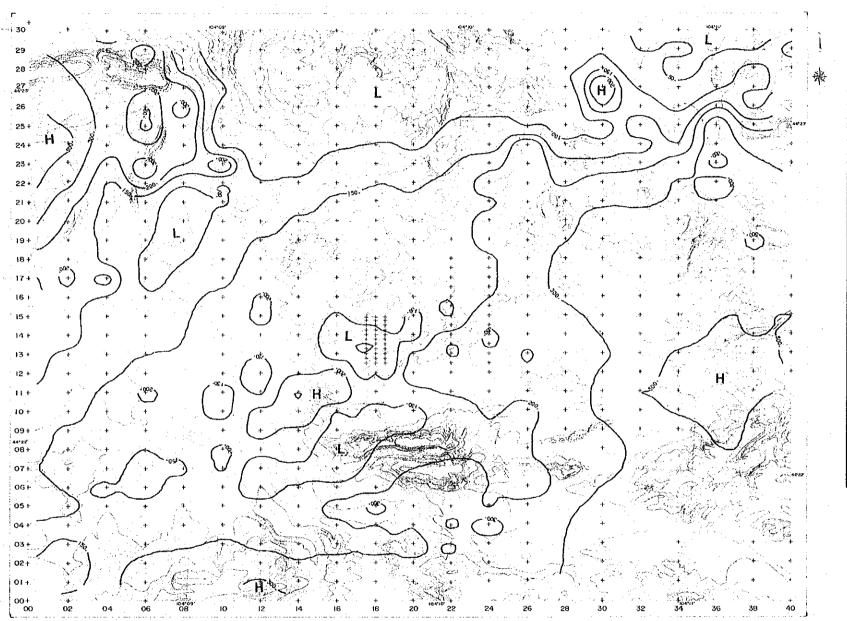
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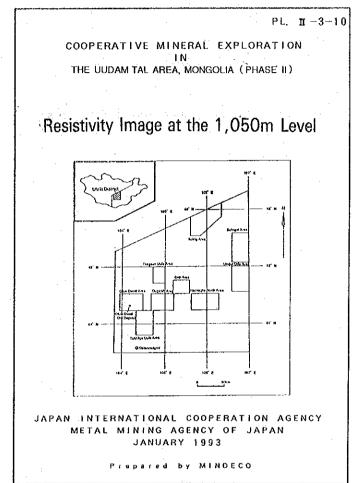




