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## Geomagnetic Service of Canada



# CATALOGUE OF PALEOMAGNETIC DIRECTIONS AND POLES

THIRD ISSUE

PALEOZOIC RESULTS 1949-1975

E. Irving, E. Tanczyk and J. Hastie

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Geomagnetic Series Number 5  
Ottawa, Canada 1976





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Printing and Publishing  
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Catalogue No. M74-32/5

Price: Canada: \$3.00  
Other countries: \$3.60

Price subject to change without notice



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# CATALOGUE OF PALEOMAGNETIC DIRECTIONS AND POLES

## THIRD ISSUE

### PALEOZOIC RESULTS 1949-1975

E. Irving, E. Tanczyk and J. Hastie

#### Introduction

The paleomagnetic results from Paleozoic rocks are presented as a table, with explanatory notes and bibliography, following the style and number system used in the appendix to the book *Paleomagnetism* (Irving, 1964) and in our first and second issues of this catalogue (Hicken *et al.*, 1972; Irving and Hastie, 1975). The compilation is essentially complete up to mid-1975. The explanatory notes and bibliography of *Paleomagnetism* and our first issue are not repeated, but the data themselves are relisted. Anyone having this catalogue together with copies of our first issue and the appendix to *Paleomagnetism* has a ready access to all the Paleozoic data and to the bibliography. The present catalogue is an advance on previous listings on two counts. Firstly, the more reliable information and most recent summaries are now earmarked and readily identifiable. Secondly, the new explanatory notes, instead of being type-set, are now coded for computer processing, and it is our intention eventually to have the paleomagnetic data and the explanatory notes listed on the same page. This cannot be done until the explanatory notes of the previous issues have also been coded — a formidable task that has not yet been undertaken. In future issues the Mesozoic and Cenozoic results will be compiled.

#### Listing of Data

The data are tabulated by regions, the regions being arranged in this order: Africa, Antarctica, Australia, Asia excluding the USSR, Europe excluding the USSR, North America, South America, and the USSR. Within each region the results are arranged by geological system, the Cambrian first and the Permian last. Within each system the entries are arranged in a consistent geographical order which can be determined by running the finger down columns 3 and 4; for example the Russian data are listed so that the sampling localities are arranged from west to east, results from the Baltic Shield first, those from eastern Siberia last. The columns contain the following information.

**Column 1** contains the Ottawa catalogue number. The first digit provides a rough estimate of geological age of the rocks studied as follows: 2 Cambrian, 3 Ordovician, 4 Silurian, 5 Devonian, 6 Carboniferous, 7 Permian. The remaining digits are accession numbers of no specific significance, except that the older data have generally smaller numbers than more recent data.

**Column 2** contains the name of the rock unit and the country. Results have often been obtained from rock units whose age limits straddle the boundaries of the geological systems. These results are entered in one system and cross-referenced in the other in column 2.

**Columns 3 and 4** contain the geographical coordinates of the sampling area. If the area is large its mean position is quoted. If the coordinates have not been given in the original, they have been read from standard atlases and gazetteers.

**Column 5** gives the number of collecting sites.

**Column 6** gives the number of samples on which the result is based. It is sometimes not possible to determine from the original whether this is the number of independent samples or the number of specimens cut from fewer samples, and subjective judgments have sometimes had to be made by the compilers.

**Column 7** gives the laboratory treatment. *N* means that the result is based on observations of natural remanent magnetization. *A* means that the samples have been partially demagnetized in alternating magnetic fields. *T* means that the samples have been partially demagnetized by heating followed by cooling in zero field. *L* means that acid leaching has been carried out, and *G* that acid leaching and other demagnetizing techniques have been used. *X* is *A+T*. *Y* is *N+A*. *Z* is *N+T*. *V* is *L+T*. *W* is *N+A+T*. Sometimes geometrical techniques (for example the frequent use by Russian workers of "the intersections of remagnetization great circles") or vector analysis has been used to isolate the required magnetizations and users should consult the notes and originals for details.

**Column 8** contains the percentage of reversed polarizations observed. If the entry is zero, then all the magnetizations are normal.

**Columns 9 and 10** contain an estimate of the mean direction of magnetization. The declination  $D$  is reckoned clockwise east from geographic north, and  $I$  the inclination, is regarded as negative if the direction is upward, and positive when downward below the horizontal. For rock units which are undisturbed, the directions are referred to the present-day horizontal, but if they have been tilted, the directions are referred to the bedding plane, which, in the case of igneous rocks, is obtained from adjacent sediments. In metamorphic terrain, which was magnetized during cooling and uplift following deformation, the present horizontal plane is the usual plane of reference. Exceptions are explained in the notes. If the results contain directions of both polarities, then the mean, irrespective of sign, is given.

**Column 11** contains Fisher's precision  $k$  (Fisher, 1953) to the nearest whole number, where  $k = (N-1)(N-R)^{-1}$  and  $R$  the resultant of  $N$  directions each given unit weight. The standard deviation is given by  $\Theta_{63} = 81k^{-1/2}$  degrees approximately. Another useful approximation for the standard deviation ( $\delta$ ) is given by  $\delta = \cos^{-1}(R/N)$  (Wilson, 1959). Since  $N$  and  $k$  are known ( $N$  is usually given in the notes)  $\Theta_{63}$  and  $\delta$  can be calculated from the data in the list.

**Column 12** contains Fisher's circle of confidence ( $P=0.05$ ). The weighting procedure is generally given in the notes.

**Columns 13 and 14** contain the latitude (positive north, negative south) and longitude (positive east, negative west) of the pole corresponding to the direction given in columns 10 and 11 (Creer *et al.*, 1954, 1957).

**Columns 15 and 16** contain the precision ( $K$ ) of site poles and the error  $A_{95}$  in the mean pole calculated as an average of site poles. This list contains many new averages of entries within the list and these have usually been obtained by the straightforward application of Fisher's statistics. Sometimes this is not possible and if the difference between the directions averaged is less than about  $10^\circ$  their errors are also averaged. This procedure leaves much to be desired statistically, but is unlikely to give physically misleading results.

**Columns 17 and 18** contain the semi-axes of the polar error ellipse (Irving, 1956).

**Column 19** contains the list number of the compilations of the Geophysical Journal of the Royal Astronomical Society, or the index number given in the compilation of Khramov and Sholpo (1967) which are prefixed by *KS*, or the compilations of Khramov (1971, 1973) which are prefixed by *S*.

**Columns 20 and 21** contain the first and second stage filters *F1* and *F2*. In column 20 under *F1* the letter *A(B)* indicates that the result does (does not) fulfill certain MINIMUM reliability criteria. This does NOT mean that results in category *A* are necessarily reliable indicators of the ancient geomagnetic

field. The purpose of these criteria is to provide a first-stage filter, by which those results which can, on common-sense grounds, be considered of little use for tracing the past history of the field, may be separated from the main body of the data. The minimum reliability criteria are a little simpler than those used by us previously and are as follows:

(1) No result is placed in the *A* category unless it is based on observations from 10 or more separately oriented samples. Results based on fewer than 10 samples are placed in the *B* category whatever the stratigraphic distribution of samples and however many specimens were cut from them. If the number of samples is not stated in the source reference then the result is placed in *B*. Exceptions are made and these are given in the notes.

(2) No result is placed in the *A* category unless the error in the mean direction (column 13) is  $20^\circ$  or less. No result is placed in the *A* category unless the error in the pole in column 16 is less than  $25^\circ$ , or the mean of the polar errors in 17 and 18 is less than  $25^\circ$ . All the results with larger errors are entered in *B*. Results for which no statistical estimates of precision or error have been given in the original are automatically assigned to the *B* category.

We wish to emphasize that these are only MINIMUM reliability criteria. Removal of the *B* data provides a first-stage filtering of the data which is rather more rigorous than that used by Irving (1964) in *Paleomagnetism* who used five samples as a general demarcation criterion, and by McElhinny (1973) in *Paleomagnetism and Plate Tectonics* who used eight samples. There are 716 entries in the *A* category and 292 in the *B* category.

**Column 21** In column 21 (*F2*) a system of flagging the data by stars is introduced. A result is awarded two stars if (1) it is based on samples collected from five or more collecting localities, some of which at least have been subjected to thermal or alternating field demagnetization or leaching by acid, or (2) if it is based on three or more independent results from the same rock unit; that is three independent entries in this list or in Khramov and Sholpo (1967) or Khramov (1971 or 1973). A result is awarded one star if it does not qualify for two stars but if it meets the minimum reliability criteria; that is, if it falls in the *A* category of column 20. Early results (some of which may merit stars) but which are now superseded by later observations are not flagged; only the most recent summary of information from a particular rock unit is flagged. The distribution of starred entries in time and space is shown in Table I. There are a total of 344 starred entries in the Paleozoic, and 178 of these are in the Carboniferous and Permian. There are 184 entries with one star and 162 with two. There are 130 starred results from the USSR and 10 from Europe. North America is the third contributor with 48, and Australia fourth with 24 starred results.

The two-stage filtering system described above is based mainly on statistical criteria. The awarding of two stars must

NOT be taken to mean the magnetization necessarily records the geomagnetic field at the time the rock unit was formed. Indeed many secondary magnetizations which are accurately determined are awarded stars and are very useful in determining the history of the geomagnetic field if handled with understanding. Detailed studies are needed before the age of magnetization can be determined. Eventually it may be possible to introduce a third stage filter which assessed the confidence with which the age of magnetization is known.

### Explanatory Notes

The note contains reference to originals and information about the ages of the rocks and sampling details. Each note ends with an "assigned geological age" or a "preferred radiometric age". The "assigned geological age" has been obtained by calculation from the Geological Society Phanerozoic time-scale 1964. This has been done by taking the geological age limits of the rock unit as given in the note, obtaining an estimate of these limits in millions of years from the time-scale, and then calculating the mean of these limits. This mean is designated the "assigned geological age". Values in millions of years are quoted to one decimal place in order to

maintain numerical consistency with results from much younger rocks which will appear in future lists and for which such accuracies are attainable. Radiometric ages have often been obtained on the rock units studied, and these are explained in the notes. The "preferred radiometric age" is our summary assessment from those studies. It must be emphasized that these age estimates refer to the age of the rocks and not necessarily to the age of the magnetization. Three further points need to be mentioned. Firstly, the numbers of samples with reversed and normal polarity are sometimes given in the notes, for example, 10N,18R means there are 10 normal samples and 18 reversed samples. Secondly, the decay constant used to calculate the age of rock units from Rb—Sr isochrons when this has been quoted in the source reference is given in the shorthand form, for example  $\lambda=1.39$  meaning  $1.39 \times 10^{-11} \text{ yr}^{-1}$ .

### Acknowledgements

We would like to express our thanks to Atulesh Nandi for processing the listings, and to Richard Couillard, Ross Henderson and Pierre Lapointe who helped to access and check the data.

TABLE I  
Distribution of Starred Results

	Cambrian		Ordovician		Silurian		Devonian		Carbonif's		Permian		Paleozoic	
	*	**	*	**	*	**	*	**	*	**	*	**	*	**
Africa	1	1	—	—	—	1	1	—	—	1	1	1	3	4
Antarctica	1	2	1	—	—	—	—	—	—	1	—	—	2	3
Arctic	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Asia without USSR	4	2	—	—	—	—	—	—	1	1	5	3	10	6
Australia	3	4	1	2	1	2	3	4	1	1	—	2	9	15
Europe without USSR	4	2	6	10	4	5	2	9	10	14	13	21	40	61
North America	8	1	3	1	2	1	4	1	6	9	6	6	29	19
South America	1	—	—	1	2	—	2	—	2	1	2	1	9	3
USSR	10	7	6	5	10	4	9	11	30	14	14	10	79	51
World	32	19	17	19	19	13	21	25	50	42	42	44	182	162





**Listing of Data**

## CAMBRIAN OF AFRICA PROBABLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE LAT	POLE LONG	KP	EF	DM	DP	OTHER	F	F
						R					95				95			LISTS	1	2
2 106	SIJARIRA GROUP RHOESIA	-17.5	28.5	009	040	T	100	291.0	67.0	9	18.0	2.0	-8.0	0	0.0	30.0	26.0	12149	B	
2 43	NTONYA RING COMPLEX MALAWI	-15.5	35.5	007	077	A	100	311.3	42.8	999	1.9	27.7	-15.1	0	0.0	2.3	1.4	09137	A	**
2 51	DEZA MOUNTAIN SYENITE MALAWI	-14.4	34.3	001	001	A	100	308.0	41.0	0	0.0	26.6	-19.6	0	0.0	0.0	0.0	10150	B	
2 53	HOOK INTRUSIVES ZAMBIA	-15.0	26.5	003	010	A	100	300.4	49.3	14	34.3	14.0	-24.0	0	0.0	45.5	30.2	09132	B	
2 101	HASI-MESSAUD SEDIMENTS ALGERIA	31.6	6.0	003	030	X	100	27.0	77.0	0	3.0	53.0	26.0	0	0.0	6.0	5.0	00000	A	*
2 47	RED SANDSTONES MOROCCO	32.0	-7.0	004	012	T	0	135.0	15.0	0	47.0	0.0	0.0	0	0.0	50.0	25.0	09138	B	
2 49	RED SANDSTONES MOROCCO	32.0	-7.0	001	003	T	0	105.0	14.0	0	14.0	0.0	0.0	0	0.0	15.0	7.5	09136	B	

## ORDOVICIAN OF AFRICA PROBABLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE LAT	POLE LONG	KP	EF	DM	DP	OTHER	F	F
						R					95				95			LISTS	1	2
3 30	HOOK INTRUSIVES ZAMBIA SEE 2-53																			
3 69	HASI-MESSAUD SEDIMENTS SEE 2-101																			

## SILURIAN OF AFRICA PROBABLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE LAT	POLE LONG	KP	EF	DM	DP	OTHER	F	F
						R					95				95			LISTS	1	2
4 9	TABLE MOUNTAIN SERIES SOUTH AFRICA	-34.0	18.0	001	008	N	0	162.0	-4.0	0	5.0	-50.0	169.0	0	0.0	5.0	3.0	04032	B	
4 31	TABLE MOUNTAIN SERIES SOUTH AFRICA	-29.5	30.8	008	046	T	0	343.0	-56.0	0	0.0	-74.0	90.0	94	6.0	0.0	0.0	10130	A	**

DEVONIAN OF AFRICA MAGNETIZATION PROBABLY SECONDARY

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
5 174	ELMINA SST SEKONDI SERIES GHANA	5.0	-1.9	012	030	N	0	334.0	11.5	14	12.1	-64.0	91.0	0	0.0	12.5	6.5	00000	A	*

CARBONIFEROUS OF AFRICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 84	K3 REDBEDS TANZANIA SEE 7-91 ETC																			
6 55	DHYKA GLACIAL VARVES NORM RHODESIA	-18.0	29.0	000	002	N	0	0.0-81.0		84	5.0	-36.0	29.0	0	0.0	10.0	10.0	01112	B	
6 57	DHYKA GLACIAL VARVES REV RHODESIA	-18.0	29.0	000	002	N	100	333.0	76.0	57	7.0	7.0	17.0	0	0.0	13.0	12.0	01113	B	
6 165	DHYKA GLACIAL VARVE CENTRAL AFRICA	-12.0	30.0	005	029	T	80	0.0	0.0	0	0.0	-26.5	26.5	52	10.5	0.0	0.0	09117	A	**

PERMIAN OF AFRICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
7 71	SERIE ROUGES INFERIEURE MAGALASY	-23.5	44.0	002	006	N	100	141.0	45.0	13	10.0	-55.0	121.0	0	0.0	13.0	8.0	08085	B	
7 61	K3 ECCA SANDSTONE TANZANIA	-9.5	33.7	000	000	A	100	156.0	52.0	0	7.0	-58.0	74.0	0	0.0	9.0	7.0	08090	B	
7 91	K3 RED BEDS GALULA TANZANIA	-8.8	32.9	005	034	T	100	172.0	69.0	227	5.0	-45.5	40.0	91	8.0	0.0	0.0	08092	A	**
7 92	K3 BEDS SONGWE-KETEWAKA TANZANIA	-10.0	34.5	004	027	T	100	117.0	54.0	60	12.0	-27.0	89.0	35	15.5	0.0	0.0	08091	A	*
7 43	MAJI YA CHUMVI FORMATION KENYA	-3.0	39.0	001	005	N	100	267.0	38.0	9	11.0	4.0	150.0	0	0.0	13.0	8.0	01092	B	
7 41	TARU GRIT KENYA	-3.0	39.0	002	008	N	0	87.0	61.0	23	16.0	0.0	87.0	0	0.0	25.0	19.0	01093	B	

## CAMBRIAN OF ANTARCTICA

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
2 73	ONGUL ISLAND GNEISS	-69.0	40.0	003	030	N	100	346.9	48.9	0	0.0	11.8	-152.5	56	16.6	0.0	0.0	00000	A	*
2 146	MIRNY CHARNOCKITES	-66.5	93.0	005	037	A	100	294.2	16.9	23	15.6	1.5	-151.5	0	0.0	16.0	8.0	00000	A	**
2 42	ADMIRALTY GRANITES VICTORIA LAND	-77.4	161.9	005	005	A	0	257.0	-77.0	23	9.0	-60.0	-143.0	0	0.0	15.0	12.0	06039	B	
2 41	BASEMENT DYKES SOUTH VICTORIA LAND	-77.4	161.6	029	048	A	0	247.0	-64.0	67	4.0	-40.0	-140.0	0	0.0	6.0	5.0	06037	A	**
2 31	OLDER INTRUSIVES SEE 3-25																			
2 109	GAMBACORTA FM PENSACOLA MOUNTAINS	-84.0	-56.0	001	004	A	0	115.5	-71.6	62	11.7	-53.0	-112.5	0	0.0	0.0	0.0	00000	B	

## ORDOVICIAN OF ANTARCTICA

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
3 35	ONGUL ISLAND GNEISS SEE 2-73																			
3 121	MIRNY CHARNOCKITES SEE 2-146																			
3 23	BASEMENT DYKES SEE 2-41 AND 9-40																			
3 25	OLDER INTRUSIVES MARGUERITE BAY	-68.0	-67.0	003	022	N	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	07053	B	
3 35	INTRUSIVES SOR RONDANE MOUNTAINS	-72.0	24.0	003	016	A	100	341.5	64.0	0	4.5	28.5	-170.5	0	0.0	6.0	5.0	10140	A	*

## SILURIAN OF ANTARCTICA

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
4 23	BASEMENT DYKES SEE 2-41 AND 9-40																			
4 29	ONGUL ISLAND GNEISS SEE 2-73																			
4 25	OLDER INTRUSIVES SEE 3-25																			



DEVONIAN OF ANTARCTICA

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	PCLE	FCLE	KP	EF	DM	DP	OTHER	F	F
											95	LAT	LONG		95			LISTS	1	2
5	63 BASEMENT DYKES SEE 2-41 AND 9-40																			
5	53 BEACON GROUP SEE 6-124 AND 9-39																			
5	70 ONGUL ISLAND GNEISS SEE 2-73																			

CARBONIFEROUS OF ANTARCTICA

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	PCLE	FCLE	KP	EF	DM	DP	OTHER	F	F
											95	LAT	LONG		95			LISTS	1	2
6	125 BASEMENT DYKES SEE 2-41 AND 9-40																			
6	124 BEACON GROUP SEDIMENTS	-73.0	161.0	005	031	Y	0	254.0	-76.0	62	10.0	-53.0	-145.0	0	0.0	16.0	13.0	06038	A	**

PERMIAN OF ANTARCTICA

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE	FCLE	KP	EF	DM	DP	OTHER	F	F
											95	LAT	LONG		95			LISTS	1	2
7	152 BEACON GROUP SEE 6-124 AND 9-39																			

## CAMBRIAN OF ASIA WITHOUT USSR

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LONG	KP	EP 95	DM	DP	OTHER LIST	F 1	F 2
2 105	CAMBRIAN-ORDOVICIAN REDBEDS JORDAN	29.7	35.3	000	020	C	0	0.0	0.0	0	0.0	-36.7	143.4	20	7.5	0.0	0.0	12147	A	*
2 162	INFRACAMBRIAN ORE AND HOST RX IRAN	31.6	55.8	016	150	A	32	24.6-31.9		0	22.0	-35.7	26.5	0	0.0	15.0	24.0	00000	B	
2 44	PURPLE SST SALT RANGE PAKISTAN	32.7	73.0	001	010	T	75	218.0	31.5	15	12.0	-28.0	32.0	0	11.0	0.0	0.0	11085	A	*
2 153	SALT PSEUDOMORPH BEDS PAKISTAN	32.7	73.0	010	071	T	90	215.9	42.4	13	13.7	-23.3	37.5	0	0.0	16.8	10.4	00000	A	
2 144	SALT PSEUDOMORPH BEDS PAKISTAN	32.7	73.0	006	043	T	84	221.4	39.7	52	9.4	-22.1	31.7	0	5.1	11.3	6.8	00000	A	**
2 129	UPPER REWA SANDSTONE INDIA	23.8	78.9	003	018	A	0	32.0-37.0		15	13.7	-35.0	48.0	0	0.0	15.9	9.6	00000	A	*
2 127	BHANDER SANDSTONE UPPER PART INDIA	23.7	78.7	001	007	A	0	49.0-19.0		200	5.7	-31.5	19.0	0	0.0	3.1	5.9	00000	B	
2 149	BHANDER SANDSTONE UPPER PART INDIA	26.0	77.5	007	043	X	100	207.5	9.5	138	5.5	-48.5	33.5	0	0.0	5.5	3.0	00000	A	**
2 59	CAMBRIAN SANDSTONE NORTH KOREA	39.0	126.0	000	023	T	100	165.0	58.0	0	4.0	11.0	-43.0	0	0.0	6.0	5.0	10146	A	*

## ORDOVICIAN OF ASIA WITHOUT USSR

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LONG	KP	EP 95	DM	DP	OTHER LIST	F 1	F 2
3 72	CAMBRO-ORDOVICIAN JORDAN SEE 2-105																			

## SILURIAN OF ASIA WITHOUT USSR

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LONG	KP	EP 95	DM	DP	OTHER LIST	F 1	F 2
4 5	KANSJ RED SILTSTONES CHINA	40.0	97.0	001	003	N	0	294.0	55.0	16	9.0	39.0	25.0	0	0.0	12.0	9.0	01119	B	

## DEVONIAN OF ASIA WITHOUT USSR

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
5 47	HEMATITE ROCKS SANSHIA CHINA	31.0	111.0	000	006	N	0	350.0	6.0	0	32.0	61.0	-49.0	0	0.0	32.0	16.0	06061	B	
5 52	NAKAZATO SERIES BASALT TUFF JAPAN	39.1	141.7	001	008	A	0	71.0	64.0	0	20.0	39.0	-160.0	0	0.0	32.0	26.0	00000	B	

## CARBONIFEROUS OF ASIA WITHOUT USSR

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 133	BADEMLI RED SEDIMENTS TURKEY	37.3	31.7	006	019	T	0	41.0	13.5	22	7.3	43.0	150.0	0	0.0	7.4	3.7	00000	A	**
6 326	SPECKLED SST SALT RANGE SEE 7-297																			
6 95	TALCHIR SERIES INDIA	21.4	79.0	002	023	A	0	66.1	59.2	109	2.9	31.5	134.3	0	0.0	3.2	2.6	10114	A	*
6 329	BENTONG GROUP AND SINGA FM MALAYA	5.0	100.8	002	008	T	130	213.0	-16.0	25	11.1	57.0	-178.0	37	9.2	0.0	0.0	00000	B	
6 71	REDBEDS WESTERN HILLS PEKING CHINA	40.0	116.0	000	004	N	0	5.0	52.0	0	34.0	82.0	-94.0	0	0.0	46.0	34.0	06055	B	
6 83	ARISU-DHOAIRA SERIES TUFF JAPAN	39.1	141.7	003	025	A	0	8.0	39.0	0	17.0	71.0	-63.0	0	0.0	29.8	20.4	00000	B	
6 119	PAL-MESO INTRUS SEE 9-22																			
6 190	AKIYOSHI TUFFACEOUS-SHALE JAPAN	0.0	0.0	000	007	N	130	245.0	27.0	0	15.0	7.0	-113.0	0	0.0	16.0	10.0	00000	B	