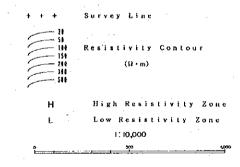


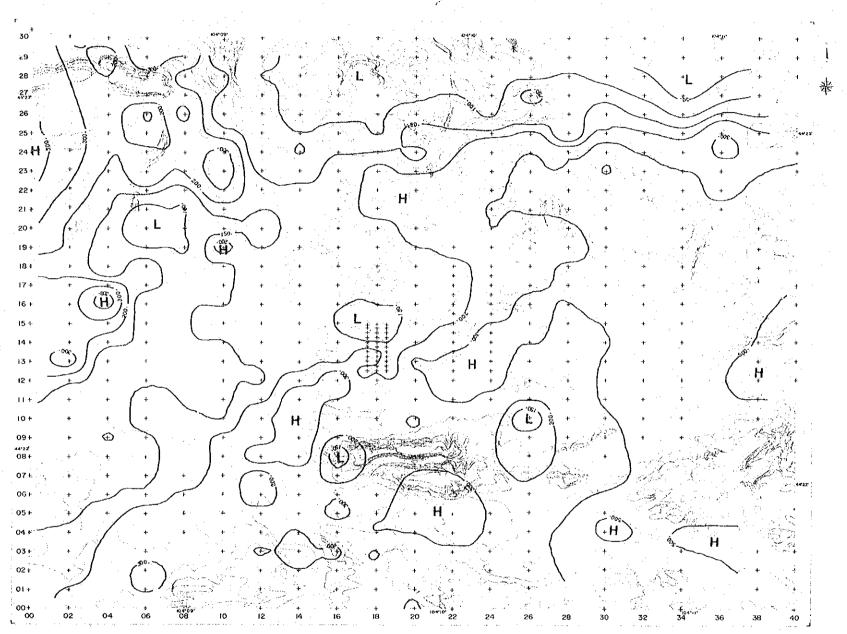


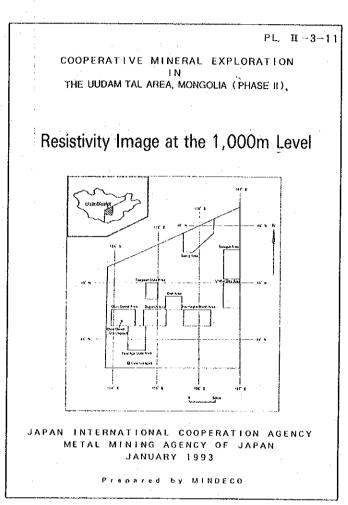




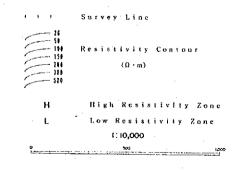
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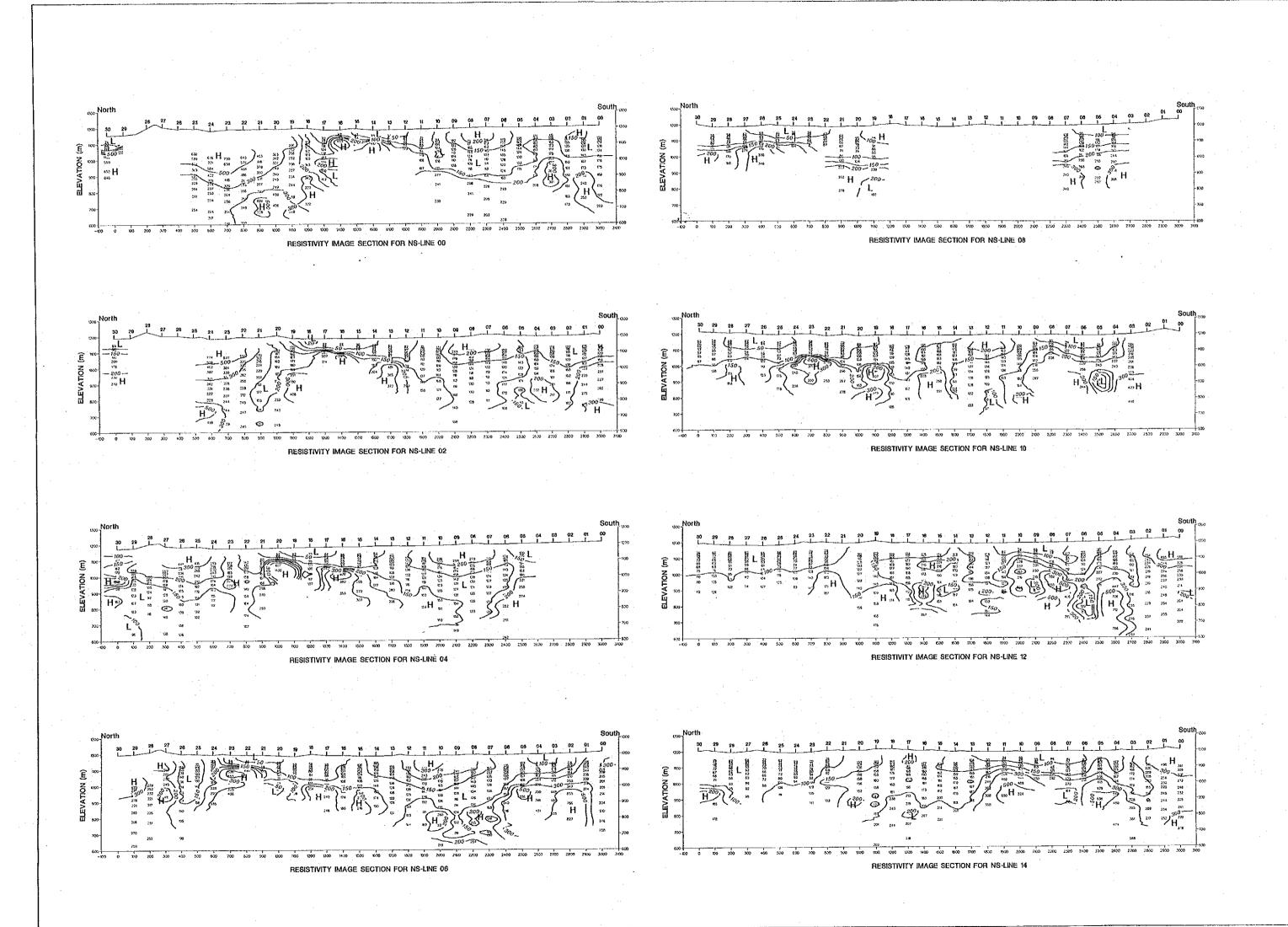