## PERMIAN OF ASIA WITHOUT USSR

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KC	ED 95	POLE LAT	PCL LCNG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
7 166	BADEMLI REBEDS TURKEY SEE 6-133																			
7 77	AMASRA RED SANDSTONE TURKEY	41.6	32.5	003	016	A	100	292.0	-15.0	0	0.0	-18.0	102.0	0	18.0	0.0	0.0	08084	A	*
7 297	SPECKLED SST SALT RANGE PAKISTAN	32.6	72.6	009	086	T	100	92.5	46.7	50	7.3	13.0	137.5	0	0.0	9.5	5.1	00000	A	**
7 298	PANCHET SERIES SEE 8-243																			
7 299	MANGLI REDBEDS INDIA	20.5	79.0	002	023	T	100	100.1	62.8	43	4.6	7.3	124.3	0	0.0	7.3	5.7	00000	A	*
7 118	KAMTHI SANDSTONE INDIA	19.0	79.5	003	052	A	4	306.0	-50.0	85	2.0	-18.0	127.0	0	0.0	3.0	2.0	09066	A	
7 119	KAMTHI SS HARDHA VALLEY INDIA	20.1	79.0	005	057	T	100	79.4	61.6	63	2.0	21.1	129.9	0	0.0	3.7	2.8	11064	A	
7 121	KAMTHI SANDSTONE INDIA	20.2	79.3	002	017	T	50	122.0	75.1	411	18.0	-4.1	102.8	0	0.0	3.2	2.9	11063	A	
7 293	KAMTHI SS HARDHA VALLEY INDIA	20.0	79.0	022	132	T	68	101.5	58.5	2+	6.5	4.0	129.0	0	0.0	9.5	7.0	00000	A	**
7 294	UP PERMIAN LR TRIAS INDIA COMBINED	0.0	0.0	025	168	T		0.0	0.0	0	0.0	6.0	125.0	0	7.0	0.0	0.0	00000	A	**
7 120	HIMGIR SANDSTONE INDIA	22.0	84.0	001	031		0	332.0	-44.0	0	6.0	-30.0	122.0	0	0.0	7.6	5.0	00000	A	*
7 303	PENGERANG RHYOLITES JOHORE MALAYA	1.4	104.2	001	010	A	90	206.0	-39.0	25	9.9	57.0	152.0	22	10.7	0.0	0.0	00000	A	*
7 301	SEMPAH CONGLOM AND RHYOLITE MALAYA	3.4	101.8	000	014	A	100	212.0	-32.0	14	10.9	55.0	164.0	13	11.2	0.0	0.0	00000	A	*
7 58	SHANTUNG SEDIMENTS CHINA	36.0	117.0	000	008	N	100	270.0	-29.0	0	38.0	9.0	-165.0	0	0.0	42.0	24.3	06052	B	
7 59	OMEI MOUNTAINS BASALTS CHINA	39.0	103.0	000	010	N	0	32.0	-4.0	0	40.0	50.0	-130.0	0	0.0	40.0	20.0	06051	B	
7 150	PAL-MESO INTRUSIONS JAPAN SEE 9-22																			
7 85	SAKAYOTOSAWA SERIES SS JAPAN	39.1	141.7	002	013	A	0	12.0	39.0	0	0.0	65.0	-67.0	0	0.0	0.0	0.0	00000	B	



CAMBRIAN OF AUSTRALIA POSSIBLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
2 49	VOLCANICS + SEDIMENTS TASMANIA	-41.0	145.5	012	044	N	0	9.0-77.0		18	10.5	-66.0	135.0	0	0.0	20.0	20.0	09133	A	**
2 154	DUNDAS GROUP TASMANIA	-42.0	146.0	000	008	X		0.0 0.0		0	0.0	-23.0	13.0	0	12.0	0.0	0.0	00000	B	
2 155	AROONA DAM REDBEDS FLINDERS RA SA	-31.0	138.5	000	011	T	37	231.0 13.0		23	16.5	-36.0	33.0	0	0.0	16.9	8.7	00000	A	*
2 156	FROME LAKE GROUP LOWER REDBEDS SA	-31.0	138.5	000	015	T	60	251.0-29.0		10	14.5	-9.0	25.0	0	0.0	16.0	9.1	00000	A	
2 157	FROME LAKE GROUP UPPER REDBEDS SA	-31.0	138.5	090	005	T	60	227.0 6.0		19	12.0	-39.0	26.0	0	0.0	12.0	6.0	00000	B	
2 158	FROME LAKE GROUP COMBINED STH AUST	-31.0	138.5	000	020	T	60	243.0-20.0		6	12.5	-16.0	25.0	0	0.0	13.2	7.0	00000	A	*
2 160	ARUMBERA SANDSTONE AMADEUS BASIN	-23.8	133.0	000	016	T	0	27.5 79.5		6	15.8	9.5	-35.0	0	24.9	0.0	0.0	00000	A	*
2 161	HUGH RIVER SHALE AMADEUS BASIN NT	-23.8	133.0	000	007	T	73	278.0-19.0		44	9.0	11.0	37.0	0	9.5	0.0	0.0	00000	B	
2 159	TUMBLAGOODA SANDSTONE SEE 3-116																			
2 118	ELDER MOUNTAIN SANDSTONE N TERRIT	-16.0	126.0	000	003	N	100	231.0-15.0		0	10.0	-34.0	16.0	0	0.0	10.0	5.0	01124	B	
2 129	HUJSON FORMATION NORTH TERRITORY	-17.5	129.0	010	017	X	100	293.0-37.0		7	14.0	19.0	19.0	9	1.3	0.0	0.0	00000	A	**
2 53	KANGAROO ISLAND SOUTH AUSTRALIA	-35.6	137.5	022	050	N	9	357.0-75.0		28	6.0	-64.0	141.0	0	0.0	11.4	11.4	09134	A	**
2 17	ANTRIM PLATEAU BASALTS N TERRITORY	-16.0	126.0	003	007	N	06	53.0 -2.0		0	12.0	-36.0	26.0	0	0.0	12.0	6.0	01125	B	
2 69	ANTRIM PLATEAU BASALTS N TERRITORY	-16.0	130.0	014	052	X	29	51.0 66.0		6	13.0	-9.0	-20.0	0	17.0	0.0	0.0	12148	A	**

ORDOVICIAN OF AUSTRALIA POSSIBLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
3 115	FROME LAKE GROUP SEE 2-157																			
3 116	TUMBLAGOODA SANDSTONE WEST AUSTRAL	-31.0	138.5	000	017	T	77	245.0 33.0		16	9.0	-30.0	31.0	0	0.0	10.3	6.1	00000	A	
3 117	STAIRWAYS SANDSTONE AMADEUS BASIN	-23.8	133.0	006	010	T	100	271.0 14.5		25	10.0	-2.0	50.5	0	9.5	0.0	0.0	00000	A	**
3 25	TASMANIAN SANDSTONE	-41.1	146.1	003	016	N	0	14.0-70.0		7	10.8	75.0	-66.0	0	0.0	18.4	16.2	09128	A	*
3 43	JINDUCKIN FORMATION NTH TERRITORY	-14.0	132.0	007	020	T	15	252.0-14.0		10	20.0	-16.0	29.0	14	17.0	0.0	0.0	00000	A	**
3 95	JINDUCKIN FORMATION NTH TERRITORY	-14.0	132.0	007	020	T	0	252.0-22.0		9	1.3	-13.0	25.0	10	1.1	0.0	0.0	12143	A	

## SILURIAN OF AUSTRALIA PROBABLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCL LAT	FCL LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
4 79	TUMBLAGOODA SANDSTONE SEE 3-116																			
4 79	MEREENIE SANDSTONE SEE 5-141																			
4 32	MUGGA MUGGA PORPHYRY CANBERRA ACT	-35.1	149.4	001	017	T	0	2.0-43.0		29	7.0	-80.0	20.0	0	0.0	9.0	6.0	08127	A	*
4 22	CANBERRA IGNEOUS ROCKS ACT	-35.2	149.0	008	040	N	13	12.0-37.0		6	21.0	-71.0	8.0	0	0.0	24.0	14.0	03066	B	
4 10	DOURO VOLCANICS YASS NSW	-34.7	148.9	002	007	N	0	306.0-11.0		18	18.0	-32.0	-83.0	0	0.0	18.0	9.0	03067	B	
4 63	DOURO VOLCANICS YASS NSW	-34.8	148.9	006	018	A	0	333.0-33.0		49	10.0	-61.5	-54.0	0	0.0	11.0	6.5	00000	A	**
4 61	LIDLAW FM YASS NEW SOUTH WALES	-34.8	148.9	006	015	A	100	147.0 11.0		18	18.0	-47.8	-95.0	0	0.0	18.0	9.0	00000	A	**
4 64	HAWKINS SERIES YASS NEW STH WALES	-34.8	148.9	001	002	A	0	324.0-23.0		0	0.0	-50.0	-95.0	0	0.0	0.0	0.0	00000	B	
4 65	SILURIAN OF YASS COMBINED NSW	-34.8	148.9	013	035	A	+5	329.0-22.0		18	10.0	-54.0	-89.0	32	7.0	10.6	5.7	00000	A	

## DEVONIAN OF AUSTRALIA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCL LAT	FCL LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
5 181	MEREENIE SANDSTONE AMADEUS BASIN	-23.8	133.0	000	011	T	18	50.0-24.5		16	0.0	-41.5	40.5	0	10.5	0.0	0.0	00000	A	*
5 35	LOCHIEL FORMATION SEDIMENTS NSW	-37.0	150.0	000	014	N	0	15.0-64.0		10	13.0	-76.0	103.0	0	0.0	20.0	17.0	03063	A	
5 35	LOCHIEL FORMATION BASALTS NSW	-37.0	150.0	007	019	N	28	5.0-23.0		29	14.0	-65.0	-20.0	0	0.0	15.0	8.0	03064	A	
5 145	LOCHIEL FORMATION BASALTS NSW	-37.0	149.8	012	025	A	36	355.0-11.0		12	9.0	-58.0	-40.0	0	7.0	0.0	0.0	00000	A	**
5 79	MUGGA PORPHYRY SEE 4-32																			
5 32	CANBERPA IGNEOUS ROCKS ACT	-35.2	149.0	008	040	N	13	12.0-37.0		6	21.0	-71.0	8.0	0	0.0	24.0	14.0	03066	B	
5 144	AINSLIE VOLCANICS CANBERRA ACT	-35.0	149.0	007	027	A	0	7.0-32.0		33	11.0	-71.0	-7.0	39	10.0	0.0	0.0	00000	A	**
5 143	BOWNING GROUP YASS AREA NSW	-34.8	148.8	007	025	A	0	28.0-42.0		37	10.0	-64.0	45.0	0	9.0	0.0	0.0	00000	A	**
5 34	CATOMBAL FORMATION NSW	-33.0	149.0	016	080	N	0	1.0-67.0		75	5.0	-73.0	147.0	0	0.0	8.0	6.0	03062	A	**
5 33	MURRUMBIDGEE SERIES CANBERPA ACT	-34.7	148.8	001	011	N	0	40.0-29.0		10	10.0	-49.0	41.0	0	0.0	11.0	6.5	03065	A	*
5 37	VICTORIAN REDBEDS SEE 6-120																			
5 65	DOTSWOOD RED BEDS QUEENSLAND	-19.8	146.4	000	019	T	100	195.1 75.1		17	8.0	-46.1	135.6	0	0.0	14.6	13.6	09121	A	*
5 69	HOUSETOP GRANITE AUREOLE TASMANIA	-41.3	145.9	005	024	N	0	32.0-69.0		9	28.0	-66.0	94.0	0	0.0	47.6	42.0	09123	B	

CARBONIFEROUS OF AUSTRALIA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	FF 95	DM	DP	OTHER	F	F
						R												LISTS	1	2
6 161	PERCY CREEK VOLCANICS QUEENSLAND	-19.8	146.4	000	005	A	100	244.0	85.4	20	18.2	-23.3	137.2	0	0.0	36.0	36.0	09097	B	
6 59	PATERSON TOSCANITE NEW SOUTH WALES	-32.6	151.7	004	012	A	0	2.0-67.0		0	3.0	-73.0	147.0	0	0.0	5.0	4.0	08108	A	*
6 58	UPPER KUTTJUNG GLACIAL SEDIMENT NSW	-31.6	151.4	009	040	T	100	213.0	79.0	11+	6.0	-48.0	134.0	0	0.0	11.0	11.0	08106	A	
6 76	UPPER KUTTJUNG GLACIAL SEDIMENT NSW	-31.5	150.5	018	083	T	100	201.0	80.0	45	5.0	-50.0	140.0	15	9.0	0.0	0.0	08106	A	**
6 77	PERMO-CARB REVERSED ZONE SEE 7-67																			
6 169	GOOND GOOND MUDSTONE NSW	-31.5	150.9	002	004	T	100	102.0	72.0	0	0.0	-32.3-170.0		0	0.0	0.0	0.0	08116	B	
6 63	LOWER KUTTJUNG LAVAS HUNTER VALLEY	-32.6	151.5	003	008	A	100	154.0	45.0	50	11.0	-67.0-110.0		0	0.0	15.0	10.0	08114	B	
6 281	ISISMURRA FORMATION HUNTER VALLEY	-32.2	151.2	005	007	A	0	336.0-49.2		5	40.7	-69.5	-60.6	0	0.0	53.9	35.7	00000	B	
6 282	VISFAN HUNTER VALLEY COMBINED NSW	-32.4	151.2	008	015	A	38	327.0-47.3		7	22.7	-61.4	-60.0	0	0.0	29.0	19.0	00000	B	
6 123	VICTORIA RED BEDS	-37.0	147.0	008	040	N	0	17.0-65.0		0	0.0	-74.0	101.0	0	0.0	0.0	0.0	03061	B	

PERMIAN OF AUSTRALIA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	FF 95	DM	DP	OTHER	F	F
						R												LISTS	1	2
7 65	NEW COUNCIL QUARRY DYKE NSW	-32.7	151.8	001	011	X	100	305.4	73.2	118	23.1	-12.4	127.0	0	0.0	41.6	37.4	08089	B	
7 43	LOWER MARINE BASALT NEW STH WALES	-32.7	151.6	001	006	A	100	230.0	76.0	170	5.0	-46.0	122.0	0	0.0	9.0	9.0	07040	B	
7 42	UPPER MARINE LATITES NSW	-34.6	150.8	012	043	A	100	232.0	81.0	26	6.0	-44.0	132.0	0	0.0	12.0	12.0	07039	A	**
7 64	MOONBI LAMPROPHYRE NEW SOUTH WALES	-31.0	151.0	001	003	A	100	253.0	80.0	100	11.0	-35.0	129.0	0	0.0	21.0	21.0	08079	B	
7 65	MILTON MONZONITE NEW SOUTH WALES	-35.3	150.5	004	009	A	100	85.0	81.0	39	15.0	-32.0	170.5	0	0.0	24.0	24.0	08080	B	
7 67	PERMO-CARB REVERSED ZONE NSW	-32.0	151.0	033	151	X	100	0.0	0.0	0	0.0	-45.9	131.5	14	7.0	0.0	0.0	00000	A	**

## CAMBRIAN OF EUROPE WITHOUT USSR POSSIBLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LONG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
2 147	CONNEMARA GABBRO SEE 3-106																			
2 2	CAERFAI SERIES RED BEDS WALES	52.0	-5.0	010	012	N	100	187.0	39.0	32	8.0	15.0	169.0	0	0.0	9.0	6.0	01121	A	
2 68	CAERFAI SERIES RED BEDS WALES	51.8	-5.1	016	047	Y	100	185.0	23.0	10	12.3	26.0	169.0	0	0.0	13.0	7.0	13066	A	**
2 3	HARTSHILL QUARTZITE ENGLAND	52.5	-1.5	000	007	A	100	193.0	34.0	12	16.0	18.0	165.0	0	0.0	18.0	10.0	05093	B	
2 145	FEN CARBONATITE COMPLEX NORWAY	59.3	9.3	001	019	A	100	205.0	-56.0	138	3.0	63.0	142.0	0	0.0	4.0	3.0	00000	A	
2 163	FEN CARBONATITE COMPLEX NORWAY MIX	59.3	9.3	007	030	X		30.0	10.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
2 9	BARRANDIAN PORPHYRY B CZECHOSLOVAK	50.0	13.7	000	037	N	0	192.0	66.0	0	9.0	-9.0	-174.0	0	0.0	14.0	12.0	05087	A	
2 13	BARRANDIAN PORPHYRY A1 CZECHOSLOVA	50.0	13.7	000	014	N	100	97.0	-22.0	0	21.0	13.0	-78.0	0	0.0	22.0	12.0	05088	B	
2 11	BARRANDIAN PORPHYRY A2 CZECHOSLOVA	50.0	13.7	000	015	N	100	123.0	8.0	0	16.0	17.0	-105.0	0	0.0	16.0	8.0	05088	A	
2 12	BARRANDIAN PORPHYRY A3 CZECHOSLOVA	50.0	13.7	000	012	N	100	17.0	35.0	0	9.0	66.0	134.0	0	0.0	11.0	6.0	05088	A	
2 13	BARRANDIAN PORPHYRY A4 CZECHOSLOVA	50.0	13.7	000	016	N	100	108.0	-14.0	0	8.0	17.0	-86.0	0	0.0	9.0	4.0	05088	A	
2 14	BARRANDIAN COMBINED A1 TO A4	50.0	13.7	003	045	N	100	109.0	-9.0	999	0.0	16.0	-88.0	0	0.0	9.0	6.0	05088	A	*
2 4	BARRANDIAN PORPHYRY C CZECHOSLOVAK	50.0	13.7	000	010	N	0	26.0	33.0	0	12.0	52.0	147.0	0	0.0	13.0	8.0	05086	A	
2 5	BARRANDIAN PORPHYRY D CZECHOSLOVAK	50.0	13.7	000	016	N	100	208.0	-12.0	0	15.0	40.0	156.0	0	0.0	15.0	8.0	05086	A	
2 6	BARRANDIAN PORPHYRY E CZECHOSLOVAK	50.0	13.7	000	013	N	100	226.0	-14.0	0	15.0	32.0	136.0	0	0.0	15.0	8.0	05086	A	
2 7	BARRANDIAN PORPHYRY F CZECHOSLOVA	50.0	13.7	000	009	N	100	188.0	16.0	0	25.0	30.0	185.0	0	0.0	26.0	13.0	05086	B	
2 8	BARRANDIAN COMBINED C TO F CZECHOS	50.0	13.7	004	048	N	71	27.0	11.0	10	0.0	40.0	157.0	0	0.0	17.0	9.0	05086	A	*
2 32	CZECHOSLOVAKIAN PORPHYRITES	50.8	13.8	000	005	N	100	125.0	26.0	0	0.0	10.0	-112.0	0	0.0	20.0	19.0	08139	B	
2 33	JINCE BEDS CZECHOSLOVAKIA	50.0	14.0	005	066	Y	40	43.0	-21.0	6	32.0	16.0	149.0	0	24.0	0.0	0.0	08140	B	
2 34	GLUBSHSKY CONGLOMERATE CZECHOSLOVA	49.7	14.0	000	009	A	0	280.0	20.0	0	0.0	14.0	-77.0	0	6.0	0.0	0.0	08141	B	
2 35	SADECKY BEDS CZECHOSLOVAKIA	49.7	14.0	000	020	N	0	254.0	34.0	0	0.0	1.0	125.0	0	5.0	0.0	0.0	08142	A	*
2 36	BOGUTINSKY SANDSTONE CZECHOSLOVAKI	49.7	14.0	000	019	A	0	190.0	66.0	0	0.0	8.0	7.0	0	0.0	21.0	12.0	08143	A	*
2 37	HLUBOS AND SADEK BEDS CZECHOSLOVAK	50.0	14.0	014	025	Y	0	263.0	33.0	7	16.0	10.0	-58.0	0	16.0	0.0	0.0	08146	A	**
2 67	PORPHYRY AND SEDIMENTS CZECHOSLOVA	50.0	14.0	008	122	Y	100	181.0	11.0	4	32.0	34.0	193.0	0	22.0	0.0	0.0	08138	B	



ORDOVICIAN OF EUROPE WITHOUT USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LCNG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
3 29	CIOMBRA VOLCANICS PORTUGAL	49.0	-8.0	001	002	A	0	101.0	16.5	0	0.0	3.0-112.0		0	0.0	0.0	0.0	11079	B	
3 45	MWELREA IGIMBRITES KILLARY EIRE	53.6	-9.7	004	025	X	100	134.0	32.0	23	20.0	9.0-146.0		0	0.0	22.0	12.0	11090	A	
3 105	MWELREA IGIMBRITES EIRE	53.6	-9.7	017	062	A	100	131.0	27.0	6	20.0	11.0-142.0		0	0.0	18.0	10.0	00000	A	**
3 106	CONNEMARA GABBRO EIRE	53.6	-9.9	014	072	A	100	221.0	25.0	3	26.0	15.0 129.0		0	0.0	27.0	15.0	00000	B	
3 111	CARADOCIAN VOLCANICS LAMBAY EIRE	53.5	-6.0	007	020	A	100	145.0-25.0		84	7.0	42.0-139.0		0	0.0	8.0	4.2	00000	A	**
3 112	CARADOCIAN VOLCANICS KILDARE EIRE	53.2	-6.9	000	018	A	100	198.0	6.0	35	10.0	33.0 164.0		0	0.0	10.0	5.0	00000	A	*
3 113	CARADOCIAN VOLCANICS PORTRANE EIRE	53.5	-6.1	000	018	A	100	224.0-25.0		14	10.0	37.0 117.0		0	0.0	14.0	10.0	00000	A	*
3 47	SKOMER VOLCANIC GROUP WALES	51.8	-5.2	010	030	A	100	196.0	9.0	9	17.5	32.0 155.9		0	0.0	17.0	8.5	13064	A	**
3 99	ASHGILLIAN INTRUSIVES BUILTH WALES	52.1	-3.3	006	037	A	50	174.0	55.0	37	11.2	2.0-178.0		0	0.0	16.0	11.0	00000	A	**
3 98	BUILTH WELLS VOLCANIC SERIES WALES	52.1	-3.3	015	068	A	100	177.0	39.0	20	8.9	16.0 179.0		0	0.0	10.6	6.3	00000	A	**
3 107	TREFGARN ANDESITIC SERIES WALES	51.9	-5.0	007	021	A	100	183.0	53.0	10	20.0	5.0 172.0		0	0.0	27.0	19.0	00000	A	**
3 108	FISHGUARD VOLCANIC SERIES WALES	52.0	-5.2	009	042	A	0	61.0-34.0		5	25.0	2.0 119.0		0	0.0	28.0	16.0	00000	B	
3 32	BUILTH VOLCANIC SERIES WALES	52.1	-3.2	000	009	A	100	196.4	34.9	12	15.8	19.0 169.0		16	13.1	0.0	0.0	09130	B	
3 31	BORROWDALE VOLCANIC ENGLAND	54.7	-2.9	007	007	A	0	13.5-33.6		17	14.9	14.0 165.1		29	11.4	0.0	0.0	09129	B	
3 33	MID-ORDOVICIAN VOLCANIC ENGLAND	0.0	0.0	000	016	A	57	0.0	0.0	0	0.0	16.0 167.0		0	0.0	0.0	0.0	00000	B	
3 101	NORTHERN BORROWDALE VOLCS ENGLAND	54.7	-2.9	027	135	A	0	360.0-45.0		28	5.0	9.0 176.0		0	0.0	7.0	4.0	00000	A	**
3 102	CARROCK FELL COMPLEX ENGLAND	54.7	-2.9	011	060	A	0	350.0-22.0		12	14.0	28.0-172.0		0	0.0	15.0	8.0	00000	A	**
3 34	ARENIG LAVAS GIRVAN SCOTLAND	55.2	-4.9	004	012	A	100	189.0	40.0	19	9.0	11.0 168.0		0	10.0	0.0	0.0	09131	A	*
3 17	YOUNGER GABBROS ABERDEEN SCOTLAND	57.5	-2.5	000	021	N	100	182.0	51.0	13	9.0	1.0 176.0		0	0.0	12.0	8.0	02039	A	
3 103	YOUNGER GABBROS ABERDEEN SCOTLAND	57.4	-2.5	032	150	X	100	168.0	34.0	10	8.6	11.0-171.0		0	0.0	10.0	6.0	00000	A	**
3 110	SULITJELMA GABBRO NORTHERN NORWAY	67.2	15.4	006	035	A	50	15.0-15.0		6	28.0	14.0 190.0		0	0.0	30.0	15.0	00000	B	
3 13	OOLITIC ORES 1 CZECHOSLOVAKIA	49.7	13.5	000	022	N	100	195.0	40.0	0	0.0	16.0 179.0		0	0.0	11.0	9.0	08134	A	*
3 14	OOLITIC ORES 2 CZECHOSLOVAKIA	50.0	14.0	000	028	N	100	279.0-55.0		0	0.0	21.0 74.0		0	0.0	11.0	8.0	08136	A	*
3 13	BARRANDIAN PORPHYRY SEE 2-4 TO 2-8																			
3 11	ZAMORANY BEDS CZECHSLOVAKIA	50.2	14.2	000	011	N	0	119.0	52.0	0	0.0	9.0 52.0		0	0.0	6.0	5.0	08133	A	*
3 12	CZECHOSLOVAKIAN SEDIMENTS	50.0	14.0	000	071	Y	0	101.0	56.0	9	22.0	21.0 72.0		0	28.0	0.0	0.0	08132	E	
3 15	KRUSNE HORY BEDS CZECHOSLOVAKIA	49.9	13.8	000	017	N	0	106.0	49.0	0	0.0	13.0 72.0		0	0.0	36.0	27.0	08135	B	

## ORDOVICIAN OF EUROPE WITHOUT USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	PCLE LONG	KF	EF 95	DM	DP	OTHER LIST	F 1	F 2
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3	15	DIABASE AND REDBEDS	CZECHOSLOVAKIA	50.0	14.0	012	169	Y	8	133.0	59.0	11	14.0	9.0	48.0	0	17.0	0.0	0.0	08137	A **
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## SILURIAN OF EUROPE WITHOUT USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KF	EF 95	DM	DP	OTHER LIST	F 1	F 2
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4	19	ATIENZA ANDESITES	SPAIN	41.0	-3.0	006	033	A	100	159.0	19.0	0	12.0	36.0-157.0	0	0.0	12.0	6.0	09126	A **
4	21	ALMADEN VOLCANICS	SPAIN	39.0	-5.0	002	010	A	100	131.0	22.0	0	11.0	21.0-132.0	0	0.0	11.0	6.0	09127	A *
4	72	SALROCK GROUP	SEDIMENTS EIRE	53.6	-9.9	028	171	N	0	+9.0	1.0	8	10.0	23.0 115.0	0	0.0	10.0	5.0	00000	A **
4	73	SALROCK+OWENJUFF	INTRUSIVES EIRE	53.8	-9.9	007	074	A	100	291.0	50.0	15	16.0	36.0 84.0	0	0.0	21.0	14.0	00000	A **
4	74	KNOCKNAVEEN GROUP	EIRE	53.9	-9.8	004	032	A	0	34.0-54.0		9	31.0	-3.0 143.0	0	0.0	44.0	31.0	00000	B
4	33	SKOMER VOLCANICS	WALES SEE 3-47																	
4	1	LUDLOW SERIES	WALES	52.0	-5.0	000	007	N	100	205.0-36.0		33	14.0	52.0 134.0	0	0.0	16.2	9.8	03068	B
4	34	ARROCHAR INTRUSIVE	SCOTLAND	56.2	-4.8	006	047	A	100	213.3	36.6	167	5.2	8.4 143.9	0	5.0	6.1	3.6	12139	A **
4	35	CARABAL HILL COMPLEX	SCOTLAND	56.2	-4.8	005	017	A	0	32.2-42.5		11	24.0	4.6 146.2	0	23.0	29.6	18.3	12138	B
4	62	FOYERS PLUTONIC COMPLEX	SEE 5-145																	
4	75	TORTWORTH TRAPS	GLOUCESTER ENGLAND	51.7	-2.4	002	011		63	261.0	34.0	12	14.0	9.0 107.0	0	0.0	16.0	9.0	00000	A *
4	81	ANDESITES OF MENDIPS ETC	ENGLAND	51.5	-4.5	005	034	A	60	243.5	47.5	29	13.6	-8.1 128.7	0	0.0	18.0	12.0	00000	A **
4	31	RINGERIKE SANDSTONE	NORWAY	60.8	10.0	000	007	T	0	31.0-11.0		0	0.0	21.0 159.0	0	0.0	0.0	0.0	10129	B
4	17	CZECHOSLOVAKIAN	DIABASE	50.0	14.0	000	025	Y	100	232.0	-9.0	0	6.0	27.0 132.0	0	0.0	6.0	3.0	08129	A *
4	15	CZECHOSLOVAKIAN	DIABASE	50.0	14.2	000	032	N	100	179.0	43.0	0	0.0	15.0-166.0	0	0.0	17.0	13.0	08130	A *

DEVONIAN OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
5 79	ASHPRINGTON VOLCANIC ENGLAND	51.0	-5.0	002	005	V	100	209.0	-24.0	17	0.0	0.0	0.0	0	0.0	0.0	0.0	12133	B	
5 75	BASIC DYKE+SILL SOUTHWEST ENGLAND	51.5	-4.5	018	258	N	100	202.0	7.0	5	15.0	32.0	149.0	0	0.0	15.0	8.0	08119	A	**
5 67	ULTRAMAFIC INTRUSIONS ENGLAND	51.0	-4.0	000	000		0	185.0	52.0	0	0.0	6.3	171.8	0	0.0	0.0	0.0	00000	B	
5 2	OLD RED SANDSTONE ENGLAND+WALES	52.0	-3.0	006	035	V	100	196.0	-4.0	19	5.0	38.0	156.0	0	0.0	5.0	3.0	01114	A	
5 77	OLD RED SANDSTONE ENGLAND+WALES	52.0	-3.0	000	035	T	0	66.0	-38.0	4	13.0	-3.0	118.0	0	0.0	14.0	12.0	08126	A	**
5 3	BROWNSTONE SERIES ORS ENGLAND	52.0	-3.0	000	003	N	100	233.0	-22.0	4	12.0	31.0	111.0	0	0.0	12.0	7.0	01115	B	
5 173	PORTISHEAD RED BEDS ETC ENGLAND	51.4	-2.5	010	082	T	100	196.0	9.0	23	10.0	32.0	158.0	0	0.0	10.0	5.0	00000	A	**
5 163	CHEVIOT HILL LAVAS NORTH ENGLAND	55.5	-2.4	011	035	Y	37	49.4	-53.0	10	14.9	-11.0	140.0	0	18.0	0.0	0.0	00000	A	**
5 3	UPPER OLD RED SANDSTONE SCOTLAND	55.5	-2.5	000	010	N	100	188.0	22.0	7	9.0	23.0	169.0	0	0.0	10.0	5.0	04031	A	*
5 4	LOWER DEV LAVAS 1 MIXED SCOTLAND	57.0	-2.0	000	000	V		46.0	-54.0	0	8.0	10.0	-39.0	0	0.0	12.0	8.0	08125	B	
5 5	LOWER DEVONIAN LAVAS 2 SCOTLAND	57.0	-2.5	005	009	V	0	35.0	5.0	25	11.0	29.0	136.0	0	0.0	11.0	7.0	04030	B	
5 62	LOWER DEVONIAN LAVAS 3 SCOTLAND	56.5	-4.0	010	073	A	20	57.6	-31.3	15	12.9	1.0	121.0	0	11.0	0.0	0.0	09124	A	
5 61	LOWER DEVONIAN LAVAS 4 SCOTLAND	56.7	-3.5	026	112	A	34	38.0	-47.4	17	7.1	-0.8	143.6	0	0.0	9.3	6.0	12137	A	
5 112	LOWER DEVONIAN LAVAS 5 SCOTLAND	55.0	-2.0	000	000		0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000		
5 171	STRATHMORE DEVONIAN LAVAS SCOTLAND	56.5	-3.0	034	170	A	39	40.0	-39.0	12	7.0	5.0	140.0	0	0.0	9.0	5.0	00000	A	
5 172	MIDLAND VALLEY LR DEVONIAN COMBINE	56.5	-3.0	029	000	X	42	42.0	-42.0	14	5.0	2.0	139.0	0	0.0	6.0	4.0	00000	A	**
5 82	ARFOCHAR INTRUSIVE SEE 4-34																			
5 83	GARABAL HILL SCOTLAND	56.2	-4.8	005	017	A	0	32.2	-42.5	11	24.0	4.6	146.2	0	0.0	29.6	18.3	12138	B	
5 146	FOYERS PLUTONIC COMPLEX SCOTLAND	57.2	-4.5	023	094	A	91	13.6	-5.8	4	17.6	29.0	160.0	0	0.0	17.6	8.9	00000	A	**
5 163	CAITHNESS ORS REDBEDS SCOTLAND	59.4	-3.5	000	006	T	0	30.5	-7.0	28	12.8	23.5	143.5	0	0.0	12.9	6.5	00000	B	
5 180	ORKNEY+SHEPHERD ORS LAVAS SCOTLAND	59.5	-1.5	007	036	X	70	216.0	46.0	18	14.0	-2.0	147.0	0	0.0	18.0	12.0	00000	A	**
5 173	ORKNEY ISLANDS LAVAS SCOTLAND	59.9	-3.0	002	007	T	71	205.0	9.4	45	9.1	23.7	149.5	0	0.0	9.3	4.7	13063	B	
5 1	Eifel SANDSTONE WEST GERMANY	51.0	6.0	001	004	V	100	197.0	-11.0	13	23.0	42.0	163.0	0	0.0	8.0	4.0	04029	B	
5 142	SCHARFENSTEIN PORPHYRY W GERMANY	49.3	7.7	005	000	A	0	58.0	-43.2	200	5.4	0.0	137.9	0	0.0	6.7	4.2	00000	B	
5 53	KVAMSHESTEN ORS REDBEDS NORWAY	61.4	5.6	000	040	T	100	194.0	12.0	7	0.0	22.0	170.0	0	0.0	9.5	4.5	12134	A	*
5 83	Ytteroy DYKE MIXED NORWAY	63.1	11.0	001	002	X		230.0	14.0	0	0.0	10.3	140.4	0	0.0	0.0	0.0	00000	B	
5 75	RORAGEN SANDSTONE NORWAY	62.5	11.9	008	013	T	69	210.0	9.0	0	15.0	19.0	160.0	0	0.0	15.0	8.0	08124	A	**

## DEVONIAN OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EP 95	DM	DP	CT	ER	F	F		
																				LI	ST	1	2
5	63 JOTNIAN+DALA SWEDEN SEE 1-254																						
5	81 BARRANDIAN RED LIMESTONE CZECHOSL	50.0	14.3	015	029	T	100	198.2	4.2		+ 15.9	35.6	171.9	0	0.0	16.0	8.0	00000	A	**			

CARBONIFEROUS OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 90	BUCACO RED BEDS PORTUGAL	40.3	-8.4	004	017	A	100	149.0	11.0	0	7.0	35.5-148.5		0	0.0	7.0	4.0	11072	A	*
6 93	VIAR ROCKS SPAIN SEE 7-112 ETC																			
6 312	CARBONIFEROUS LMST DUBLIN EIRE	53.4	-6.2	005	023	A	100	223.0	-7.0	174	6.0	30.0	122.0	0	0.0	6.0	3.0	00000	A	**
6 313	CARBONIFEROUS LMST CENTRAL EIRE	52.9	-8.0	021	195	A	100	196.0-10.0		40	5.0	40.0	153.0	0	0.0	6.0	3.0	00000	A	**
6 315	CARBONIFEROUS LIMESTONE AF EIRE	52.9	-8.0	020	000	A	100	188.0-25.0		0	9.0	50.0	160.0	0	0.0	10.0	6.0	00000	A	*
6 314	CARBONIFEROUS LIMESTONE TH EIRE	52.9	-8.0	020	000	T	100	191.0	-5.0	0	7.0	39.0	158.0	0	0.0	7.0	3.5	00000	A	*
6 305	LOWER LIMESTONE SHALES EIRE	52.7	-7.6	007	062	X	100	188.0-13.0		33	10.0	43.0	161.0	0	0.0	13.0	7.0	00000	A	**
6 14	CARBONIFEROUS LIMESTONE ENGLAND	54.0	-3.0	000	014	N	71	41.0	34.0	13	9.0	43.0	119.0	0	0.0	10.0	6.0	05047	A	*
6 15	LANCASHIRE SEDS NEGATIVE ENGLAND	54.0	-3.0	004	014	N	0	24.0	22.0	0	0.0	43.0	144.0	0	0.0	0.0	0.0	01103	B	
6 15	LANCASHIRE SEDS POSITIVE ENGLAND	54.0	-3.0	003	010	N	100	184.0	23.0	0	0.0	24.0	173.0	0	0.0	0.0	0.0	01103	B	
6 17	LANCASHIRE ROCKS COMBINED ENGLAND	54.0	-3.0	007	024	N	42	14.0	-1.0	0	0.0	34.0	160.0	0	0.0	0.0	0.0	00000	B	
6 19	KEELE RED BEDS ENGLAND	53.0	-2.0	000	017	N	100	220.0-20.0		67	10.0	37.0	126.0	0	0.0	10.0	5.0	04019	A	*
6 19	KEELE RED BEDS ENGLAND	53.0	-2.0	001	007	N	100	199.0	34.0	0	0.0	16.0	159.0	0	0.0	0.0	0.0	04019	B	
6 20	KEELE RED BEDS COMBINED	53.0	-2.0	000	024	N	100	19.0	-6.0	0	0.0	28.0	144.0	0	0.0	0.0	0.0	00000	B	
6 21	DERBYSHIRE SEDS NEGATIVE ENGLAND	53.0	-1.5	003	013	N	0	37.0	39.0	0	0.0	48.0	128.0	0	0.0	0.0	0.0	01103	B	
6 22	DERBYSHIRE SEDS POSITIVE ENGLAND	53.0	-1.5	003	011	N	100	197.0	37.0	0	0.0	15.0	162.0	0	0.0	0.0	0.0	01103	B	
6 23	DERBYSHIRE SEDIMENTS COMBINED	53.0	-1.5	006	024	N	46	28.0	1.0	0	0.0	33.0	148.0	0	0.0	0.0	0.0	00000	B	
6 24	TIDESWELDALE IGNEOUS RX ENGLAND	53.5	-1.5	001	007	N	100	218.0	36.0	0	0.0	9.6	142.6	0	0.0	0.0	0.0	01097	B	
6 25	TIDESWELDALE BAKED SEDS ENGLAND	53.5	-1.5	001	006	N	100	221.0	34.0	0	0.0	9.7	139.4	0	0.0	0.0	0.0	01097	B	
6 25	TIDESWELDALE COMBINED ENGLAND	53.5	-1.5	001	013	N	100	220.0	35.0	0	0.0	9.0	141.0	0	0.0	0.0	0.0	01097	B	
6 29	TOADSTONE LAVAS DERBYSHIRE ENGLAND	53.0	-1.5	003	009	Z	50	48.0	47.0	13	13.0	47.0	105.0	0	0.0	17.0	10.0	01102	B	
6 30	MIDLAND SILLS ENGLAND	52.5	-2.0	005	008	N	75	198.0	15.0	12	23.0	0.0	0.0	0	0.0	23.7	12.2	01096	B	
6 31	MIDLAND BAKED SEDIMENTS ENGLAND	52.5	-2.0	005	010	N	100	199.0	12.0	59	10.0	0.0	0.0	0	0.0	0.0	0.0	01096	B	
6 32	MIDLANDS SILLS BAKED SEDS ENGLAND	52.5	-2.0	010	018	N	89	199.0	13.0	22	11.0	28.0	157.0	0	0.0	12.0	6.0	01096	A	*
6 33	LITTLE WENLOCK LAVA ENGLAND	52.5	-2.5	001	002	N	0	356.0	15.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
6 34	LITTLE WENLOCK BAKED SED ENGLAND	52.5	-2.5	001	002	N	0	359.0	-7.0	0	0.0	34.0	178.7	0	0.0	0.0	0.0	00000	B	
6 35	LITTLE WENLOCK ROCKS COMBINED	52.5	-2.5	002	004	N	0	357.0	4.0	0	0.0	39.0-172.0		0	0.0	0.0	0.0	00000	B	

## CARBONIFEROUS OF EUROPE WITHOUT USSR NORTH FCLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCL LAT	PCL LCNG	KP	EF 95	DM	DP	OTHER LISTS	F 1	F 2
6 37	PENNANT SANDSTONE ENGLAND	51.5	-2.5	001	001	N	0	33.0	35.0	13	11.0	49.0	126.0	0	0.0	12.0	7.0	00000	B	
6 38	CARBONIFEROUS COMBINED 1 ENGLAND	54.0	-3.0	000	000	N	0	20.0-33.0		31	10.0	16.0	159.0	0	0.0	8.0	8.0	00000	A	
6 39	CARBONIFEROUS COMBINED 2 ENGLAND	54.0	-3.0	005	063	N	0	37.0	31.0	48	11.0	43.0	126.0	0	0.0	6.0	6.0	00000	A	*
6 119	GREAT WHIN SILL NORTHERN ENGLAND	55.0	-2.0	034	102	A	100	188.0	-5.0	34	4.0	37.0	169.0	0	0.0	3.0	3.0	02036	A	
6 139	GREAT WHIN SILL NORTHERN ENGLAND	55.5	-1.7	005	024	X	100	193.9-21.7		259	4.8	44.4	159.1	0	0.0	5.0	3.0	11077	A	**
6 310	WACKERFIELD DYKE NORTHERN ENGLAND	54.5	-1.8	001	010	A	100	186.0-26.0		174	3.0	22.0-175.0		0	0.0	3.0	2.0	00000	A	*
6 350	CRACOE REEFS CRAVEN YORKSHIRE ENGL	54.8	-2.0	003	013	T	0	20.7	31.3	10	40.9	48.9	147.0	00	0.0	40.9	25.4	00000	B	
6 351	PENDLESIDE LIMESTONE NORTH ENGLAND	54.8	-2.1	006	030	T	100	216.0-31.6		46	10.0	43.3	127.3	00	0.0	11.2	6.3	00000	A	
6 352	BOLLADOCERAS BEDS CRAVEN ENGLAND	54.8	-2.3	004	021	T	100	192.0	-3.0	66	11.4	35.8	162.9	00	0.0	11.4	5.7	00000	A	
6 353	SALTHILL REEF-KNOLLS CRAVEN ENGLAN	54.8	-2.4	008	042	T	75	196.7-14.6		16	14.5	40.8	155.5	00	0.0	14.9	7.6	00000	A	
6 354	CHATBURN LIMESTONE LANCASHIRE ENGL	54.8	-2.3	006	024	T	100	205.9-19.6		139	5.7	40.8	143.1	00	0.0	6.0	3.1	00000	A	
6 355	WISEAN OF CRAVEN COMBINED ENGLAND	54.8	-2.2	024	117	T	92	202.6-18.4		19	6.9	41.0	147.3	00	0.0	7.2	3.7	00000	A	**
6 306	PORTISHEAD REDBEDS ETC SEE 5-173																			
6 166	CULM DEVONSHIRE SED+DOLERITE ENGLA	51.0	-4.0	005	034	N	100	189.0-21.0		49	13.0	49.2	162.4	0	0.0	13.8	7.3	09118	A	**
6 167	ULTRABASIC INTRUSION SW ENGLAND	51.0	-4.0	000	000		0	185.0	52.0	0	0.0	6.3	171.8	0	0.0	0.0	0.0	00000	B	
6 177	DYKES+SILLS SW ENGLAND SEE 5-76																			
6 12	KINGHORN SILL BED 65 SCOTLAND	56.0	-3.0	001	002	N	0	15.0	14.0	0	0.0	39.7	157.5	0	0.0	0.0	0.0	00000	B	
6 11	KINGHORN LAVAS 1 SCOTLAND	56.0	-3.0	021	043	N	0	4.0-31.0		32	14.0	17.0	167.0	0	0.0	16.0	9.0	01099	A	
6 175	KINGHORN LAVAS 2 SCOTLAND	56.0	-3.0	017	033	T	47	15.9-28.5		0	8.0	18.0	161.0	0	0.0	9.0	5.0	08118	A	**
6 13	SOUTHDEAN BASANITE PLUG SCOTLAND	55.5	-2.5	001	005	N	100	227.0-38.0		13	10.0	41.0	112.0	0	0.0	12.0	7.0	04022	B	
6 35	WELSH SEDIMENTS WALES	51.2	-3.5	002	018	N	100	205.0	49.0	0	0.0	6.0	155.0	0	0.0	0.0	0.0	00000	B	
6 303	FLAMANVILLE GRANITE NORMANDY FRANC	49.1	-1.9	000	008	A	100	203.0	13.5	0	14.5	43.5	145.8	0	0.0	13.8	7.0	00000	B	
6 280	PAS DE CALAIS BORE-CORE SEE 7-291																			
6 106	OTTA GABBRO DIORITE FRANCE	42.2	8.8	002	014	A	100	189.2-13.1		56	0.5	53.5	174.0	0	0.0	5.0	3.0	09119	A	*
6 81	CORSICAN LAVAS AND TUFFS FRANCE	42.3	8.6	015	015	A	100	141.0	8.5	9	14.0	31.5-124.0		0	0.0	14.0	7.0	09088	A	
6 105	CORSICAN LAVAS AND DYKES FRANCE	42.3	8.5	037	000	A	100	177.0-14.0		9	8.4	55.0-166.0		0	0.0	8.0	4.0	11075	A	**
6 1	STEPHANIAN RED SANDSTONE WEST GERM	49.0	7.0	001	000	N	100	180.0	0.0	16	6.0	41.0-173.0		0	0.0	6.0	3.0	04023	B	