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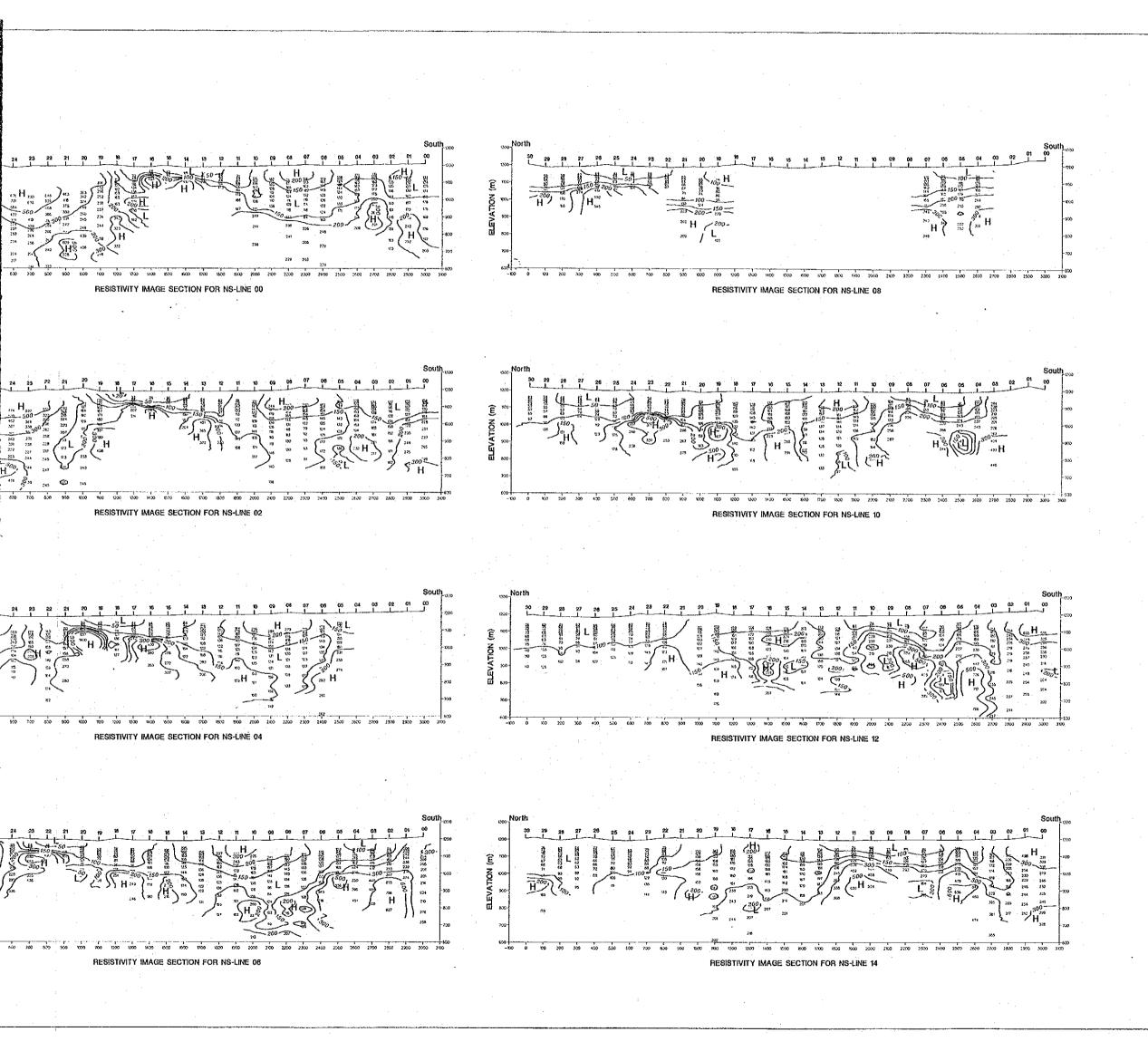




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THE UUDAM TAL AREA, MONGOLIA (PHASE II)