CARBONIFEROUS OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	EO 95	PCLE LAT	FOLE LONG	KP	EF 95	DM	DP	OTHER LISTS	F 1	F 2
6 2	STEPHANIAN RED SANDSTONE FRANCE	47.0	4.5	001	000	N	100	180.0	20.0	12	5.0	33.0-175.0		0	0.0	6.0	3.0	04024	B	
6 3	STEPHANIAN RED SANDSTONE FRANCE	45.4	4.5	001	000	N	100	181.0	22.0	4	22.0	33.0-176.0		0	0.0	23.0	12.0	04025	B	
6 4	STEPHANIAN COMBINED FRANCE-W GERMA	47.1	5.3	003	032	N	100	180.0	14.0	44	19.0	36.0-175.0		0	0.0	19.6	10.1	00000	A *	
6 277	SCHARFENSTEIN PORPHYRY SEE 5-142																			
6 104	NY-HELLESUND DIABASE SOUTH NORWAY	58.0	7.8	010	037	X	100	201.3-18.4	284	2.9	38.6	160.7		0	0.0	3.0	2.0	12119	A **	
6 311	ARENDAL DIABASE DYKES SOUTH NORWAY	58.5	8.6	008	044	X	100	207.6-32.8	51	7.9	44.6	150.3		0	0.0	8.9	5.0	00000	A **	
6 125	MT-BILLINGER SILL SOUTH SWEDEN	58.2	14.0	009	080	A	100	198.0	-3.0	529	2.0	31.0	174.0		0	0.0	2.0	1.0	10107	A
6 127	MT-HUNNEBERG SILL SOUTH SWEDEN	58.5	12.5	003	033	A	100	201.0-17.0	660	5.0	38.0	166.0		0	0.0	5.0	3.0	10108	A	
6 128	DOLERITE DYKES SKANE SOUTH SWEDEN	55.5	13.5	008	048	A	100	195.0	-9.0	60	7.0	37.0	174.0		0	0.0	7.0	4.0	10109	A
6 131	INTRUSIVES COMBINED SOUTH SWEDEN	57.0	14.0	013	161	A	100	196.3	-8.9	77	4.8	35.9	173.9		0	0.0	4.8	2.4	00000	A **
6 324	QUARTZ DOLERITE DYKES SKANE SWEDEN	55.9	13.5	013	060	A	100	199.5-15.0	40	6.5	38.5	168.5		0	0.0	7.0	4.0	00000	A **	
6 103	COLLIO+AUCCHIO VOLCANICS SEE 7-128																			
6 82	LAGORAI QUARTZ-PORPHYRY SEE 7-77																			
6 132	PRAMOLO CLASTIC SEDIMENTS ITALY	46.0	11.0	000	009	A	0	24.0	40.0	0	0.0	60.0	142.0		0	0.0	0.0	0.0	09091	B
6 107	HEMATITE VEINS CZECHOSLO SEE 7-134																			
6 129	FREIBERG VEINS CZECHOSLO SEE 7-158																			
6 95	PLENZEN RED BEDS CZECHOSLOVAKIA	49.8	13.3	003	065	T	100	214.7	2.1	13	5.1	31.1	151.7		0	0.0	5.1	2.6	10112	A
6 97	KLADNO-RAKOVNIK RED MUDSTONE CZECH	50.2	14.0	004	073	T	100	211.7	-5.4	42	2.6	35.5	153.8		0	0.0	2.6	1.3	10113	A
6 98	INNER SUDETIC SED+IGN RX CZECHOSLO	50.6	16.1	015	076	X	100	195.1	-1.8	18	4.0	38.7	176.8		0	0.0	4.0	2.0	10111	A
6 99	BLANICE GRABEN RED BEDS CZECHOSLOV	50.0	14.8	003	025	T	100	210.3-14.1	91	3.1	40.2	153.9		0	0.0	3.1	1.6	00000	A	
6 100	BOSKOVICE GRABEN RED BEDS CZECHOS	49.2	16.4	000	040	N	100	200.9	-4.7	34	3.9	39.9	168.6		0	0.0	4.0	2.0	00000	A
6 101	KRAKONOSE RED BEDS CZECHOSLOVAKIA	50.5	15.4	005	057	T	100	195.1-13.7	31	3.4	44.7	174.1		0	0.0	3.5	1.8	00000	A	
6 102	BOHEMIAN MASSIF COMBINED CZECHOSLO	50.0	15.0	030	336		100	204.6	-6.3	56	9.0	38.8	162.7	66	8.3	9.0	4.5	00000	A **	
6 94	SUDETIC PORPHYRIES SILESIA POLAND	50.5	16.5	008	033	Y	100	196.0-12.0	17	14.0	43.0	174.0		0	0.0	14.0	7.0	11071	A **	
6 89	KRAKOW DIABASE SILL POLAND	50.0	20.0	001	005	A	100	212.5-15.8	60	10.0	40.1	155.9		0	0.0	10.3	5.3	08102	B	



## PERMIAN OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EF 95	DM	DP	OTHER LISTS	F 1	F 2
7 109	BUGADJ REDBEDS PORTUGAL SEE 6-90																			
7 55	HUESCA PROVINCE RED BEDS SPAIN	43.0	-1.0	000	009	A	0	250.0	51.0	7	0.0	8.0	-54.0	0	0.0	0.0	0.0	07037	B	
7 55	HUESCA PROVINCE ANDESITE SPAIN	43.0	-1.0	000	014	A	100	152.0	-22.0	65	5.0	51.0	-133.0	0	0.0	5.0	3.0	07036	A	
7 21	PYRENEAN ROCKS HUESCA SPAIN	42.7	-0.5	000	000	N	100	159.0	-14.0	0	0.0	52.0	-154.0	0	0.0	0.0	0.0	00000	B	
7 79	PYRENEAN ROCKS SPAIN	42.7	0.5	001	011	A	100	163.0	-13.5	0	0.0	51.1	-153.0	0	0.0	0.0	0.0	00000	B	
7 315	PYRENEAN ROCKS COMBINED SPAIN	43.0	-0.5	003	034	Y	100	0.0	0.0	0	0.0	51.8	-146.6	120	11.3	0.0	0.0	00000	A *	
7 113	VIAR RED BEDS SPAIN	37.5	-5.9	003	008	T	100	151.0	2.0	0	6.0	42.5	-144.0	0	0.0	6.0	3.0	11073	B	
7 111	VIAR DYKE AND SILLS SPAIN	37.5	-5.9	003	014	T	100	156.0	10.0	0	13.0	41.0	-152.0	0	0.0	13.0	7.0	11074	A	
7 112	VIAR ROCKS COMBINED SPAIN	37.5	-5.9	006	022	T	100	153.5	6.0	0	0.0	42.6	-148.6	0	0.0	11.0	5.0	00000	A **	
7 105	SEO DE URGEL ANDESITES SPAIN	42.0	1.5	010	041	A	100	169.5	-3.0	0	6.0	48.5	-163.0	0	0.0	6.0	3.0	09080	A	
7 106	SEO DE URGEL SEDIMENTS SPAIN	42.0	1.5	001	007	A	100	162.0	-3.5	0	8.0	47.0	-154.0	0	0.0	8.0	4.0	09079	B	
7 107	SEO DE URGEL SEDIMENTS SPAIN	42.0	1.5	001	006	A	100	152.5	-33.0	0	10.0	56.5	-128.0	0	0.0	11.0	7.0	09078	B	
7 108	SEO DE URGEL SED COMBINED SPAIN	42.0	1.5	002	013	A	100	157.7	-18.3	0	0.0	51.9	-144.0	0	0.0	8.0	5.0	00000	A *	
7 275	CINCO-VILLAS AND RHUNE LAVAS SPAIN	43.2	-1.6	017	065	T	100	217.5	-11.3	25	7.2	40.0	126.0	0	0.0	7.5	3.8	00000	A **	
7 14	EXETER TRAPS COUNTY DEVON ENGLAND	51.0	-4.0	005	034	N	100	189.0	-9.0	15	20.0	43.0	164.0	0	0.0	20.0	10.0	01073	A	
7 88	EXETER TRAPS COUNTY DEVON ENGLAND	51.0	-4.0	005	030	A	100	198.0	-25.0	0	7.0	49.5	148.5	0	0.0	8.0	4.0	09089	A	
7 87	EXETER TRAPS COUNTY DEVON ENGLAND	51.0	-4.0	022	066	W	100	188.0	-13.0	19	7.0	46.0	165.0	0	0.0	7.0	4.0	09090	A	
7 316	EXETER TRAPS COUNTY DEVON ENGLAND	51.0	-4.0	009	027	N	100	189.0	-19.0	29	10.0	48.0	163.0	0	0.0	11.0	6.0	00000	A **	
7 89	REDBEDS COUNTY DEVON ENGLAND	50.0	-3.5	003	007	N	100	188.0	-14.0	24	26.0	46.0	165.0	0	0.0	16.5	13.8	00000	B	
7 15	GREAT WHIN SILL SEE 6-118																			
7 169	GREAT WHIN SILL SEE 6-139																			
7 16	MAUCHLINE LAVAS AYRSHIRE SCOTLAND	55.4	-4.5	000	034	N	100	180.0	-4.0	9	8.0	36.0	175.0	0	0.0	8.0	4.0	01074	A	
7 17	MAUCHLINE REDBEDS AYRSHIRE SCOTLAND	55.4	-4.5	000	026	N	100	187.0	-6.0	5	12.0	37.0	167.0	0	0.0	12.0	6.0	01075	A	
7 253	MAUCHLINE ROCKS COMBINED SCOTLAND	55.4	-4.5	000	060	N	100	0.0	0.0	0	0.0	36.5	171.0	0	0.0	10.0	5.0	00000	A *	
7 18	AYRSHIRE KYLITES SCOTLAND	55.4	-4.5	000	007	Y	100	190.0	2.0	5	12.0	34.0	163.0	0	0.0	12.0	6.0	01076	B	
7 291	PAS DE CALAIS BORE CORES FRANCE	0.0	0.0	002	033	B	0	0.0	12.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
7 1	ESTEREL PYROMERIDE R4 FRANCE	43.5	6.8	001	005	N	100	210.0	-16.0	0	0.0	46.0	142.0	0	0.0	0.0	0.0	01078	B	

PERMIAN OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LONG	KP	EP 95	DM	OP	OTHER F LISTS	F 1	F 2
7 2	ESTEREL RHYOLITE R3 FRANCE	43.5	6.8	001	014	N	100	217.0-23.0		69	5.0	45.0	131.0	0	0.0	5.0	3.0	01079	A	
7 3	ESTEREL DOLERITE SOUTHERN FRANCE	43.5	6.8	001	003	N	100	175.0-13.0		20	18.0	53.0	165.0	0	0.0	18.0	9.0	01080	B	
7 4	ESTEREL IGNEOUS ROCKS COMBINED	43.5	6.8	003	022	N	100	201.0-18.0		14	0.0	50.0	146.0	0	0.0	0.0	0.0	00000	B	
7 5	ESTEREL IGNEOUS+SEDIMENTARY FRANCE	43.5	6.8	000	014	X	100	207.0-16.0		59	5.0	47.0	145.0	0	0.0	5.0	3.0	01081	A *	
7 5	MONTCEIS SANDSTONE FRANCE	46.5	4.5	001	003	N	100	197.0	6.0	93	4.0	38.0	162.0	0	0.0	4.0	2.0	01083	B	
7 7	NIDECK PORPHYRY VOSGE FRANCE	48.0	6.0	000	014	N	100	193.0	-7.0	22	5.0	43.0	168.0	0	0.0	5.0	3.0	01082	A	
7 54	NIDECK-DONON VOLCANICS FRANCE	53.9	5.7	009	037	T	100	193.0-13.0		134	4.0	41.0	169.0	0	0.0	4.0	2.0	07035	A	
7 274	NIDECK VOLCANICS VOSGE FRANCE	53.9	5.7	003	000	A	100	194.1	-3.5	44	18.9	36.6	165.1	0	0.0	18.9	9.5	00000	B	
7 275	NIDECK-DONON VOLC COMBINED FRANCE	53.9	5.7	012	050	A	100	192.9-10.4		82	4.8	40.2	168.7	0	0.0	4.9	2.5	00000	A **	
7 99	VALLEE DU GUIL DACITES FRANCE	44.5	7.0	000	008	X	100	147.0-32.0		17	14.0	51.0	116.0	0	0.0	14.0	7.0	11068	B	
7 103	VALLEE DU GUIL DACITES FRANCE	44.5	7.0	000	010	A	100	155.0-27.0		0	0.0	53.1	130.0	0	0.0	0.0	0.0	00000	B	
7 101	VALLEE DU GUIL DACITES COMBINED	44.5	7.0	000	018	X	100	151.1-29.6		0	0.0	52.4	123.4	0	0.0	0.0	0.0	00000	B	
7 273	GUIL VOLCANICS FRANCE	44.8	6.8	005	039	Y	100	156.0-19.0		30	4.0	49.0-135.0		0	0.0	5.0	3.0	00000	A **	
7 272	ALLEVARD SANDSTONE ISERE FRANCE	45.3	6.0	002	000	Y	100	226.0-15.0		0	0.0	35.0	125.0	0	0.0	0.0	0.0	00000	B	
7 141	MONTE BESIMAUDA RHYOLITE 1 FRANCE	44.1	7.3	003	008	N	100	110.0-76.0		999	11.0	-47.0	149.0	0	0.0	20.0	19.0	10097	B	
7 142	MONTE BESIMAUDA RHYOLITE 2 FRANCE	44.1	7.3	004	014	N	100	62.0-52.0		999	8.0	-5.0	139.0	0	0.0	11.0	8.0	10098	A *	
7 164	DOME DE BARROT RED BEDS FRANCE	44.1	6.7	035	133	A	100	206.0-13.5		0	2.5	46.5	147.5	0	0.0	2.6	1.3	12110	A **	
7 133	CORSICAN LAVAS AND DYKES SEE 6-105																			
7 75	CORSICAN LAVAS AND TUFFS SEE 6-81																			
7 137	MALMEDY CONGLOMERATE BELGIUM	50.3	6.0	007	026	N	100	193.5-14.2		129	5.3	46.2	166.4	0	0.0	5.4	2.8	09076	A *	
7 13	OSLO IGNEOUS COMPLEX NORWAY	59.7	10.4	027	484	X	100	204.0-36.0		21	1.0	47.0	157.0	0	0.0	2.0	1.0	05037	A **	
7 153	MT BILLINGER SILL SWEDEN SEE 6-126																			
7 154	MT HUNNEBERG SILL SWEDEN SEE 6-127																			
7 155	SKANE DYKES SWEDEN SEE 6-128																			
7 165	INTRUSIVES SWEDEN COMBIN SEE 6-131																			
7 296	DOLERITE DYKE OF SKANE SEE 6-324																			
7 295	MELAPHYRE DYKES SKANE SWEDEN	55.9	13.5	009	049	A	100	193.5-38.0		26	11.0	54.0	171.5	0	0.0	13.0	8.0	00000	A **	

## PERMIAN OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED	PCLE LAT	FOLE LONG	KP	FP 95	DM	DP	OTHER LISTS	F 1	F 2
7 8	ST-WENDEL SANDSTONE WEST GERMANY	49.5	7.0	000	005	N	100	181.0	-9.0	27	4.0	45.0-175.0		0	0.0	4.0	2.0	01084	B	
7 9	ROTLIEGENDE SED+LAVA WEST GERMANY	48.5	7.5	004	036	N	100	177.0	1.0	27	18.0	40.0-170.0		0	0.0	14.0	14.0	04015	A *	
7 10	NAHE IGNEOUS ROCKS WEST GERMANY	50.0	8.0	004	018	N	100	195.0	-4.0	5	0.0	40.0 168.0		0	0.0	0.0	0.0	02037	B	
7 11	NAHE IGNEOUS ROCKS WEST GERMANY	50.0	8.0	000	075	A	100	195.0-15.0		54	13.0	46.0 167.0		0	0.0	13.0	7.0	05036	A *	
7 216	BLACK FOREST ROCKS WEST GERMANY	48.3	7.7	018	130	X	100	189.3-15.0		35	6.0	48.4 174.1		0	0.0	6.1	3.1	00000	A **	
7 217	SCHOPFHEIM RED BEDS WEST GERMANY	47.7	7.6	005	038	T	100	209.0	11.4	76	8.8	30.7 154.1		0	0.0	8.9	4.6	00000	A **	
7 19	BOLZANO QUARTZ PORPHYRY ITALY	46.6	11.2	000	051	A	100	164.0-11.0		0	8.0	45.0-146.0		0	0.0	8.0	4.0	06049	A	
7 20	BOLZANO QUARTZ FORPHYRY ITALY	46.5	11.4	000	033	A	100	150.0-31.0		0	4.0	51.0-119.0		0	0.0	4.0	3.0	06050	A	
7 102	BOLZANO QUARTZ FORPHYRY ITALY	46.6	11.2	000	000	A	100	152.2-19.0		0	0.0	46.2-127.2		0	0.0	0.0	0.0	00000	B	
7 175	BOLZANO QUARTZ FORPHYRY ITALY	46.3	11.5	039	152	X	100	150.0-19.5		0	4.9	45.7-123.7		0	0.0	5.3	2.8	13049	A **	
7 77	LAGORAI QUARTZ FORPHYRY ITALY	46.2	11.4	009	033	A	100	143.0-15.0		0	11.0	40.1-117.4		0	0.0	11.3	5.8	00000	A **	
7 78	CHUISA VOLCANICS ITALY	46.6	11.3	001	008	N	100	173.0	-8.5	0	0.0	48.0-158.0		0	0.0	0.0	0.0	09081	B	
7 128	COLLIO AUCCIO VOLCANICS ITALY	45.8	10.2	005	033	A	100	135.0-21.0		0	2.0	38.0-108.0		0	0.0	2.1	1.1	11069	A **	
7 68	PORPHYRIES LUGANO ITALY	45.9	8.8	007	011	A	100	143.5-17.0		28	8.7	41.5-119.5		0	0.0	8.9	4.6	08081	A **	
7 176	SOUTHERN ALPS IGNEOUS COMB ITALY	46.3	11.0	068	280	X	100	148.0-20.0		0	4.0	44.9-122.0		0	0.0	21.0	11.0	13048	A	
7 76	POSINA IGNEOUS COMPLEX ITALY	45.0	11.0	001	007	A	100	148.0-29.0		0	0.0	50.0-116.0		0	0.0	0.0	0.0	09084	B	
7 80	VINCENTIAN ALPS DYKE ITALY	48.8	11.3	001	009	A	100	143.0-34.0		0	0.0	47.6-119.0		0	0.0	0.0	0.0	00000	B	
7 81	VIOLET PORPHYRY CAVALESE ITALY	46.3	11.5	001	006	A	100	162.0-23.0		0	0.0	54.0-138.0		0	0.0	0.0	0.0	09083	B	
7 82	GARDENA SANDSTONE CORTINA ITALY	45.7	11.3	000	005	A	100	150.0-22.0		0	0.0	48.0-122.0		0	0.0	0.0	0.0	09068	B	
7 83	GARDENA SS SAN MARTINO ITALY	46.7	11.5	000	010	A	0	333.0	26.0	0	0.0	50.0-125.2		0	0.0	0.0	0.0	09077	B	
7 84	GARDENA SANDSTONE COCCAU ITALY	46.5	13.7	000	009	A	0	35.0	24.0	0	0.0	45.1 141.3		0	0.0	0.0	0.0	09077	B	
7 133	GARDENA SANDSTONE ITALY	46.5	11.8	004	007	T	100	148.0-13.0		0	18.0	41.5-123.6		0	0.0	18.4	9.8	12111	B	
7 317	GARDENA SANDSTONE COMBINED ITALY	46.6	12.0	006	022	X	54	0.0	0.0	0	0.0	46.7-123.7		357	6.5	0.0	0.0	00000	A **	
7 85	CAMPARNO STARO IGNEOUS ROCKS ITALY	45.0	11.0	000	019	A	53	332.0	32.0	220	6.0	53.0-119.0		0	0.0	7.0	4.0	09067	A *	
7 132	SARDINIA IGNIMBRITES ITALY	41.0	9.0	006	029	A	100	142.5	-2.0	34	11.5	38.0-121.0		0	0.0	12.0	6.0	12113	A **	
7 131	SARDINIA RED SANDSTONE ITALY	40.5	8.5	002	015	A	100	110.0-15.5		0	0.0	20.0 -89.0		0	0.0	0.0	0.0	12112	B	
7 209	MECSEK RED BEDS HUNGARY	46.1	18.0	008	048	T	100	186.9-18.4		14	5.8	52.9-173.3		0	0.0	6.0	3.1	00000	A **	

PERMIAN OF EUROPE WITHOUT USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	EP 95	DM	DP	OTHER	F F
						R												LISTS	1 2
7 103	KRAKOW VOLCANICS POLAND	50.0	20.0	011	041	Y	100	205.2-16.4		35	7.9	43.0	165.0	0	0.0	8.2	4.2	08087	A **
7 104	KRAKOW DIABASE SILL POLAND	50.0	20.0	001	005	A	100	212.5-15.8		60	10.0	40.1	155.9	0	0.0	10.3	5.3	08102	B
7 113	SUETIC IGNEOUS RX SILESIA POLAND	51.0	15.5	014	060	Y	100	196.0 -4.0		15	11.0	43.0	175.0	0	0.0	11.0	6.0	11070	A **
7 69	CZECHOSLOVAKIAN SANDSTONE	49.5	16.6	000	015	N	100	216.0 -9.0		0	0.0	36.0	150.0	0	4.0	0.0	0.0	08083	A *
7 122	BLANICE GRABEN NORTH REDBEDS CZECH	50.1	14.9	000	043	N	100	207.7-11.6		38	3.6	40.0	157.7	0	0.0	3.6	1.8	00000	A
7 123	BLANICE GRABEN SOUTH REDBEDS CZECH	49.4	14.8	000	034	N	100	204.1 -9.1	154	2.0	40.8	162.3	0	0.0	2.0	1.0	00000	A	
7 124	BOSKOVICE GRABEN CENTRE REDBEDS CZ	49.2	16.4	004	040	T	100	201.2 -5.8		53	3.1	40.3	168.1	0	0.0	3.1	1.6	00000	A
7 125	BOSKOVICE GRABEN CENTRE REDBEDS CZ	49.5	16.6	006	045	T	100	207.3-12.9		37	3.5	41.3	159.3	0	0.0	3.6	1.8	00000	A
7 126	ROTLIEGENDE UP+MID REDBEDS CZECHOS	50.5	15.7	000	116	Z	100	199.9-10.6		14	3.7	41.9	168.6	0	0.0	3.8	1.9	00000	A
7 127	ROTLIEGENDE LOWER REDBEDS CZECHOSL	50.6	15.5	000	089	Z	100	200.2 -2.4		30	2.8	37.8	169.7	0	0.0	2.8	1.4	00000	A
7 136	BOHEMIAN MASSIF COMBINED CZECHOSLA	50.0	15.5	000	367	Z	100	203.4 -8.7	238	4.3	40.4	164.3	365	3.5	0.0	0.0	00000	A **	
7 129	TURKANK VEINS CZECHOSLOVAKIA	50.0	15.3	000	016	A	100	193.7 0.7		27	7.2	38.4	177.7	0	0.0	7.2	3.6	00000	A *
7 134	HEMATITE VEINS CZECHOSLOVAKIA	50.0	13.5	007	055	Y	97	214.0-12.0		17	15.0	38.0	149.0	0	9.0	0.0	0.0	08094	A **
7 158	FRIEBERG MINERALIZED VEINS CZECHOV	50.9	13.4	004	062	0	100	209.2 4.9		5	8.9	31.1	158.7	0	0.0	8.9	4.4	00000	A *
7 159	GREISENS HORNÍ SLAVKOV CZECHOSLOVA	50.1	12.8	003	032	N	100	208.0 10.0		0	8.0	29.8	160.2	0	0.0	8.1	4.1	00000	A *
7 169	CARPATHIAN MOUNTAINS CZECHOSLOVAKI	0.0	0.0	000	000		0	0.0 0.0		0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B

## CAMBRIAN OF NORTH AMERICA POSSIBLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLC LONG	KP	FF 95	DM	DP	OTHER F F LISTS 1 2
2 65	BRADDORE FM NEWFOUNDLAND CANADA	51.0	-58.0	000	010	A	0	151.2	44.5	27	9.4	9.0	148.8	0	0.0	11.8	7.4	08147 A *
2 66	RATCLIFFE FORMATION NB CANADA	45.0	-67.0	000	012	A	0	168.1	53.2	10	14.9	10.0	124.0	0	0.0	20.6	14.3	08148 A *
2 46	MICHIGAN RED SANDSTONE USA	46.0	-88.0	000	003	A	100	131.0	28.0	6	40.0	15.0	-141.0	0	0.0	45.0	24.0	10149 B
2 75	LAMOTTE FORMATION 1 MISSOURI USA	37.7	-90.5	000	034	A	0	295.3	44.3	5	13.1	30.0	-173.0	0	0.0	9.0	8.0	13067 A
2 76	LAMOTTE FORMATION 2A MISSOURI USA	37.7	-90.5	000	033	A	0	52.3	26.7	10	7.6	-38.0	-160.0	0	0.0	8.0	4.0	13069 A
2 77	LAMOTTE FORMATION 2B MISSOURI USA	37.7	-90.5	000	009	A	0	95.9	45.0	30	9.1	-11.5	155.0	0	0.0	11.0	7.0	13070 B
2 78	LAMOTTE FORMATION 2 COMBINED USA	37.7	-90.5	000	042	A	0	59.9	31.9	9	7.7	-26.1	171.3	0	0.0	8.6	5.1	00000 A *
2 79	LAMOTTE FM GROUP E MISSOURI USA	37.7	-90.5	000	011	A	100	142.9	31.4	10	12.7	32.0	137.0	0	0.0	20.0	10.0	13068 A
2 149	BONNETERRE SEDS+CRE MISSOURI USA	38.0	-90.0	005	021	A	0	57.0	29.0	479	4.5	-35.0	-170.0	0	0.0	5.3	2.7	00000 A *
2 19	WILBERNS FORMATION TEXAS USA	30.5	-99.0	010	185	N	0	98.0	24.0	0	0.0	0.0	158.0	0	0.0	0.0	0.0	01123 B *
2 54	WICHITA MTS BASEMENT OKLAHOMA USA	34.8	-99.9	008	028	A	100	138.0	11.4	11	14.7	33.4	133.9	0	0.0	14.8	7.5	09135 A **
2 45	WICHITA GRANITE THERM OKLAHOMA USA	35.0	-99.0	000	033	T	100	97.0	8.0	3	18.0	4.0	164.0	0	0.0	18.0	9.0	10148 A *
2 107	WICHITA GRANITE AF CLEANING USA	35.0	-99.0	000	023	A	100	115.0	22.0	3	2.1	13.0	147.0	0	0.0	22.0	12.0	00000 A *
2 20	SAATCH SANDY DOLomite COL USA	39.0	-106.5	002	031	N	100	148.0	-15.0	44	4.0	47.0	125.0	0	0.0	4.0	2.0	01122 A *
2 104	CAMBRO-ORDOV INTRUSIVES SEE 3-71																	
2 24	DEADWOOD FORMATION WYOMING USA	42.0	-107.0	000	007	N	100	151.0	-14.0	16	7.0	47.0	117.0	0	0.0	7.0	4.0	03075 B
2 21	LODGE FORMATION NORMAL UTAH USA	41.0	-110.0	000	026	N	0	59.0	4.0	14	8.0	0.0	0.0	0	0.0	8.0	4.0	03076 A
2 22	LODGE FORMATION REVERSED UTAH USA	41.0	-110.0	000	007	N	100	234.0	13.0	25	13.0	-21.4	-169.7	0	0.0	13.3	6.8	03076 B
2 23	LODGE FM COMBINED UTAH USA	41.0	-110.0	000	033	N	79	56.0	-5.0	0	0.0	-23.0	-174.0	0	0.0	7.0	4.0	03076 A *
2 25	BRIGHT ANGEL SHALES ARIZONA USA	36.0	-114.0	000	020	N	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000 B
2 26	TAPEATS SANDSTONE ARIZONA USA	36.0	-114.0	000	015	N	100	0.0	0.0	0	0.0	-22.0	-153.0	0	0.0	0.0	0.0	00000 B

ORDOVICIAN OF NORTH AMERICA PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
3 109	ST GEORGE LST AND ORE NFLD CANADA	50.0	-57.0	014	080	A	0	357.0	-25.0	203	6.9	26.0	126.0	0	0.0	7.3	4.0	00000	A	**
3 114	QUEENSTON FORMATION ONTARIO CANADA	0.0	0.0	090	000			0.0	0.0	0	0.0	31.0	161.0	0	0.0	0.0	0.0	00000	B	
3 6	JUNIATA FORMATION PENNSYLVANIA US	40.0	-79.0	000	012	N	100	131.0	26.0	6	8.0	20.0	153.0	0	0.0	9.0	5.0	03074	A	*
3 8	TRENTON GROUP NEW YORK STATE USA	43.5	-75.0	000	045	N	0	179.0	82.0	23	5.0	27.0	-75.0	0	0.0	10.0	10.0	03073	A	
3 7	TRENTON GROUP CONGLOMERATE NY USA	42.5	-75.0	000	028	N	0	177.0	71.0	23	6.0	9.0	-74.0	0	0.0	10.0	8.0	03072	A	
3 104	TRENTON GROUP NEW YORK STATE USA	43.5	-75.0	001	029	A	100	173.1	18.5	26	5.2	36.0	114.0	0	0.0	5.0	3.0	00000	A	*
3 120	BEEMERVILLE COMPLEX NEW JERSEY USA	41.2	-74.7	004	020	A	100	163.0	22.0	23	20.0	35.0	126.0	00	0.0	18.0	9.0	00000	A	
3 69	CAM-ORD INTRUSIVE COLORADO USA	39.0	-106.0	003	018	A	100	0.0	0.0	0	0.0	36.6	122.3	0	0.0	11.9	6.0	13065	A	
3 70	CAM-ORD INTRUSIVE COLORADO USA	39.0	-106.0	003	014	T	100	0.0	0.0	0	0.0	44.2	99.8	0	0.0	10.6	5.4	13065	A	
3 71	CAM-ORD COLORADO COMBINED USA	39.0	-106.0	003	032	X	100	0.0	0.0	0	0.0	41.0	111.7	0	0.0	11.0	6.0	13065	A	*

SILURIAN OF NORTH AMERICA NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
4 80	GRIMSBY SANDSTONE ONTARIO CANADA	0.0	0.0	000	000			0.0	0.0	0	0.0	42.0	180.0	0	0.0	0.0	0.0	00000	B	
4 11	ROSE HILL FORMATION MARYLAND USA	39.5	-79.0	005	035	N	0	325.0	-39.0	33	13.0	20.0	136.0	0	0.0	15.0	10.0	01117	A	*
4 12	CLINTON IRON ORE ALABAMA USA	33.6	-86.7	001	007	N	100	143.0	19.0	107	12.0	34.0	139.0	0	0.0	12.0	7.0	01118	B	
4 27	BLOOMSBURG FORMATION PENN	40.0	-77.5	009	077	T	0	1.0	-32.0	35	9.0	32.0	102.0	0	0.0	10.0	6.0	09125	A	
4 75	BLOOMSBURG FORMATION PENN USA	41.0	-74.5	017	028	T	0	354.0	-32.0	62	5.0	31.0	112.0	0	0.0	6.0	3.0	08128	A	**
4 77	BLOOMSBURG FM PERMIAN OVERPRINT US	40.0	-77.5	006	052	T	100	158.0	8.0	23	14.0	45.0	119.0	0	0.0	15.0	7.0	00000	A	*

## DEVONIAN OF NORTH AMERICA NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LCNG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
5 74	CLAM BANK GROUP NEWFOUNDLAND CANADA	49.0	-59.0	000	018	A	0	337.5	-19.8	10	11.4	28.0	146.2	0	0.0	11.9	6.2	08123	A	*
5 73	PERRY FM RED BEDS NB CANADA	45.0	-67.0	000	036	A	100	173.7	19.5	9	8.5	34.7	120.5	0	0.0	8.8	4.6	08121	A	
5 66	PERRY FM RED BEDS N9 CANADA	45.0	-67.0	008	055	T	100	175.0	23.0	0	0.0	32.0	118.0	0	0.0	16.0	8.0	10126	A	
5 72	PERRY FM VOLCANICS N9 CANADA	45.0	-67.0	000	016	A	100	183.5	33.8	7	15.1	26.4	109.3	0	0.0	17.2	9.8	08120	A	
5 68	PERRY FM VOLCANICS MAINE USA	45.0	-68.0	002	032	A	100	0.0	0.0	0	0.0	24.0	128.0	0	0.0	0.0	0.0	09120	B	
5 115	PERRY FORMATION COMBINED	45.0	-67.5	012	139		0	0.0	0.0	0	0.0	29.4	119.0	93	9.6	0.0	0.0	00000	A	**
5 38	ONONDAGA LIMESTONE NEW YORK USA	42.5	-74.0	002	065	N	0	177.0	79.0	19	4.0	21.0	-73.0	0	0.0	7.0	7.0	03060	A	*
5 189	COLUMBUS LIMESTONE REVERSED OHIO	40.0	-83.0	001	098	A	100	163.8	4.9	37	2.3	45.0	120.1	0	0.0	2.9	1.6	00000	A	
5 190	DELAWARE LIMESTONE NORMAL OHIO USA	40.0	-83.0	001	021	A	100	166.1	-0.3	112	3.0	48.2	118.0	0	0.0	4.0	2.0	00000	A	
5 191	COLUMBUS+DELAWARE LIMESTONES OHIO	40.0	-83.0	001	119	A	100	164.2	4.0	41	2.0	45.5	119.8	0	0.0	2.5	1.4	00000	A	*
5 192	COLUMBUS+RAISIN RIVER DOLOMITE OHI	40.0	-83.0	001	010	A	0	302.4	0.6	16	12.4	24.0	164.5	0	0.0	11.3	9.3	00000	A	*



CARBONIFEROUS OF NORTH AMERICA NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	PCLE LCNG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 67	CODROY GROUP RED BEDS NWFD CANADA	48.0	-59.0	000	009	N	100	166.0	8.0	38	8.0	43.0	139.0	0	0.0	8.0	4.0	01109	B	
6 170	CODROY GROUP RED BEDS NWFD CANADA	48.0	-59.0	000	032	A	100	174.5	23.4	7	10.1	29.6	127.2	0	0.0	10.7	5.7	08117	A	
6 240	CODROY GROUP NWFD COMBINED	48.0	-59.0	000	041		0	0.0	0.0	0	0.0	36.4	132.6	0	0.0	10.0	5.0	00000	A	*
6 85	PRINCE EDWARD ISLAND REDBEDS CANAD	46.0	-64.0	000	154	A	100	172.7	6.0	433	5.9	40.8	126.0	0	0.0	6.0	3.0	08095	A	
6 85	PRINCE EDWARD ISLAND REDBEDS CANAD	46.5	-63.7	017	058	T	100	168.0	0.0	36	6.0	42.0	133.0	45	5.0	6.0	3.0	08099	A	**
6 171	PRE-PICTOU SANDSTONE NS CANADA	48.0	-66.0	000	008	A	100	161.5	30.5	14	15.4	23.5	133.4	0	0.0	17.2	9.6	08113	B	
6 87	PICTOU GROUP NOVA SCOTIA CANADA	46.0	-64.0	011	018	T	100	168.0	4.0	107	4.0	41.0	132.0	213	3.0	4.0	2.0	08101	A	**
6 68	SEDIMENTS MARITIME PROVINCES CANAD	48.0	-66.0	000	046	N	100	164.0	20.0	0	5.0	30.0	133.0	0	0.0	5.0	3.0	01108	A	*
6 138	HOPEWELL GROUP NEW BRUNSWICK CANAD	45.7	-64.5	015	067	T	67	358.0-20.0		32	7.0	34.0	118.0	0	0.0	7.0	4.0	11078	A	
6 307	HOPEWELL GROUP CRM(A) NEW BRUNSWIC	45.7	-64.5	010	050	V	20	349.0-14.6		46	7.2	35.9	129.1	0	0.0	7.4	3.8	00000	A	
6 332	HOPEWELL GROUP CRM(B) NEW BRUNSWIC	45.7	-64.5	013	065	V	100	173.0	14.0	101	4.3	36.8	124.2	0	0.0	4.5	2.3	00000	A	
6 333	HOPEWELL GROUP CRM NEW BRUNSWICK	45.7	-64.5	012	060	V	100	175.0	16.0	80	4.7	36.0	121.6	0	0.0	4.9	2.5	00000	A	
6 308	HOPEWELL GROUP CRM(B)+CRM	45.7	-64.5	025	125	V	100	174.2	14.9	91	3.1	36.4	122.7	0	0.0	3.2	1.6	00000	A	
6 309	HOPEWELL GROUP CRM(A+B)+CRM	45.7	-64.5	027	135	V	100	174.5	14.8	89	3.0	36.5	122.3	0	0.0	3.1	1.6	00000	A	**
6 136	MARINGOUIN FORMATION NB CANADA	45.6	-64.8	008	046	T	100	179.0	21.0	46	8.0	34.0	117.0	0	0.0	9.0	4.0	10120	A	**
6 137	CUMBERLAND GROUP NOVA SCOTIA CANAD	45.7	-64.5	010	048	T	100	172.0	16.0	85	5.0	36.0	125.0	0	0.0	5.0	3.0	11076	A	**
6 140	HURLEY CREEK FORMATION NB CANADA	46.0	-66.0	005	019	T	100	171.0	9.0	58	10.0	39.0	125.0	0	0.0	10.0	5.0	09098	A	**
6 173	BONAVENTURE FORMATION NB CANADA	48.0	-66.0	000	022	A	100	166.1	13.1	22	6.8	34.0	130.8	0	0.0	6.9	3.5	00000	A	
6 88	BONAVENTURE FORMATION NB CANADA	48.0	-65.0	011	021	T	100	166.0	5.0	20	10.0	38.0	133.0	29	8.0	10.0	5.0	08100	A	**
6 172	BATHURST FORMATION NB CANADA	48.0	-66.0	000	010	A	100	162.3	15.6	22	9.3	31.9	134.8	0	0.0	9.4	4.9	00000	A	*
6 174	KENNEBECASIS FORMATION NB CANADA	48.0	-66.0	000	014	A	100	161.3	33.3	18	9.6	21.7	133.2	0	0.0	10.9	6.2	00000	A	*
6 135	MAUCH CHUNK FORMATION PENN USA	40.0	-77.0	020	096	T	100	162.0	8.0	29	6.3	43.0	127.0	0	0.0	6.0	3.0	10119	A	**
6 61	BARNETT FORMATION NORM TEXAS USA	31.0	-99.0	001	008	N	0	319.0	8.0	200	4.0	41.0	144.0	0	0.0	4.0	2.0	01107	B	
6 62	BARNETT FORMATION REV TEXAS USA	31.0	-99.0	002	060	N	100	149.0	19.0	11	6.0	39.0	123.0	0	0.0	6.0	3.0	01106	A	
6 63	BARNETT FORMATION COMB TEXAS USA	31.0	-99.0	009	068	N	88	322.0	-5.0	0	0.0	41.0	135.0	0	0.0	8.0	4.0	00000	A	*
6 122	SANGRE DE CRIST FORMATION SEE 7-52																			
6 117	FOUNTAINS+LYCKENS FORMS SEE 7-149																			

## CARBONIFEROUS OF NORTH AMERICA NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LCNG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KP	EF 95	DM	DP	CTHER LISTS	F 1	F 2
6 116	UPPER MINTURN FM COLORADO USA	39.6	-106.4	010	037	A	60	336.2	-11.6	8	17.9	39.0	105.0	0	0.0	8.0	4.0	10115	A	**
6 121	DEADWOOD FORMATION WYOMING USA	42.0	-107.0	000	007	N	100	151.0	-14.0	16	7.0	47.0	117.0	0	0.0	7.0	4.0	03075	B	
6 123	SUPAI FORMATION SEE 7-51																			
6 64	NACO FM CARIZZO CREEK ARIZONA USA	36.0	-113.0	001	008	N	100	150.0	-3.0	40	4.0	46.0	113.0	0	0.0	4.0	2.0	01105	B	
6 65	NACO FM FOSSIL CREEK ARIZONA USA	34.0	-112.0	001	009	N	100	125.0	16.0	22	7.0	23.0	130.0	0	0.0	7.0	4.0	03059	B	
6 65	NACO FM COMBINED ARIZONA USA	35.0	-112.5	002	017	N	100	137.0	6.0	0	0.0	35.0	122.0	0	0.0	7.0	4.0	00000	A	*

PERMIAN OF NORTH AMERICA NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FOLE LCNG	KP	EP 95	DM	DP	OTHER F LISTS	F 1	F 2
7 93	PRINCE EDWARD ISL REDBEDS																			
7 94	PRINCE EDWARD ISL REDBEDS																			
7 117	PEI BASIC INTRUSIVE CANADA	46.5	-63.8	001	012	A	100	182.1-16.4		70	0.0	51.7	112.8	0	0.0	5.0	2.5	00000	A	*
7 73	DUNKARD SERIES WEST VIRGINIA USA	39.5	-81.0	009	057	Y	95	164.0	8.0	177	4.0	44.0	122.0	0	0.0	4.0	2.0	08088	A	**
7 212	ELEPHANT CANYON FORMATION UTAH US	39.4	-109.6	000	028	T	100	0.0	0.0	0	0.0	43.6	119.6	27	5.3	0.0	0.0	13052	A	*
7 44	CUTLER FORMATION COLORADO USA	39.6	-107.4	000	002	N	100	140.0	6.0	0	0.0	34.0	123.0	0	0.0	0.0	0.0	01086	B	
7 45	CUTLER FORMATION COLORADO USA	37.0	-110.0	000	004	N	100	161.0	33.0	96	10.0	33.0	92.0	0	0.0	11.3	6.7	00000	B	
7 97	CUTLER FORMATION COLORADO USA	36.1	-112.2	001	014	T	100	151.0-11.0		54	6.0	49.0	117.0	0	0.0	6.0	3.0	11067	A	
7 177	CUTLER FORMATION COLORADO USA	38.7	-109.9	002	044	T	100	146.2	-7.0	0	0.0	43.6	119.6	0	0.0	0.0	0.0	13050	B	
7 211	CUTLER FORMATION COLORADO USA	38.4	-109.6	031	321	T	100	0.0	0.0	0	0.0	44.1	115.4	105	2.5	0.0	0.0	13051	A	
7 205	CUTLER FORMATION COMBINED 1 USA	37.9	-109.9	000	000		0	0.0	0.0	0	0.0	40.5	112.6	36	0.0	0.0	0.0	00000	B	
7 215	CUTLER FORMATION COMBINED 2 USA	37.7	-110.6	034	379	T	100	0.0	0.0	0	0.0	45.6	117.4	598	5.1	0.0	0.0	00000	A	**
7 47	ABO FORMATION NEW MEXICO USA	34.4	-106.4	000	011	N	100	149.0	8.0	5	18.0	42.0	117.0	0	0.0	18.0	9.0	01087	A	
7 48	ABO FORMATION NEW MEXICO USA	35.3	-108.4	000	013	N	100	160.0	55.0	7	12.0	17.0	88.0	0	0.0	17.0	12.0	00000	A	
7 49	ABO FORMATION COMBINED USA	35.0	-107.0	000	024	N	100	153.0	32.0	0	0.0	30.0	100.0	0	0.0	0.0	0.0	00000	B	
7 50	YESO FORMATION NEW MEXICO USA	35.5	-105.2	001	026	N	100	143.0	-1.0	99	3.0	41.0	127.0	0	0.0	3.0	2.0	01085	A	*
7 51	SUPAI FORMATION ARIZONA USA	35.0	-110.5	000	114	N	100	150.0	11.0	35	10.0	40.0	110.0	45	9.0	0.0	0.0	01088	A	*
7 98	SUPAI FORMATION ARIZONA USA	36.0	-113.0	005	132	T	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
7 52	SANGRE DE CRISTO FM NEW MEXICO USA	34.5	-105.3	001	019	N	100	175.0	31.0	9	11.0	38.0	81.0	0	0.0	11.0	7.0	00000	A	*
7 95	TOROWEAP FORMATION ARIZONA USA	36.1	-112.2	002	011	T	100	157.0	3.0	38	7.0	47.0	103.0	0	0.0	8.0	4.0	11065	A	*
7 95	HERMIT SHALE ARIZONA USA	36.1	-112.2	002	004	T	100	161.0	-7.0	76	8.0	53.0	101.0	0	0.0	8.0	4.0	11066	B	
7 147	LOWER MAROON FORMATION COLORADO USA	39.6	-106.6	036	104	A	100	135.5	4.7	15	6.3	31.5	128.7	0	0.0	6.4	3.2	10105	A	**
7 148	UPPER MAROON FORMATION COLORADO USA	39.6	-106.6	011	048	A	45	346.0	23.5	26	9.1	59.8	102.4	0	0.0	9.7	5.2	10096	A	**
7 149	FOUNTAINS+LYCKENS FM COLORADO USA	40.2	-105.3	027	098	A	100	151.4-12.2		6	13.1	47.4	119.3	0	0.0	13.3	6.8	10106	A	**
7 160	WOLF CAMPIAN REDBEDS SOUTH WEST USA	0.0	0.0	010	054	T	100	0.0	0.0	0	0.0	41.2	117.7	61	6.2	0.0	0.0	13047	A	
7 161	LEONARDIAN REDBEDS SOUTH WEST USA	0.0	0.0	009	062	T	99	0.0	0.0	0	0.0	44.8	114.6	17	12.7	0.0	0.0	13047	A	
7 162	GUADALUPIAN REDBEDS SOUTH WEST USA	0.0	0.0	007	033	T	96	0.0	0.0	0	0.0	51.1	125.4	176	4.6	0.0	0.0	13047	A	

CATALOGUE OF PALEOMAGNETIC DIRECTIONS AND POLES - THIRD ISSUE

## PERMIAN OF NORTH AMERICA NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
7 163	OCHOAN RED BEDS SOUTHWESTERN USA	0.0	0.0	007	037	T	50	0.0	0.0	0	0.0	54.9	119.9	64	7.6	0.0	0.0	13047	A	
7 206	PERMIAN RED BEDS SW USA COMBINED	0.0	0.0	033	186	T	0	0.0	0.0	0	0.0	48.1	118.9	140	7.8	0.0	0.0	13047	A	**
7 53	EAST GREENLAND SEDIMENTS	72.5	-23.5	002	010	N	100	175.0	-37.0	50	7.0	39.0	163.0	0	0.0	8.0	5.0	04014	A	*