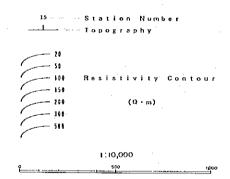
Resistivity Image Sections for NS

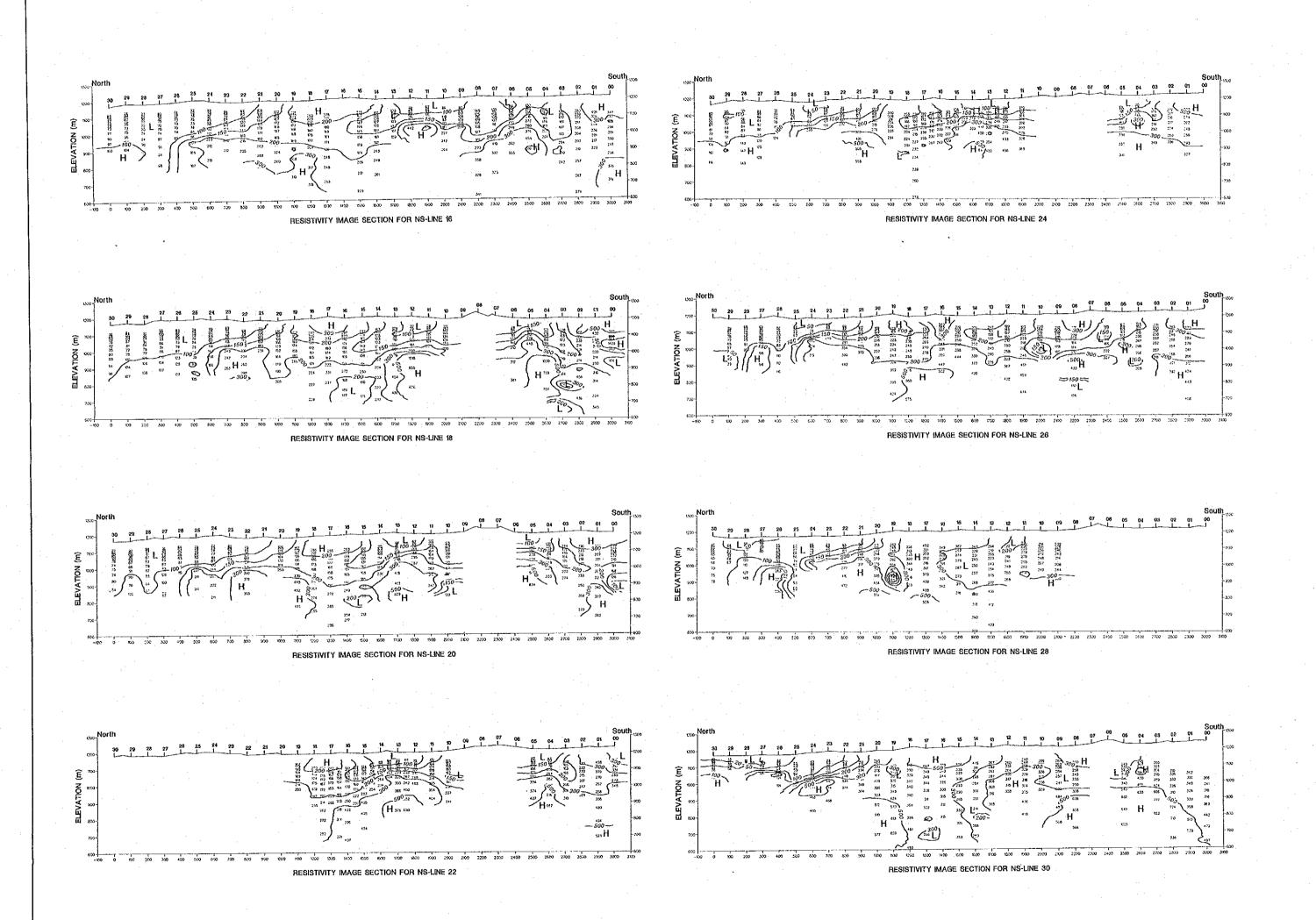
Lines 00 to 14

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