## CAMBRIAN OF SOUTH AMERICA POSSIBLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
2 39	RED BEDS OF ARGENTINA	-23.0	-66.0	000	017	T	100	17.0	56.0	0	14.0	27.0	-50.0	0	10.0	0.0	0.0	08145	A	*
2 30	RED BEDS SALTA PROVINCE ARGENTINA	-24.5	-65.5	000	020	N	0	24.0	17.0	0	47.0	50.0	-29.0	0	0.0	48.9	25.4	06068	B	
2 85	CAM-ORDOVICIAN RED BEDS ARGENTINA	24.0	-65.5	000	013	T	0	42.0	64.0	4	21.0	8.0	-40.0	2	29.0	0.0	0.0	12144	B	
2 29	RED SEDIMENTS ARGENTINA	-24.5	-65.0	000	017	N	0	24.0	18.0	0	26.0	49.0	-29.0	0	0.0	26.8	13.8	06067	B	
2 134	CAMBRIAN SANDSTONES NW ARGENTINA	-23.0	-65.4	005	049	T	90	53.2	-19.3	4	42.5	37.6	19.4	0	0.0	44.4	23.1	00000	B	

## ORDOVICIAN OF SOUTH AMERICA POSSIBLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
3 54	RED SEDIMENTS BOLIVIA	-17.5	-65.5	000	012	T	0	42.0	84.0	4	22.0	4.0	-59.0	0	16.0	0.0	0.0	12140	B	
3 50	JACADIGO SERIES BOLIVIA SEE 4-15																			
3 24	RED BEDS SALTA PROVINCE ARGENTINA	-24.5	-65.5	000	020	N	0	24.0	17.0	0	47.0	50.0	-29.0	0	0.0	28.8	14.8	06068	B	
3 53	JUJUY SEDIMENTS ARGENTINA	-23.5	-65.5	008	025	T	0	63.0	-7.0	2	14.0	11.0	-27.0	2	16.0	0.0	0.0	12141	A	**
3 52	CAM-ORDOVICIAN ARGENTINA SEE 2-85																			
3 97	ORDOVICIAN SS SALTA ARGENTINA	-24.5	-65.5	001	020	T	100	53.0	0.0	0	45.0	31.0	13.0	0	40.0	0.0	0.0	00000	B	

SILURIAN OF SOUTH AMERICA POSSIBLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
4 24	BRAZILIAN SEDIMENTS SEE 5-50																			
4 18	URUCUM FORMATION ARGENTINA	-12.0	-58.0	000	023	T	100	37.0	41.0	0	9.0	34.0	-16.0	0	9.0	0.0	0.0	08131	A	*
4 15	JACADIGO SERIES BOLIVIA	-19.0	-58.0	000	013	N	0	60.0	39.0	0	19.0	19.0	0.0	0	0.0	22.8	14.6	06066	A	*

DEVONIAN OF SOUTH AMERICA POSSIBLE SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
5 50	BRAZILIAN SEDIMENTS	-25.0	-50.0	000	003	N	100	150.0	41.0	0	0.0	62.0	-144.0	0	0.0	0.0	0.0	06064	3	
5 109	PICOS AND PASSAGEM SERIES BRAZIL	-7.0	-41.5	000	012	T	55	20.0	-76.0	2	26.0	-30.0	-47.0	1	30.0	0.0	0.0	12135	8	
5 110	BOLIVIA RED SANDSTONES	-17.7	-67.0	011	026	T	0	25.0	70.0	2	19.0	-7.0	-53.0	0	0.0	32.7	28.5	12136	3	
5 49	URUGUAY SEDIMENTS	-30.0	-56.0	000	006	N	0	2.0	-36.0	0	34.0	80.0	-46.0	0	0.0	39.1	23.8	06063	3	
5 48	SALTA AND JUJUY PROVINCE ARGENTINA	-24.0	-65.5	000	022	N	0	28.0	47.0	0	18.0	31.0	-37.0	0	0.0	23.0	15.0	06062	A	
5 51	RED BEDS SALTA AND JUJUY ARGENTINA	-23.0	-66.0	000	010	T	100	56.0	51.0	0	8.0	9.0	-22.0	0	10.0	0.0	0.0	08122	A	*
5 147	BARITU FM LA MENCIA ARGENTINA	-24.0	-65.0	000	028	T	72	328.0	-52.0	0	6.0	-75.0	-21.0	0	6.0	0.0	0.0	00000	A	*

## CARBONIFEROUS OF SOUTH AMERICA PROBABLE SOUTH ECLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	9	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	PCLE LONG	KP	EF 95	DM	DP	OTHER F LISTS	F 1	F 2
6 236	PIPIRAL FORMATION LLANOS COLOMBIA	4.0	-74.0	000	011		64	324.2	-25.4	0	0.0	-50.5	169.4	0	0.0	0.0	0.0	12123	B	
6 235	PERM-CARB SANDSTONE COLOMBIA	7.0	-73.0	004	054		0	199.0	31.8	3	69.0	-59.6	-110.6	0	0.0	77.6	43.6	00000	B	
6 134	TUBARAO SERIES RED BEDS BRAZIL	-25.0	-50.0	000	007	N	0	29.0	-24.0	0	27.0	-59.9	159.1	0	0.0	29.2	15.9	10110	B	
6 78	IRATI FORMATION RED BEDS BRAZIL	0.0	0.0	000	000	0	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000		
6 79	PIAUI FORMATION RED BEDS BRAZIL	-5.0	-43.0	000	020	T	100	165.0	44.0	0	9.0	-65.0	-13.0	0	10.0	0.0	0.0	08107	A	
6 230	PIAUI FORMATION RED BEDS BRAZIL	-5.7	-42.8	000	015	T	100	160.0	52.0	7	9.0	-50.0	-15.0	6	10.0	0.0	0.0	12124	A *	
6 232	TUPAMBI FORMATION BOLIVIA	-17.5	-66.0	004	000	N	0	2.0	-23.0	38	3.0	-85.0	135.0	65	2.0	0.0	0.0	12129	B	
6 80	TAIGUATI FORMATION BOLIVIA	-17.0	-65.0	000	038	T	58	294.0	-72.5	0	5.0	-28.0	-34.0	0	9.0	0.0	0.0	08109	A	
6 233	TAIGUATI FORMATION BOLIVIA	-17.6	-65.4	003	008	T	40	319.0	-62.0	34	4.0	-45.0	-20.0	16	6.0	0.0	0.0	12127	B	
6 234	VIOLACIO FORMATION BOLIVIA	-17.5	-66.0	004	000	N	0	359.0	-20.0	2	16.0	-83.0	112.0	2	15.0	0.0	0.0	12128	B	
6 229	AM90 GROUP TUFFS PERU	-10.0	-76.2	002	010	N	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
6 72	GREY TUFFS PERU	-12.0	-75.0	000	012	N	100	315.0	75.0	0	0.0	0.0	-85.0	0	0.0	0.0	0.0	06058	B	
6 74	MITU FORMATION MIXED PERU	-12.0	-75.0	000	027	N		76.0	-52.0	0	0.0	18.0	47.0	0	0.0	0.0	0.0	06056	B	
6 227	MIDDLE PAGANZO GROUP ARGENTINA	-30.0	-67.7	003	000	T	100	154.1	59.3	82	13.7	-66.6	-10.3	0	0.0	20.5	15.4	00000	B	
6 228	MIDDLE PAGANZO GROUP COMBINED	-30.0	-67.7	004	000	T	100	155.3	61.0	99	9.3	-66.8	-15.8	0	0.0	14.2	10.9	00000	B	
6 231	MIDDLE PAGANZO REDBEDS ARGENTINA	-30.0	-68.0	004	015	N	100	164.0	67.0	25	7.0	-65.0	-44.0	10	11.0	0.0	0.0	12118	A	
6 237	MIDDLE PAGANZO REDBEDS ARGENTINA	-30.0	-67.8	000	000		100	154.1	59.3	82	0.0	-66.6	-10.4	0	0.0	0.0	0.0	00000	B	
6 242	LA COLINA BASALT MID PAGANZO ARGEN	-30.1	-67.4	003	026	A	83	164.2	62.3	115	11.5	-71.6	-28.7	0	0.0	18.0	14.0	00000	A	
6 318	LA COLINA BASALT MID PAGANZO ARGEN	-30.0	-67.3	000	017	A	63	155.0	60.0	0	5.0	-66.0	-12.0	0	6.9	0.0	0.0	12114	A	
6 319	LA COLINA REDBEDS MIDDLE PAGANZO	-30.0	-67.2	000	035	T	100	174.0	56.0	0	3.3	-81.0	-33.0	0	4.0	0.0	0.0	00000	A	
6 320	LA COLINA REDBEDS MIDDLE PAGANZO	-29.9	-67.3	000	027	T	100	172.0	63.0	0	3.1	-74.0	-47.0	0	4.5	0.0	0.0	00000	A	
6 321	LA COLINA REDBEDS MIDDLE PAGANZO	-29.9	-67.3	000	013	T	100	171.0	53.0	0	3.4	-82.0	-11.0	0	3.8	0.0	0.0	00000	A	
6 322	LA COLINA COMBINED ARGENTINA	-30.0	-67.3	000	092	X	13	0.0	0.0	0	0.0	-76.3	-25.0	9	9.8	0.0	0.0	00000	A **	
6 73	LA RIOJA SEDIMENTS ARGENTINA	-24.0	-65.0	000	003	N	100	180.0	55.0	0	0.0	-78.0	-65.0	0	0.0	0.0	0.0	06059	B	
6 316	LAGARES REDBEDS LR PAGANZO ARGENTI	-30.0	-67.2	000	025	T	52	177.0	52.0	0	5.3	-85.0	-25.0	0	6.6	0.0	0.0	00000	A *	

PERMIAN OF SOUTH AMERICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LCNG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	PCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
7 200	PERM-CARB SANDSTONE COLOMBIA	7.0	-73.0	004	054		0	199.0	31.8	3	69.0	-59.6	-110.6	0	0.0	77.6	43.6	00000	B	
7 201	PIPIRAL FORMATION COLOMBIA	4.0	-74.0	000	000		64	324.2	-25.4	0	0.0	-50.5	-10.6	0	0.0	0.0	0.0	12123	B	
7 214	PERMO-TRIASSIC DOLERITES SEE 8-177																			
7 60	CORUMBATAI FORMATION BRAZIL	-25.0	-50.0	000	000	N	100	180.0	60.0	0	0.0	-74.0	-50.0	0	0.0	0.0	0.0	06053	B	
7 115	CORUMBATAI FORMATION BRAZIL	-25.0	-50.0	000	012	N	33	3.0	-31.0	0	10.0	-81.0	-148.0	0	10.0	0.0	0.0	11062	A *	
7 198	MITU FORMATION RED BEDS PERU	-10.1	-75.2	007	019	T	26	188.0	25.0	0	0.0	-82.0	-154.0	0	0.0	0.0	0.0	12115	B	
7 199	AMANA REDBEDS UP PAGANZO ARGENTINA	-23.5	-65.5	000	000	N	100	198.0	59.0	12	10.0	-67.0	-105.0	10	11.0	0.0	0.0	00000	B	
7 116	AMANA REDBEDS UP PAGANZO ARGENTINA	-29.0	-68.0	000	022	T		13.0	-40.0	0	6.0	-77.0	175.0	0	6.0	0.0	0.0	11060	A	
7 278	AMANA REDBEDS UP PAGANZO ARGENTINA	-30.0	-67.2	000	007	T	100	171.0	48.0	0	12.8	-83.0	15.0	0	14.3	0.0	0.0	00000	B	
7 279	AMANA REDBEDS UP PAGANZO ARGENTINA	-27.9	-67.9	000	021	T	66	176.0	40.0	0	7.5	-85.0	64.0	0	7.6	0.0	0.0	00000	A	
7 287	AMANA REDBEDS COMBINED ARGENTINA	-29.0	-67.5	000	028	T	75	0.0	0.0	0	0.0	-84.0	40.0	0	10.0	0.0	0.0	00000	A **	
7 285	MIDDLE PAGANZO ARGENTINA SEE 6-322																			
7 195	PORPHYRITIC SERIES ARGENTINA	-35.0	-68.5	003	041	T	24	351.3	-65.6	64	11.6	-75.6	-44.3	0	0.0	18.9	15.4	00000	A *	
7 114	PILAHUINCO GROUP ARGENTINA	-38.0	-62.0	000	009	T	100	200.0	57.0	0	14.0	-78.0	-141.0	0	17.0	0.0	0.0	11061	B	



## CAMBRIAN OF USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EF 95	DM	DP	OTHER LISTS	F 1	F 2
2 39	UKRAINIAN BASALT	51.0	26.0	001	006	N	0	140.0	75.0	40	11.0	28.0	46.0	0	0.0	20.0	18.0	03 07 1	B	
2 15	SEDIMENT DNIESTER REGION	49.0	25.0	000	000	N	0	233.0	51.0	0	0.0	-2.0	164.0	0	0.0	0.0	0.0	05 08 5	B	
2 109	VOLYN AND OTHER HORIZONS	49.0	26.0	002	005	N	60	83.0-42.0		18	13.0	-13.0	137.0	0	0.0	16.0	10.0	S1 20 1	B	
2 80	ASHA SERIES BASINSK GROUP STH URAL	55.7	57.0	000	191	N	0	50.0-31.0		31	16.9	7.8-171.1		37	15.2	0.0	0.0	KS 28 2	A	
2 108	ASHA SERIES BASINSK GROUP STH URAL	54.0	57.0	005	125	W	64	50.0-32.0		44	12.0	8.0-171.0		0	0.0	13.0	7.0	S1 30 2	A	**
2 165	ASHA SERIES KUKKARAUKIAN BED URALS	54.0	57.0	000	060	N	100	253.0-27.0		0	0.0	21.0	152.0	0	0.0	8.0	4.0	05 07 9	A	
2 166	ASHA SERIES KUKKARAUKIAN BED URALS	54.5	57.0	000	006		100	272.0-20.0		0	16.0	8.0	141.0	0	0.0	17.0	9.0	KS 24 9	B	
2 167	ASHA SERIES KUKKARAUKIAN BED URALS	53.6	56.5	000	110		100	255.0-26.0		0	4.0	20.0	151.0	0	0.0	5.0	3.0	KS 25 0	A	
2 168	ASHA SERIES KUKKARAUKIAN BED URALS	53.5	57.0	000	022		100	264.0 -7.0		0	8.0	7.0	150.0	0	0.0	8.0	4.0	KS 25 1	A	
2 169	ASHA SERIES KUKKARAUKIAN COMBINED	54.0	57.0	003	036	N	100	264.0-18.0		40	20.0	11.0	147.0	0	0.0	20.0	11.0	S1 30 1	A	*
2 110	GORNYI ALTAI GROUP ALTAI MOUNTAINS	52.0	84.0	002	004	A	0	155.0	28.0	90	5.0	-19.0	110.0	0	0.0	5.0	3.0	S1 20 2	B	
2 27	LOWER ANGARA RIVER SEDIMENT	0.0	0.0	000	011	N	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	07 05 5	B	
2 93	UPPER KULIUMBĖ YENISEI AREA ROCKS	68.0	88.0	000	053		100	323.0	34.0	0	4.0	-36.0	134.0	0	0.0	5.0	3.0	11 09 4	A	*
2 84	KOSTINO SUITE TUNGUSKA RIVER	66.0	89.0	000	035		100	281.0-47.0		0	6.0	21.0	157.0	0	0.0	8.0	5.0	KS 27 8	A	*
2 61	EVENKIY SUITE SIBERIA	58.0	97.0	096	190	X	45	147.0-24.0		8	7.0	-37.0	140.0	0	0.0	8.0	4.0	S1 20 3	A	**
2 118	UST TAGUL SUITE SAYAN AREA	55.5	97.5	003	087	N	100	330.0	32.0	30	3.0	-44.0	140.0	0	0.0	4.0	2.0	S1 22 4	A	*
2 16	VERKHOLENSK SUITE LENA RIVER	61.0	116.0	000	047	N	0	1.0	16.0	0	8.0	-37.0	116.0	0	0.0	8.0	4.0	05 08 4	A	
2 60	VERKHOLENSK SUITE LENA RIVER	54.3	104.7	017	202	A	50	158.0	-3.0	0	0.0	-34.0	132.0	0	0.0	0.0	0.0	10 14 5	B	
2 111	VERKHOLENSK SUITE IRKUTSK AMPHITHR	4.3	104.6	016	202	X	0	157.0	-4.0	33	6.0	-34.0	134.0	0	0.0	6.0	3.0	S1 20 6	A	
2 112	VERKHOLENSK SUITE LENA RIVER	60.0	118.0	002	019	N	61	177.0	-8.0	9	9.0	-34.0	122.0	0	0.0	9.0	5.0	S1 22 3	A	
2 114	VERKHOLENSK SUITE COMBINED 1	0.0	0.0	036	470			0.0	0.0	0	0.0	-35.0	126.1	131	8.1	0.0	0.0	00 00 0	A	
2 140	VERKHOLENSK SUITE IRKUTSK AMPHITHR	58.3	109.7	006	152	N	66	168.0-11.0		300	5.0	-38.0	125.0	0	0.0	5.0	3.0	S1 22 7	A	
2 139	VERKHOLENSK SUITE IRKUTSK AMPHITHR	58.0	109.0	006	104	N	64	165.0-15.0		9	4.0	-39.0	129.0	0	0.0	4.0	2.0	S1 22 6	A	
2 150	VERKHOLENSK SUITE COMBINED 2	57.7	110.3	048	726			0.0	0.0	0	0.0	-36.0	126.0	189	4.9	0.0	0.0	00 00 0	A	
2 28	VERKHOLENSK SUITE ANGARA RIVER	0.0	0.0	000	019	N	63	163.0	3.0	0	10.0	-30.0	113.0	0	0.0	10.0	5.0	07 05 4	A	
2 55	VERKHOLENSK SUITE LENA RIVER	54.0	106.0	005	018	N	50	160.0	2.0	5	11.7	-33.0	130.0	0	0.0	11.8	6.0	S1 20 5	A	
2 56	VERKHOLENSK SUITE SMEYINOVA RIVER	58.0	108.0	002	021	N	33	171.0	-8.0	12	7.3	-36.0	119.0	0	0.0	7.4	3.7	S1 20 8	A	

## CAMBRIAN OF USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FOLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
2 57	VERKHOLENSK SUITE LENA RIVER	57.0	107.0	003	018	Y	72	166.0-14.0		8	9.0	-39.0	125.0	0	0.0	9.0	5.0	S1207	A	
2 58	VERKHOLENSK SUITE ANGARA RIVER	54.0	102.0	004	015	N	73	162.0-13.0		12	7.9	-40.0	124.0	0	0.0	7.9	3.9	S1204	A	
2 87	VERKHOLENSK SUITE NYUYA AREA	60.0	114.0	003	040	W	47	189.0 -8.0		10	7.0	-34.0	103.0	0	0.0	7.0	4.0	S1222	A	
2 88	VERKHOLENSK SUITE ANGARA RIVER	58.0	97.0	000	159		0	163.0 3.0		0	10.0	-29.0	114.0	0	0.0	10.0	5.0	11082	A	
2 89	VERKHOLENSK SUITE NEPA AREA	59.0	106.5	000	043		0	167.0 -7.0		0	11.0	-34.0	122.0	0	0.0	11.0	6.0	KS267	A	
2 90	VERKHOLENSK SUITE NEPA AREA	59.0	106.5	000	052		0	169.0 -6.0		0	8.0	-34.0	120.0	0	0.0	8.0	4.0	KS268	A	
2 91	VERKHOLENSK SUITE NEPA AREA	59.0	106.5	000	018		0	163.0-16.0		0	13.0	-38.0	128.0	0	0.0	13.0	7.0	KS269	A	
2 92	VERKHOLENSK SUITE LENA RIVER	55.0	106.0	005	167	W	57	158.0 -5.0		14	3.0	-36.0	134.0	0	0.0	3.0	2.0	S1217	A	
2 119	VERKHOLENSK SUITE KIRENSK AREA	58.0	108.0	001	053	N	55	166.0-12.0		7	6.0	-37.0	125.0	0	0.0	6.0	3.0	S1208	A	
2 164	VERKHOLENSK SUITE REDBED COMBINED	58.0	106.0	055	809		53	0.0 0.0		0	0.0	-36.7	124.6	122	4.2	0.0	0.0	00000	A	**
2 81	LENA STAGE SUKHARIAN SUITE	67.0	87.0	000	022		0	272.0 36.0		0	10.0	-19.0	170.0	0	0.0	12.0	7.0	KS279	A	
2 82	LENA STAGE PODKRASNOSVETNAVA BEDS	60.5	120.5	000	021		100	135.0-59.0		0	11.0	-54.0-168.0		0	0.0	16.0	12.0	KS280	A	
2 131	LENA STAGE PODKRASNOSVETNAVA BEDS	60.5	120.5	009	015	N	100	345.0-58.0		5	8.0	10.0	133.0	0	0.0	18.0	13.0	S1215	A	*
2 83	LENA STAGE CHARA SUITE	60.5	134.0	000	018		0	299.0 18.0		0	8.0	-25.0-154.0		0	0.0	4.0	2.0	KS281	A	
2 132	LENA STAGE CHAPA SUITE	60.5	134.0	003	011	N	0	135.0-59.0		10	11.0	-54.0-152.0		0	0.0	16.0	12.0	S1216	A	*
2 133	LENA STAGE CARBONATES COMBINED	0.0	0.0	004	072		0	0.0 0.0		0	0.0	-39.1-167.5		12	27.7	0.0	0.0	00000		
2 138	SILLS OF PELEDUI RIVER SEE 3-103																			
2 135	ALDAN STAGE KUZNETSKII ALATAU	55.5	88.0	007	064	W	14	204.0-28.0		40	10.0	-45.0	53.0	0	0.0	11.0	6.0	S1231	A	**
2 136	ALDAN STAGE OF CLENEK RIVER	68.5	112.5	020	020	T	60	147.0-40.0		12	9.0	-39.0	153.0	0	0.0	10.0	6.0	S1232	A	**
2 137	ALDAN STAGE OF ALDAN PEAK	59.5	135.0	002	012	T	100	328.0 39.0		21	8.0	-46.0-179.0		0	0.0	9.0	6.0	S1233	A	*
2 115	ILGA SUITE OF KIRENGA RIVER	58.0	109.5	001	023	N	100	348.0 12.0		47	4.0	-38.0	124.0	0	0.0	4.0	2.0	S1219	A	*
2 117	CHUKUK MARKHA SUITE OLENEK RIVER	67.5	110.5	011	013	W	79	164.0-24.0		5	16.0	-35.0	130.0	0	0.0	5.0	3.0	S1221	A	**
2 40	SINIAN SEDIMENTS OF PATOM RIVER	60.0	117.0	000	030	N	0	35.0 -7.0		0	0.0	-21.0	79.0	0	0.0	9.0	4.0	06069	A	*
2 116	TRAP ROCK OF LENA RIVER	59.5	112.5	001	016	A	100	343.0 28.0		17	6.0	-43.0	136.0	0	0.0	6.0	4.0	S1220	A	*
2 97	UST-MAYA SUITE OF MAYA RIVER	60.0	135.0	000	182		100	340.0 35.0		0	2.0	-46.0	163.0	0	0.0	3.0	1.0	KS275	A	
2 98	AMGA RIVER STAGE	60.0	135.0	000	101		100	338.0 34.0		0	3.0	-46.0	166.0	0	0.0	4.0	3.0	KS276	A	
2 94	MAYA STAGE OF KULIUMBE RIVER	68.0	88.0	000	027		100	317.0 34.0		0	9.0	-36.0	135.0	0	0.0	10.0	6.0	KS272	A	