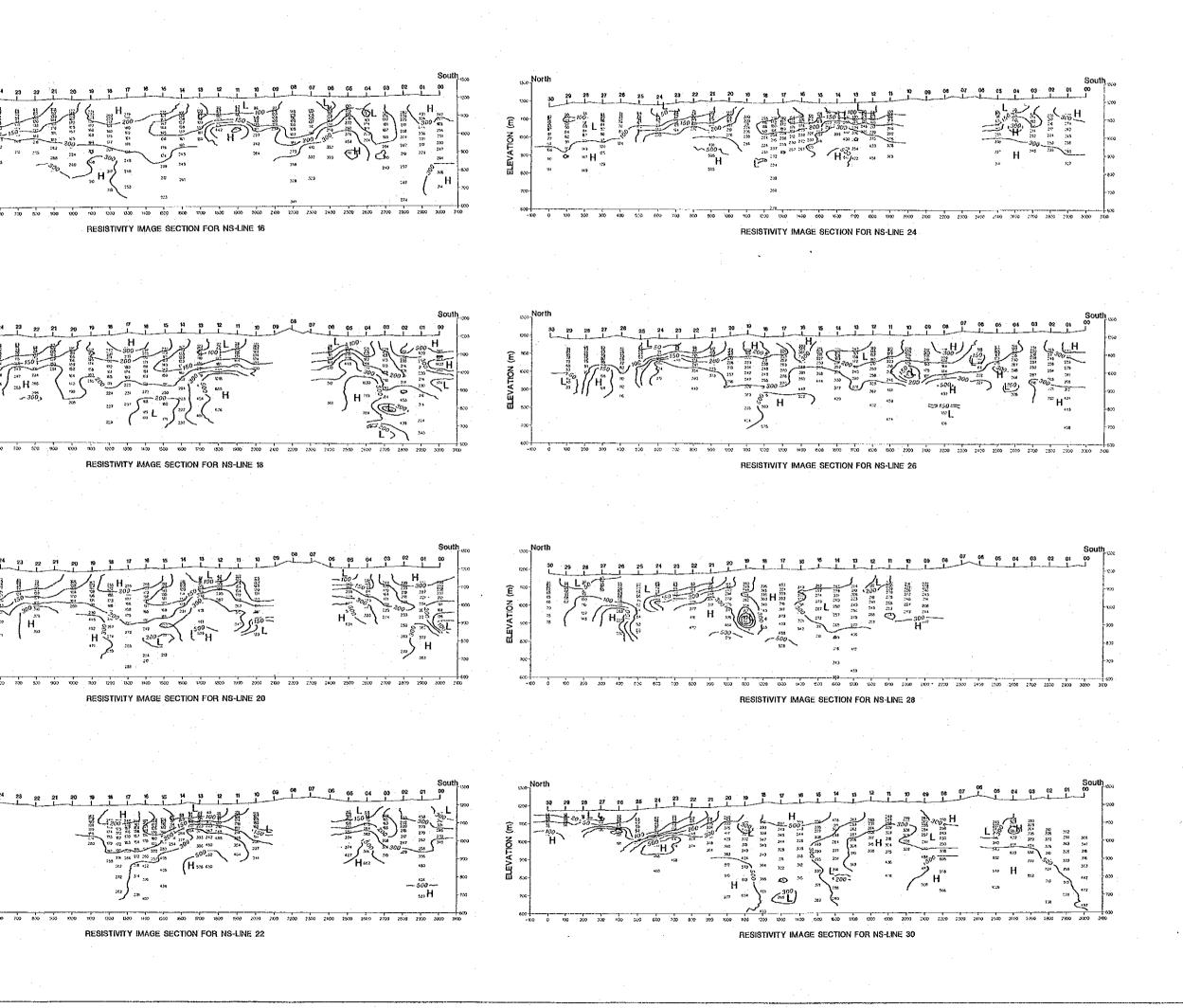


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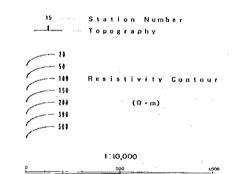
THE UUDAM TAL AREA, MONGOLIA (PHASE II)

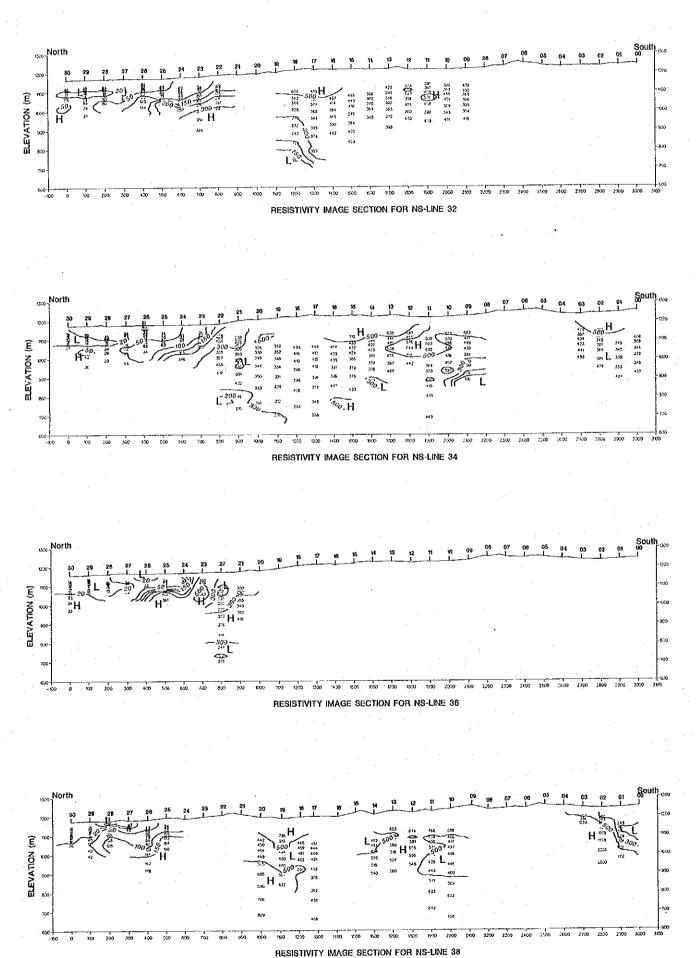
Resistivity Image Sections for NS

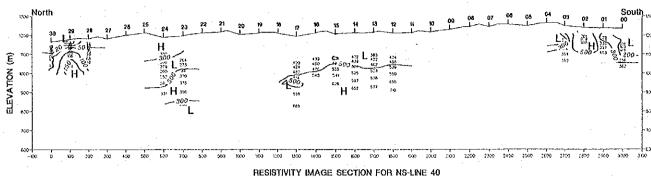
Lines 16 to 30

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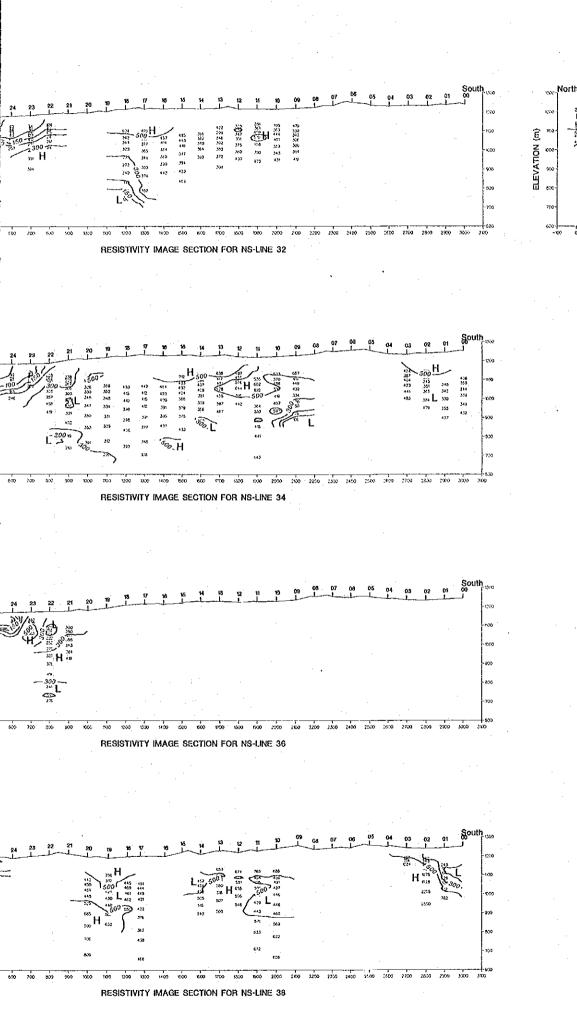


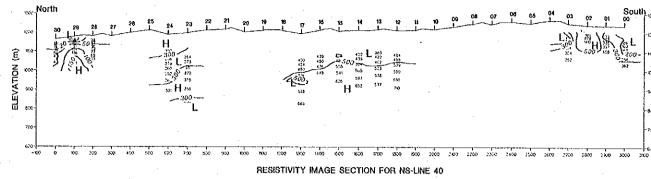


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PL. II -3-14 COOPERATIVE MINERAL EXPLORATION IN

THE UUDAM TAL AREA, MONGOLIA (PHASE II) Resistivity Image Sections for NS Lines 32 to 40 JAPAN INTERNATIONAL COOPERATION AGENCY METAL MINING AGENCY OF JAPAN JANUARY 1993

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