## CAMBRIAN OF USSR PROBABLE NORTH PCLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KC	ED 95	PCLE LAT	PCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
2 95	MAYA STAGE SUKHARIKHA R	67.0	87.0	000	058		100	305.0	34.0	0	6.0	-31.0	152.0	0	0.0	7.0	4.0	KS 273	A	
2 96	MAYA STAGE ALDAN RIVER	61.5	135.5	004	060	N	100	339.0	36.0	37	1.0	-45.0	165.0	0	0.0	2.0	2.0	S1 214	A	
2 122	UST-MAYA STAGE ALDAN RIVER	60.0	133.0	009	011	A	100	356.0	38.0	54	4.0	-49.0	139.0	0	0.0	5.0	3.0	S1 212	A	
2 143	MAYA STAGE ALDAN R	61.5	135.5	004	060	N	90	159.0-36.0		37	2.0	-45.0	164.0	0	0.0	3.0	2.0	S1 230	A	
2 120	MAYA AND AMGA STAGES OLENEK RIVER	68.0	112.0	037	058	W	34	161.0-11.0		5	9.0	-26.0	134.0	0	0.0	1.0	5.0	S1 209	A	
2 99	MAYA AND AMGA STAGES AMGA RIVER	61.5	129.0	005	012	A	100	314.0	36.0	10	10.0	-38.0-172.0		0	0.0	12.0	7.0	S1 210	A	
2 121	MAYA AND AMGA STAGES AMGA RIVER	60.5	131.0	008	011	N	100	322.0	38.0	21	7.0	-43.0-177.0		0	0.0	9.0	5.0	S1 211	A	
2 123	UST-MAYA AND CHAYA STAGES ALDAN RI	60.0	135.0	003	049	N	100	338.0	33.0	31	3.0	-45.0	165.0	0	0.0	3.0	1.0	S1 213	A	
2 141	MAYA AND AMGA STAGES OLENEK RIVER	68.0	112.0	003	044	W	30	156.0-33.0		140	12.0	-38.0	141.0	0	0.0	14.0	8.0	S1 228	A	
2 142	UST-MAYA AND AMGA STAGES ALDAN RIV	60.0	133.0	012	021	N	76	165.0-32.0		30	6.0	-45.0	154.0	0	0.0	7.0	4.0	S1 229	A	
2 152	MAYA AND AMGA STAGES COMBINED	0.0	0.0	065	340			0.0	0.0	0	0.0	-40.0	157.0	25	10.6	0.0	0.0	00 000	A **	

GROOVICIAN OF USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	R	N	T R	REV	DECL	INCL	KD	EO 95	PCLE LAT	FCLE LONG	KF	EF 95	DM	OP	OTHER LISTS	F 1	F 2
3 1	TREMADOCIAN SEDIMENTS LENINGRAD	60.0	30.0	000	020	N	0	0.0	0.0	0	18.0	42.0	169.0	0	0.0	22.0	13.0	02038	A	
3 63	ARENIG LIMESTONE POPOVKA RIVER	60.0	30.0	000	011		100	240.0-39.0		0	16.0	34.0	135.0	0	0.0	19.0	11.0	KS253	A	
3 64	OBILID SANDSTONE TOSNA RIVER	60.0	30.0	000	006		100	216.0-35.0		0	11.0	42.0	162.0	0	0.0	13.0	8.0	KS254	B	
3 65	SEDIMENT LENINGRAD	59.0	28.0	000	010		100	237.0-34.0		0	7.0	33.0	137.0	0	0.0	8.0	5.0	KS255	A	
3 74	LOWER ORDOVIC COMBINED LENINGRAD	59.8	29.5	000	016	N	92	0.0	0.0	0	0.0	38.7	149.9	32	16.6	0.0	0.0	00000	A *	
3 2	UKRAINIAN BASALT	51.0	26.0	002	008	N	0	255.0	57.0	23	12.0	-20.0	151.0	0	0.0	17.0	12.0	03070	B	
3 3	UKRAINIAN BASALT	51.0	26.0	001	006	N	0	140.0	75.0	40	11.0	-28.0-134.0		0	0.0	20.0	18.0	03071	B	
3 60	NORTH SERGINSKI LAYERED INTRUSION	57.0	60.0	004	121	W	100	233.0	12.0	0	11.0	16.0-176.0		0	0.0	11.0	6.0	S1101	A *	
3 75	ALTAI MOUNTAIN SUITE SEE 2-110																			
3 67	UNDIFFERENTIATE ROCK KUREIKA RIVER	67.0	88.0	000	028		100	311.0	17.0	9	6.0	-26.0	144.0	0	0.0	6.0	2.0	KS260	A *	
3 113	ORDOVICIAN SIBERIAN PLATFORM NCTES	0.0	0.0	000	000			0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000		
3 39	DOLBOR SUITE RED BEDS LENA RIVER	60.0	118.0	002	025	Y	7	171.0	17.0	22	4.5	-21.0	127.0	0	0.0	4.6	2.8	S1102	A	
3 51	DOLBOR SUITE REDBEDS RIVER NIUYA	61.0	116.0	000	020		0	184.0	19.0	0	13.0	-19.0	112.0	0	0.0	14.0	7.0	KS239	A	
3 93	DOLBOR SUITE REDBEDS COMBINED	60.5	117.0	000	045		0	0.0	0.0	0	0.0	-20.2	119.5	65	10.0	0.0	0.0	00000	A *	
3 40	MANGAZEIKA SUITE REDBED LENA	58.0	108.0	002	010	A	10	159.0	14.0	8	13.0	-23.0	131.0	0	0.0	14.0	7.0	S1105	A	
3 41	MANGAZEIKA SUITE REDBED LENA	60.0	118.0	002	012	N	33	165.0	14.0	19	7.0	-22.0	134.0	0	0.0	7.0	3.0	S1106	A	
3 92	MANGAZEIKA SUITE REDBEDS COMBINED	59.0	113.0	004	022		0	0.0	0.0	0	0.0	-22.5	133.5	512	10.0	0.0	0.0	00000	A *	
3 37	BRATSK SUITE RED BEDS ILIM RIVER	57.0	103.0	004	066	Y	0	164.0	23.0	10	4.2	-20.0	120.0	0	0.0	4.5	2.4	S1103	A	
3 76	BRATSK SUITE RED BEDS NEPA RIVER	59.5	107.0	002	037	N	0	179.0	26.0	10	6.0	-17.0	108.0	0	0.0	6.0	4.0	S1007	A	
3 77	BRATSK SUITE RED BEDS NEPA RIVER	58.0	106.0	017	106	N	11	155.0	20.0	10	4.0	-19.0	131.0	0	0.0	4.0	2.0	S1112	A	
3 78	BRATSK SUITE RED BEDS NEPA RIVER	59.5	107.0	003	047	N	17	154.0	17.0	11	4.0	-19.0	134.0	0	0.0	4.0	2.0	S1112	A	
3 79	BRATSK SUITE RED BEDS NEPA RIVER	59.5	107.5	001	009	N	0	158.0	12.0	10	10.0	-23.0	131.0	0	0.0	10.0	5.0	S1112	B	
3 88	BRATSK SUITE RED BEDS COMBINED	58.3	106.0	027	265		0	0.0	0.0	0	0.0	-18.6	124.8	62	9.8	0.0	0.0	00000	A **	
3 38	MAKAROVSK SUITE REDBEDS LENA RIVER	58.0	108.0	003	037	Y	0	161.0	10.0	8	6.0	-25.0	128.0	0	0.0	6.1	3.1	S1104	A	
3 80	BRATSK+MAKAROVSK SUITE NEPA RIVER	59.0	106.5	002	026	N	0	157.0	18.0	14	5.0	-18.0	130.0	0	0.0	5.0	3.0	S1113	A	
3 81	BRATSK+MAKAROVSK SUITE NEPA RIVER	58.5	107.0	002	024	N	14	155.0	13.0	14	5.0	-22.0	135.0	0	0.0	5.0	3.0	S1113	A	
3 82	MAKAROVSK SUITE REDBEDS LENA RIVER	57.5	108.0	003	028	N	35	150.0	10.0	25	3.0	-23.0	142.0	0	0.0	5.0	3.0	S1114	A	

## ORDOVICIAN OF USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
3 91	BRATSK+MAKAROVSK SUITES COMBINED	58.3	107.3	010	115		0	0.0	0.0	0	0.0	-22.1	133.7	157	7.4	0.0	0.0	00000	A	**
3 118	BRATSK+MAKAROVSK SUITES COMBINED	58.3	106.5	037	370			0.0	0.0	0	0.0	-21.8	128.6	63	6.5	0.0	0.0	00000	A	
3 42	KRIVAYA LUKA SUITE LENA RIVER	59.0	108.0	003	015	N	20	162.0	16.0	10	9.0	-23.0	127.0	0	0.0	9.0	5.0	S1107	A	
3 43	KRIVAYA LUKA SUITE LENA RIVER	60.0	118.0	002	010	N	43	166.0	4.0	11	13.0	-27.0	134.0	0	0.0	13.0	7.0	S1108	A	
3 61	KRIVAYA LUKA SUITE MIXED LENA RIV	59.0	106.0	000	033			156.0	14.0	0	8.0	-22.0	132.0	0	0.0	8.0	4.0	KS247	A	
3 62	KRIVAYA LUKA SUITE KULIUMBE RIVER	69.0	88.0	000	090		100	304.0	12.0	0	1.0	-18.0	148.0	0	0.0	1.0	1.0	KS248	A	
3 83	KRIVAYA LUKA SUITE CHERTOVA RIVER	57.5	108.0	003	054	N	50	153.0	9.0	33	3.0	-23.0	137.0	0	0.0	3.0	2.0	S1115	A	
3 89	KRIVAYA LUKA SUITE COMBINED	60.3	105.6	010	202		0	0.0	0.0	0	0.0	-26.5	136.0	38	12.6	0.0	0.0	00000	A	**
3 45	CHUNYA SUITE ILIM RIVER	57.0	104.0	005	019	N	30	160.0	-23.0	9	11.8	-42.0	131.0	0	0.0	12.0	7.0	S1116	A	
3 66	CHUNYA SUITE KULIUMBE RIVER	69.0	88.0	000	042		100	308.0	5.0	0	6.0	-19.0	144.0	0	0.0	6.0	3.0	KS259	A	
3 90	CHUNYA SUITE COMBINED	62.5	96.0	006	061		0	0.0	0.0	0	0.0	-30.7	139.3	20	16.0	0.0	0.0	00000	A	**
3 10	UST KUTSK SUITE ANGARA RIVER	0.0	0.0	002	028	N	68	157.0	19.0	0	13.0	-21.0	119.0	0	0.0	13.0	7.0	07052	A	
3 56	UST KUTSK SUITE ANGARA RIVER	58.0	97.0	000	101	N	0	157.0	-19.0	0	13.0	-19.0	120.0	0	0.0	14.0	7.0	KS256	A	
3 44	UST KUTSK SUITE LENA RIVER	57.0	107.0	000	022	A	77	164.0	-19.0	0	12.7	-41.0	128.0	0	0.0	13.2	7.1	10138	A	
3 84	UST KUTSK+KASIMIROVSK SUITES	57.0	107.0	002	012	N	77	168.0	-18.0	6	12.7	-41.0	123.0	0	0.0	13.2	7.1	S1117	A	
3 85	UST KUTSK SUITE LENA RIVER	58.5	110.0	003	023	N	52	171.0	-19.0	30	6.0	-41.0	122.0	0	0.0	6.0	3.0	S1118	A	
3 86	UST KUTSK SUITE ALAKIT RIVER	66.5	110.0	007	014	W	100	341.0	36.0	24	5.0	-42.0	134.0	0	0.0	6.0	4.0	S1119	A	
3 87	UST KUTSK SUITE COMBINED	59.8	108.5	010	200		0	0.0	0.0	0	0.0	-32.9	123.2	41	12.1	0.0	0.0	00000	A	**
3 103	TRAP-SILL PELEDUI RIVER	59.5	112.5	001	028	A	100	353.0	1.0	7	10.0	-33.0	121.0	0	0.0	10.0	5.0	S1225	A	*
3 5	SEDIMENTS LENA REGION	60.0	118.0	000	087	N	0	352.0	16.0	0	4.0	-22.0	127.0	0	0.0	4.0	2.0	05080	A	

SILURIAN OF USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LCNG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
4	2 DNIESTER AREA MIXED REDBEDS	49.0	26.0	000	012	N		74.0	10.0	0	0.0	14.0	124.0	0	0.0	18.0	10.0	07048	A	
4	50 DNIESTER AREA UPPER SILURIAN	49.0	26.0	005	028	A	79	78.0-10.0		4	18.0	4.0	128.0	0	0.0	18.0	9.0	S1001	A	
4	3 DNIESTER AREA SILURIAN RECBEDS	49.0	26.0	000	000	N	100	214.0-20.0		0	0.0	40.0	160.0	0	0.0	0.0	0.0	07049	B	
4	4 DNIESTER SILURIAN COMBINED 1	49.0	26.0	000	000	N		0.0	0.0	0	0.0	22.8	141.8	0	0.0	0.0	0.0	00000	B	
4	56 DNIESTER SILURIAN COMBINED 2	49.0	26.0	000	000	Y		0.0	0.0	0	0.0	41.1	144.0	22	15.0	0.0	0.0	00000	A	*
4	66 TIVER STAGE SEDIMENT DNESTR VALLEY	48.5	26.0	016	053	Y	100	211.0-26.0		13	6.0	47.0	159.0	0	0.0	6.0	3.0	S1008	A	**
4	67 MALINOVETS+SKALSKII HORIZON DNESTR	48.5	26.5	011	054	Y	100	208.0-27.0		17	4.0	48.0	163.0	0	0.0	5.0	3.0	S1009	A	**
4	68 KITAIGORODSKII HORIZON ETC DNESTR	48.5	27.0	004	030	Y	100	209.0-17.0		17	7.0	43.0	165.0	0	0.0	7.0	4.0	S1010	A	*
4	55 ZHEINNY ISLAND BLACK SEA RED BEDS	45.0	30.0	001	022	T	100	261.0	2.0	25	6.0	6.0	128.0	0	0.0	6.0	3.0	S1005	A	*
4	52 SEDIMENTS OF SOUTHERN URALS	53.5	58.0	013	013	N	38	59.0	22.0	7	17.0	27.0	168.0	0	0.0	18.0	10.0	S1003	A	*
4	46 GREY DOLOMITE OF BELAYA RIVER	52.5	57.0	000	009		100	232.0-35.0		0	12.0	38.0	166.0	0	0.0	14.0	8.0	KS237	B	
4	47 ORTHOPHYRE SUITE MIDDLE URALS	59.0	60.0	000	241		0	83.0	10.0	0	13.0	8.0	152.0	0	0.0	13.0	7.0	KS231	A	
4	49 ORTHOPHYRE SUITE MIDDLE URALS	59.0	60.0	007	196	N	0	83.0	9.0	21	14.0	7.0	153.0	0	0.0	14.0	7.0	S0915	A	
4	57 ORTHOPHYRE SUITE COMBINED URALS	59.0	60.0	000	437		0	0.0	0.0	0	0.0	7.5	152.5	999	8.0	0.0	0.0	00000	A	**
4	70 TARATASH INTRUSIVE COMPLEX S URALS	55.5	60.0	002	020	N	100	256.0-36.0		8	18.0	22.0	150.0	0	0.0	20.0	11.0	S1012	A	*
4	5 PERIDOTITES URALS	67.0	66.0	001	006	N	0	89.0	38.0	0	0.0	16.0	140.0	0	0.0	0.0	0.0	03069	B	
4	5 QUARTZ DIORITE NORTHERN URALS	0.0	0.0	000	000	N	0	95.0	44.0	0	21.0	22.0	141.0	0	0.0	26.0	16.0	06065	B	
4	51 GHINETINSK SUITE ALTAI MOUNTAINS	52.0	84.0	000	000	A	0	124.0	36.0	18	8.0	-4.0	135.0	0	0.0	9.0	5.0	S1004	B	
4	69 GHINETINSK SUITE ALTAI MOUNTAINS	52.0	84.0	005	030	Y	36	121.0	33.0	25	5.0	-3.0	139.0	0	0.0	6.0	3.0	S1011	A	**
4	39 LOWER SILURIAN KUREIKA RIVER	67.0	88.0	000	016		0	42.0	45.0	0	16.0	41.0-150.0		0	0.0	20.0	12.0	KS236	A	
4	40 LOWER SILURIAN MIXED KULIUMBE RIV	68.0	88.0	000	053			285.0-50.0		0	5.0	23.0	152.0	0	0.0	6.0	4.0	KS235	A	
4	60 LOWER SILURIAN YENISEI COMBINED	67.5	88.0	000	069		0	0.0	0.0	0	0.0	35.5	177.9	5	0.0	0.0	0.0	00000		
4	41 UPPER SILURIAN KURFIKA RIVER	67.0	88.0	000	021		0	47.0	36.0	0	9.0	34.0-148.0		0	0.0	11.0	6.0	KS233	A	
4	42 UPPER SILURIAN KULIUMBE RIVER	68.0	88.0	000	016		100	302.0-66.0		0	10.0	34.0	132.0	0	0.0	16.0	13.0	KS234	A	
4	59 UPPER SILURIAN YENISEI COMBINED	67.5	88.0	000	037		0	0.0	0.0	0	0.0	32.1	180.3	5	0.0	0.0	0.0	00000		
4	82 SILURIAN OF YENISEI COMBINED	67.5	88.0	000	106			0.0	0.0	0	0.0	34.0	179.0	845	15.0	0.0	0.0	00000	A	*
4	71 LIMESTONE TUNGUS SYNCLINE	68.0	89.0	007	051	N	53	102.0	63.0	11	4.0	36.0	148.0	0	0.0	7.0	5.0	S1013	A	*

## SILURIAN OF USSR PROBABLE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LONG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
4 14	CHERGAKA SUITE TUVINIAN TROUGH	52.0	94.0	002	042	N	100	142.0	32.0	0	13.0	-13.0	132.0	0	0.0	15.0	9.0	07051	A	*
4 54	YARAK SUITE RED BEDS GHUNA RIVER	57.0	99.0	001	012	N	100	225.0-74.0		37	7.0	66.0	157.0	0	0.0	14.0	11.0	S1006	A	*
4 7	RED SANDSTONE LENA RIVER	61.0	116.0	000	012	N	0	197.0	46.0	0	0.0	0.0	101.0	0	0.0	11.0	7.0	07050	A	
4 37	ALEUROLITES LENA RIVER	61.0	116.0	000	029		100	201.0	48.0	0	8.0	2.0	98.0	0	0.0	11.0	7.0	KS238	A	*



## DEVONIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FOLE LCNG	KF	EF 95	DM	DP	OTHER F LISTS	F 1	F 2
5 7	FAMENNIAN REOBEDS RUSSIAN PLATFORM	58.0	33.0	000	048	N	0	44.0	24.0	0	10.0	34.0	158.0	0	0.0	11.0	6.0	04026	A	
5 8	UPPER FRASNIAN RUSSIAN PLATFORM	57.0	31.0	000	049	N	0	40.0	10.0	0	10.0	29.0	164.0	0	0.0	10.0	6.0	04027	A	
5 9	LOWER FRASNIAN RUSSIAN PLATFORM	60.0	33.0	000	050	N	100	227.0-16.0		0	10.0	28.0	159.0	0	0.0	10.0	5.0	04028	A	
5 90	FAMENNIAN RED BED LININKA RIVER	59.0	34.0	000	008		100	225.0-23.0		0	5.0	32.0	159.0	0	0.0	5.0	3.0	KS204	B	
5 119	FAMENNIAN + FRASNIAN RUSSIAN FLAT	58.0	32.0	021	075	Y	81	35.0	25.0	6	8.0	38.0	167.0	0	0.0	8.0	4.0	S0905	A	
5 114	RUSSIAN PLATFORM DEVON COMBINED 1	58.0	32.5	000	000		0	0.0	0.0	0	0.0	30.8	160.0	504	4.1	0.0	0.0	00000	A	
5 120	RUSSIAN PLATFORM DEVON COMBINED 2	58.0	32.5	000	230		70	42.2	19.7	108	7.4	32.2	161.3	245	4.9	7.7	4.0	00000	A	**
5 11	DNIESTER AREA SEDIMENT	49.0	25.0	000	000	N	100	201.0-22.0		0	0.0	50.0	175.0	0	0.0	0.0	0.0	05061	B	
5 12	DNIESTER AREA SEDIMENT	49.0	25.0	000	000	N	100	210.0-13.0		0	0.0	40.0	165.0	0	0.0	0.0	0.0	05062	B	
5 13	DNIESTER AREA SEDIMENT	49.0	25.0	000	000	N	100	202.0-22.0		0	0.0	46.0	172.0	0	0.0	0.0	0.0	05063	B	
5 14	DNIESTER AREA SEDIMENT	49.0	25.0	000	000	N	100	212.0-16.0		0	0.0	40.0	162.0	0	0.0	0.0	0.0	05064	B	
5 15	DNIESTER AREA SEDIMENT	49.0	25.0	000	080	N	100	209.0-12.0		0	0.0	41.0	166.0	0	0.0	8.0	4.0	05065	A	
5 104	DNIESTER AREA RED SEDIMENT	49.0	25.0	000	032	N	100	211.0	-4.0	0	11.0	36.0	168.0	0	0.0	11.0	6.0	KS226	A	
5 105	ZHEDIAN STAGE DNIESTER AREA	49.0	25.0	000	064	N	0	32.0	-5.0	0	5.0	31.0	167.0	0	0.0	5.0	3.0	KS227	A	
5 106	ZHEDIAN STAGE DNIESTER AREA	49.0	25.5	000	063		100	214.0-13.0		0	5.0	39.0	159.0	0	0.0	5.0	3.0	KS228	A	
5 107	ZHEDIAN STAGE DNIESTER AREA	49.0	25.5	000	097		100	213.0-18.0		0	3.0	42.0	160.0	0	0.0	3.0	2.0	KS229	A	
5 108	ZHEDIAN STAGE DNIESTER AREA	49.0	25.5	000	020		100	213.0-20.0		0	8.0	43.0	159.0	0	0.0	8.0	4.0	KS230	A	
5 113	DNIESTER AREA RED BEDS 1 COMBINED	49.0	25.3	000	000		98	0.0	0.0	0	0.0	40.9	165.1	154	3.9	0.0	0.0	00000	A	
5 130	DNIESTER AREA RED BEDS 2 COMBINED	49.0	25.3	007	273	W	85	213.0-12.0		73	7.0	39.0	161.0	0	0.0	7.0	4.0	S0916	A	**
5 187	TIVER STAGE DNESTR VALLEY SEE 4-66																			
5 132	MID-UP DEVONIAN REDBEDS VCLONGA R	67.0	48.0	013	146	X	100	236.0	24.0	6	4.0	1.0	174.0	0	0.0	4.0	2.0	S0920	A	
5 158	TRAVYANSK+NADEZHINSK SUITES TIMAN	67.0	48.0	008	051	Y	100	240.0	10.0	11	5.0	7.0	167.0	0	0.0	5.0	2.0	S0927	A	
5 154	POKAYAMSK SUITE ETC NORTH TIMAN	67.0	48.0	008	075	Y	100	231.0	11.0	10	4.0	9.0	176.0	0	0.0	4.0	2.0	S0922	A	
5 175	DEVONIAN OF TIMAN COMBINED	67.0	48.0	016	126	Y	100	236.0	10.0	0	0.0	8.0	171.0	0	7.0	0.0	0.0	00000	A	**
5 131	DOMANIK HORIZON SOUTH URALS	53.5	56.5	001	030	N	100	259.0-46.0		12	7.0	29.0	139.0	0	0.0	9.0	6.0	S0917	A	*
5 122	ULUTAU SUITE SOUTH URALS	54.5	59.5	020	038	W	100	248.0-44.0		8	8.0	35.0	148.0	0	0.0	10.0	6.0	S0909	A	
5 123	ULUTAU SUITE SOUTH URALS	53.0	58.5	035	043	W	100	251.0-31.0		19	5.0	25.0	152.0	0	0.0	6.0	3.0	S0910	A	

## DEVONIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LCNG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	PCLF LCNG	KF	EF 95	DM	DP	OTHER LISTS	F 1	F 2
5 124	ULUTAU SUITE SOUTH URALS	52.5	58.5	081	156	W	100	237.0-35.0		7	5.0	35.0	163.0	0	0.0	5.0	3.0	S0 911	A	
5 125	ULUTAU SUITE SOUTH URALS	51.5	58.5	091	027	W	100	243.0-29.0		9	8.0	29.0	160.0	0	0.0	9.0	5.0	S0 912	A	
5 126	ULUTAU SUITE STH URALS COMBINED 1	52.8	58.7	135	264	W	100	64.7 35.4		93	9.6	31.1	155.7	112	8.7	11.1	6.4	00 000	A	
5 159	ULUTAU SUITE SOUTHERN URALS	53.0	58.5	002	013	N	0	35.0 34.0		13	8.0	47.0	188.0	0	0.0	10.0	6.0	S0 928	A	
5 183	ULUTAU SUITE S URALS COMBINED 2	53.0	58.5	137	277	W	80	0.0 0.0		0	0.0	34.9	160.1	31	14.0	0.0	0.0	00 000	A	**
5 150	ROCKS OF SOUTH URALS SEE 6-296																			
5 155	SANDSTONES+SHALES SOUTHERN URALS	51.5	58.5	001	035	N	100	243.0-23.0		7	10.0	25.0	163.0	0	0.0	11.0	6.0	S0 924	A	*
5 121	KOLTUBANSK SUITE SOUTERN URALS	53.0	58.5	042	085	W	100	233.0-28.0		22	4.0	34.0	170.0	0	0.0	4.0	2.0	S0 908	A	
5 153	KOLTUBANSK SUITE SOUTHERN URALS	53.0	58.5	046	120	W	100	234.0-27.0		22	3.0	33.0	170.0	0	0.0	3.0	2.0	S0 923	A	**
5 160	TUFFS^QUARTZITIC SHALE SOUTH URALS	51.5	58.5	002	016	N	100	248.0-37.0		10	14.0	30.0	154.0	0	0.0	16.0	10.0	S0 929	A	*
5 149	ROCKS OF SOUTH URALS SEE 6-295																			
5 161	TARATASH INTRUSIVE COMPLEX S URALS	55.5	60.0	003	021	N	0	27.0 38.0		10	10.0	51.0	199.0	0	0.0	12.0	7.0	S0 930	A	*
5 100	DIABASE PORPHYRIES+TUFF STH URALS	53.0	58.0	000	040	N	100	220.0-40.0		0	2.0	47.0	178.0	0	0.0	3.0	2.0	KS 220	A	*
5 17	RED BAUXITES OF NORTH URALS	60.0	60.0	004	144	N	100	227.0-23.0		7	4.0	31.0	182.0	0	0.0	4.0	2.0	S0 921	A	
5 91	RED BAUXITES SOUTH URALS	55.0	58.5	005	035	N	100	243.0-11.0		2	18.0	20.0	164.0	0	0.0	18.0	9.0	S0 918	A	
5 92	BAUXITES+HYDROHEMATITES URALS	57.0	57.0	000	126		100	225.0-27.0		0	8.0	35.0-179.0		0	0.0	8.0	5.0	KS 209	A	
5 134	RED BAUXITES OF URALS COMBINED	57.3	58.5	000	305	N	0	0.0 0.0		0	0.0	28.9	173.9	53	17.2	0.0	0.0	00 000	A	*
5 127	IRENDYK+KARMALYTASH SUITES URALS	54.5	59.5	040	055	W	100	230.0-41.0		5	10.0	42.0	169.0	0	0.0	12.0	7.0	S0 913	A	**
5 128	PALEOZOIC SED STH URALS SEE 7-314																			
5 141	ORTHOPHYRE SUITE URALS SEE 4-57 ET																			
5 117	ZILAIR SUITE SEE 6-254 ETC																			
5 57	QUARTZ DIORITE NORTH URALS SEE 4-6																			
5 176	DEVONIAN OF URALS COMBINED 1	53.6	58.7	016	000			0.0 0.0		0	0.0	35.6	161.0	14	10.3	0.0	0.0	00 000	A	
5 177	DEVONIAN OF URALS COMBINED 2	0.0	0.0	013	000			0.0 0.0		0	0.0	38.3	165.0	25	8.5	0.0	0.0	00 000	A	
5 88	KAZAKHSTAN LIMESTONE	50.0	66.0	000	008		100	209.0-42.0		0	9.0	56.0-167.0		0	0.0	11.0	6.0	KS 202	B	
5 94	KAZAKHSTAN RED BEDS	52.0	68.0	000	078		100	294.0-74.0		0	6.0	34.0	101.0	0	0.0	11.0	10.0	KS 212	A	*
5 39	KAZAKHSTAN PORPHYRITES	48.0	74.0	001	022	A	100	218.0-23.0		0	0.0	43.0-159.0		0	0.0	0.0	0.0	06 060	B	

DEVONIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FOLE LONG	KP	EF 95	DM	DP	OTHER LISTS	F 1	F 2
5 162	BARAGASH SUITE GORNYI ALTAI	51.5	85.5	002	008	A	0	64.0	75.0	270	3.0	55.0	133.0	0	0.0	5.0	4.0	S0 931	B	
5 151	ABYSHEVSK+PODONINSK BEDS SEE 6-300																			
5 97	GIVETIAN STAGE SIBERIA	67.0	88.0	000	022		100	64.0	63.0	0	5.0	50.0	178.0	0	0.0	9.0	7.0	KS217	A	
5 98	EIFFELIAN STAGE MIXED SIBERIA	67.0	88.0	000	068			233.0-46.0		0	7.0	38.0-157.0		0	0.0	9.0	6.0	KS218	A	
5 163	MANTUROVSK SUITE NORILSK REGION	69.0	88.0	001	044	N	100	295.0-46.0		9	8.0	17.0	145.0	0	0.0	10.0	6.0	S0 932	A	
5 156	KALARGONSK+FOKINSK SUITES NORILSK	69.0	88.0	003	112	N	82	89.0	77.0	16	3.0	58.0	141.0	0	0.0	6.0	6.0	S0 925	A	
5 99	GIVETIAN+EIFFELIAN MIXED SIBERIA	68.0	88.0	000	037			280.0-67.0		0	6.0	40.0	147.0	0	0.0	9.0	8.0	KS219	A	
5 164	TERRIGENOUS CARBONATE SER TUNGUS	68.0	89.0	001	021	N	100	294.0-63.0		17	6.0	32.0	140.0	0	0.0	9.0	7.0	S0 933	A	
5 165	ZUBOVSK SUITE NCRILSK REGION	69.0	88.0	001	022	N	100	346.0-57.0		5	14.0	17.0	100.0	0	0.0	20.0	14.0	S0 934	A	
5 188	DEVONIAN LOWER YENESEI COMBINED	68.5	88.0	009	399		95	0.0	0.0	0	0.0	39.0	149.0	10	18.0	0.0	0.0	00 000	A	**
5 103	KUREISK+ZUBOVSK SUITES YENISEI RIV	68.0	88.0	000	038		100	279.0-55.0		0	2.0	29.0	156.0	0	0.0	3.0	2.0	KS225	A	
5 166	KUREISK+ZUBOVSK SUITES OF TUNGUS	68.0	89.0	003	035	W	100	277.0-67.0		24	4.0	43.0	150.0	0	0.0	6.0	5.0	S0 935	A	
5 18	CHARGIN SERIES SIBERIAN PLATFORM	56.0	93.0	000	000	N	0	102.0	53.0	0	0.0	23.0	154.0	0	0.0	0.0	0.0	05 067	B	
5 19	CHARGIN AMONASH LOVAT SR SIBERIA	55.0	95.0	000	000	N	0	113.0	51.0	0	0.0	15.0	150.0	0	0.0	0.0	0.0	05 068	B	
5 28	BYSKAR SERIES SIBERIAN PLATFORM	56.0	93.0	000	000	N	0	88.0	53.0	0	0.0	32.0	162.0	0	0.0	0.0	0.0	05 076	B	
5 42	BYSKAR SERIES SIBERIAN PLATFORM	0.0	0.0	000	021	N	38	88.0	53.0	0	0.0	32.0	162.0	0	0.0	5.0	5.0	07 046	A	
5 101	BYSKAR SERIES MIXED SIBERIA	55.0	93.0	000	500	N		94.0	56.0	0	3.0	31.0	154.0	0	0.0	3.0	2.0	KS222	A	
5 20	TATYSHEVA SERIES MIXED SIBERIA	56.0	93.0	000	000	N		103.0	61.0	0	0.0	28.0	147.0	0	0.0	0.0	0.0	05 069	B	
5 21	KUNGUSS SERIES MIXED SIBERIA	56.0	93.0	000	000	N		97.0	53.0	0	0.0	24.0	157.0	0	0.0	0.0	0.0	05 070	B	
5 22	KUNGUSS SERIES SIBERIAN PLATFORM	55.0	95.0	000	000	N	0	104.0	65.0	0	0.0	30.0	146.0	0	0.0	0.0	0.0	05 071	B	
5 44	KUNGUSS SERIES SIBERIAN PLATFORM	0.0	0.0	000	007	N	47	100.0	59.0	0	0.0	27.0	152.0	0	0.0	0.0	0.0	07 044	B	
5 24	CHASOVENAY SERIES MIXED SIBERIA	56.0	93.0	000	000	N		98.0	59.0	0	0.0	28.0	152.0	0	0.0	0.0	0.0	05 072	B	
5 25	RED BEDS KRASNOYARSK SIBERIA	56.0	93.0	000	028	N	100	285.0-56.0		0	10.0	23.0	150.0	0	0.0	14.0	10.0	05 073	A	
5 26	KARYMOV IVASHIKHIN SERIES SIBERIA	56.0	93.0	000	000	N	0	89.0	55.0	0	0.0	29.0	163.0	0	0.0	0.0	0.0	05 074	B	
5 27	ANZHIN SERIES MIXED SIBERIA	55.0	95.0	000	000	N		86.0	50.0	0	0.0	28.0	168.0	0	0.0	0.0	0.0	05 075	B	
5 40	OKLER SERIES MIXED SIBERIA	0.0	0.0	000	000	N		91.0	51.0	0	0.0	25.0	163.0	0	0.0	0.0	0.0	07 043	B	
5 71	OKLER SERIES SIBERIAN PLATFORM	55.8	93.2	000	070	A	50	101.8	50.3	46	13.7	19.0	156.0	0	0.0	18.4	12.3	10 127	A	

## DEVONIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	FCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
5 29	OKLER+PENOV SERIES MIXED SIBERIA	55.0	95.0	000	000	N		86.0	66.0	0	0.0	39.0	154.0	0	0.0	0.0	0.0	05077	B	
5 30	KRASNOYARSK AREA SEDIMENTS	56.0	98.0	000	000	N	0	0.0	0.0	0	0.0	28.0	155.0	0	0.0	0.0	0.0	05078	B	
5 41	SIBERIAN SEDIMENTS YENISEI	51.0	91.0	002	018	N	100	115.0	26.0	0	0.0	-4.0	156.0	0	0.0	0.0	0.0	07047	B	
5 43	SIBERIAN SEDIMENTS RYBINSK BASIN	56.0	95.0	000	018	N	39	87.0	57.0	0	0.0	32.0	162.0	0	0.0	0.0	0.0	07045	B	
5 96	MID-DEVONIAN RYBINSK BASIN REDBEDS	53.0	95.0	000	162	N	0	87.0	57.0	0	5.0	32.0	162.0	0	0.0	6.0	3.0	KS215	A	
5 93	UP-DEVONIAN RYBINSK BASIN REDBEDS	56.0	94.0	000	204	N	0	103.0	57.0	0	5.0	24.0	151.0	0	0.0	6.0	3.0	KS208	A	
5 45	SIBERIAN SEDIMENT LAKE VARCHA AREA	54.0	92.0	000	000	N	0	106.0	55.0	0	0.0	22.0	150.0	0	0.0	0.0	0.0	00000	B	
5 54	BYSTRIANSK SUITE TUVA RIVER	54.0	92.0	000	126	N	100	295.0-66.0		6	9.0	25.0	134.0	0	0.0	14.0	12.0	10124	A	
5 55	OIDANOVSK+KOKHAISK SUITES ARAKAN	55.0	90.0	000	016	N	100	299.0-46.0		8	14.0	8.0	147.0	0	0.0	18.0	12.0	10125	A	
5 157	KOKHAISK+OIDANOVSK SUITES MINUSA	53.0	91.0	003	030	N	100	294.0-72.0		10	10.0	33.0	127.0	0	0.0	15.0	11.0	S0926	A	
5 152	NADATAISK+A_TAI SUITES SEE 6-302																			
5 95	KRASNOYARSK REGION SEDIMENT	56.0	93.0	001	018	A	100	301.0-60.0		6	16.0	19.0	136.0	0	0.0	24.0	18.0	S0919	A	
5 136	KRASNOYARSK UP DEVONIAN COMBINED	54.0	93.0	010	000			0.0	0.0	0	0.0	23.7	144.2	47	7.1	0.0	0.0	00000	A	**
5 137	KRASNOYARSK MID+UP DEVON COMBINED	54.0	93.0	004	000			0.0	0.0	0	0.0	26.3	151.3	238	6.0	0.0	0.0	00000	A	**
5 138	KRASNOYARSK MID DEVONIAN COMBINED	54.0	93.0	005	000			0.0	0.0	0	0.0	28.5	157.9	42	12.0	0.0	0.0	00000	A	**
5 139	KRASNOYARSK LR+MID DEVON COMBINED	54.0	93.0	002	000			0.0	0.0	0	0.0	31.6	158.0	277	15.1	10.0	0.0	00000	A	*
5 140	KRASNOYARSK LOWER DEVONIAN COMBINE	54.0	93.0	005	000			0.0	0.0	0	0.0	22.4	159.2	23	16.1	10.0	0.0	00000	A	**
5 182	KRASNOYARSK REDBEDS B DATA COMBINE	54.0	93.0	027	000			0.0	0.0	0	0.0	25.5	151.8	41	4.4	0.0	0.0	00000	A	
5 179	KRASNOYARSK REDBEDS A DATA COMBINE	54.0	93.0	014	000			0.0	0.0	0	0.0	23.8	148.5	28	7.6	0.0	0.0	00000	A	
5 102	BYERDAR SUITE RED BEDS TUVA BASIN	52.0	94.0	000	023	N	0	115.0	26.0	0	10.0	-4.0	156.0	0	0.0	11.0	6.0	KS223	A	
5 118	YGNATYN+KUCHGUNAR SERIES SEE 6-255																			
5 167	GABRO-DOLERITE OLENEK REGION	70.5	120.5	001	026	A	100	17.0-47.0		18	7.0	9.0	105.0	0	0.0	8.0	5.0	S0936	A	*
5 84	ROCKS OF NE SIBERIA SEE 6-192																			
5 148	ROCKS OF NE SIBERIA SEE 6-283																			

CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	FOLE LCNG	KP	EP 95	DM	DP	OTHER F LISTS	F 1	F 2
6 185	WISEAN SEDIMENTS VYTEGRA AREA	61.0	37.0	000	013	N	100	226.0-48.0		0	4.3	46.0	152.0	0	0.0	6.0	4.0	00 000	A	
6 158	WISEAN SEDIMENTS LENINGRAD AREA	60.0	34.0	000	000		100	217.0-44.0		0	4.0	47.0	160.0	0	0.0	5.0	3.0	09 111	B	
6 159	WISEAN SEDIMENTS MIXED NEBOLCHI	59.0	33.0	000	000			220.0-40.0		0	6.0	41.0	158.0	0	0.0	8.0	5.0	09 112	B	
6 160	WISEAN SEDIMENTS VYTEGRA AREA	61.0	37.0	000	000		100	226.0-48.0		0	4.0	46.0	152.0	0	0.0	6.0	4.0	S0 813	B	
6 267	WISEAN ROCKS LENINGRAD COMBINED 1	60.3	35.3	000	000		0	0.0 0.0		0	0.0	45.1	155.5	418	4.5	0.0	0.0	00 000	A	
6 349	WISEAN ROCKS LENINGRAD COMBINED 2	59.5	34.2	010	180	N	68	0.0 0.0		0	0.0	43.9	158.3	317	2.7	0.0	0.0	00 000	A	**
6 184	OKA BEDS WISEAN SEDIMENTS TIKVIN	59.0	34.0	000	020	N	40	214.0-44.0		0	4.7	49.0	164.0	0	0.0	6.0	4.0	S0 814	A	
6 43	OKA-SERPUKHJV SUITE TIKVIN AREA	59.0	34.0	000	040	N	0	38.0 38.0		0	0.0	43.0	162.0	0	0.0	7.0	4.0	05 050	A	
6 182	OKA-SERPUKHOV SUITE TIKVIN AREA	59.0	34.0	000	038	N	100	221.0-43.0		0	4.0	45.0	156.0	0	0.0	5.0	3.0	S0 814	A	
6 250	OKA-SERPUKHOV SUITE TIKVIN AREA	59.3	34.0	001	008	N	63	40.0 38.0		38	10.0	43.0	159.0	0	0.0	12.0	7.0	S0 814	B	
6 278	OKA-SERPUKHOV BEDS COMBINED	59.1	34.0	000	106	N		0.0 0.0		0	0.0	45.0	160.2	470	4.2	0.0	0.0	00 000	A	**
6 44	TULA HORIZON MIXED TIKVIN AREA	59.0	34.0	000	018	N		41.0 29.0		0	0.0	37.0	162.0	0	0.0	7.0	4.0	05 051	A	
6 183	TULA HORIZON TIKVIN AREA	59.0	34.0	000	025	N	76	40.0 40.0		0	6.1	41.0	158.0	0	0.0	6.0	4.0	00 000	A	
6 266	TULA HORIZON WISEAN COMBINED	59.0	34.0	000	043	N		0.0 0.0		0	0.0	39.0	160.1	512	10.0	0.0	0.0	00 000	A	*
6 45	TOURNAI STAGE MIXED TIKVIN AREA	59.0	34.0	000	017	N		78.0 25.0		0	0.0	17.0	127.0	0	0.0	4.0	2.0	05 052	A	*
6 148	KASHIRA HORIZON MOSCOVIAN RZHEV R	56.0	34.0	000	000		100	225.0-21.0		0	4.0	33.0	158.0	0	0.0	4.0	2.0	09 101	B	
6 149	KASHIRA HORIZON MOSCOVIAN OZERY R	55.0	39.0	000	000		100	220.0-16.0		0	7.0	34.0	170.0	0	0.0	7.2	3.7	09 102	B	
6 186	KASHIRA HORIZON MOSCOVIAN RZHEV	56.0	34.0	000	040	N	100	225.0-21.0		0	3.9	33.0	158.0	0	0.0	4.0	2.0	00 000	A	
6 356	KASHIRA HORIZON MOSCOVIAN COMBINED	55.5	35.0	003	000		100	0.0 0.0		0	0.0	33.5	162.0	195	8.9	0.0	0.0	00 000	A	**
6 142	PODMOSKOVE (=MOSCOW AREA) REDBEDS	56.0	39.0	003	104		100	217.0-31.0		86	9.9	42.0	168.0	0	0.0	0.0	0.0	09 093	A	
6 69	GZHELIAN STAGE MOSCOW BASIN	54.4	37.5	001	040	Y	100	208.0-32.0		0	0.0	47.0	178.0	0	0.0	0.0	0.0	06 054	B	
6 176	GZHELIAN STAGE MOSCOW BASIN	56.0	38.0	001	008	N	100	212.0-21.0		0	0.0	38.0	176.0	0	0.0	0.0	0.0	08 111	B	
6 218	GZHELIAN STAGE MOSCOW BASIN	56.0	38.0	001	033		100	217.0-32.0		0	2.0	42.0	167.0	0	0.0	2.0	1.0	KS 148	A	
6 225	SHCHELKOVKA BEDS KASIMOVIAN MOSCOW	55.5	39.0	002	024		100	217.5-30.5		0	0.0	41.5	168.0	0	0.0	0.0	0.0	KS 155	B	
6 245	GZHELIAN STAGE COMBINED MOSCOW	55.6	38.5	005	105	Y	100	215.0-31.0		196	5.0	43.0	170.0	0	5.0	0.0	0.0	S0 801	A	**
6 150	VEREYA HORIZON SERPUKHOV AREA	55.0	38.0	000	000		100	232.0-18.0		0	5.0	29.0	155.0	0	0.0	6.0	3.0	09 103	B	
6 151	VEREYA HORIZON SERPUKHOV AREA	54.0	42.0	000	000		100	224.0-13.0		0	6.0	31.0	168.0	0	0.0	6.0	3.0	09 104	B	

## CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KC	ED 95	PCLE LAT	FCLE LONG	KF	FF 95	DM	DP	OTHER LISTS	F 1	F 2
6 187	VEREYA HORIZON SERPUKHOV AREA	55.0	38.0	000	035	N	100	241.0	-7.0	0	3.7	20.0	150.0	0	0.0	4.0	2.0	00 000	A	
6 222	VEREYA HORIZON SERPUKHOV AREA	55.0	36.0	000	017		100	221.0-14.0		0	7.0	32.0	166.0	0	0.0	8.0	4.0	KS 164	A	
6 357	VEREYA HORIZON MOSCOVIAN COMBINED	55.0	38.0	004	000		100	0.0	0.0	0	0.0	28.2	159.5	74	10.8	0.0	0.0	00 000	A	**
6 155	SUITE F POLARITY MIXED KARKOV AREA	48.0	38.0	000	000			222.0	15.0	0	8.0	23.0	171.0	0	0.0	8.0	4.0	09 108	B	
6 188	BASHKIR STAGE F SUITE KARKOV	47.0	38.0	000	033	N	36	37.0-21.0		0	6.8	23.0	179.0	0	0.0	7.0	4.0	00 000	A	
6 219	BASHKIR STAGE DONBASS AREA	48.0	38.0	000	038	N	100	209.5	10.5	0	0.0	30.5-177.0		0	0.0	0.0	0.0	KS 174	B	
6 154	BASHKIR STAGE MIXED KARKOV	48.0	38.0	000	000			218.0	11.0	0	10.0	28.0	177.0	0	0.0	10.0	5.0	09 107	B	
6 211	BASHKIR SHALE DONBASS AREA	48.0	38.0	000	045		0	42.0-15.0		0	0.0	23.0	171.0	0	0.0	0.0	0.0	KS 171	B	
6 251	BASHKIR SUITE GREY SHALES DONBASS	48.0	38.0	001	009	N	56	41.0-13.0		21	8.0	24.0	173.0	0	0.0	8.0	4.0	SO 811	B	
6 247	BASHKIR STAGE DONBASS COMBINED	48.0	38.0	000	000			37.5-14.1		160	6.1	25.7	175.2	0	0.0	6.2	3.2	SO 811	A	
6 213	SMOLIANINOVSK SUITE DONBASS AREA	48.0	41.0	000	009		0	192.0	25.0	0	11.0	28.0	152.0	0	0.0	11.0	6.0	KS 173	B	
6 214	LISICHANSK SUITE MIXED DONBASS	48.0	41.0	000	020			221.0	-6.0	0	21.0	36.0-165.0		0	0.0	21.0	11.0	KS 167	B	
6 215	ALMAZ SUITE DONBASS AREA	48.0	38.0	000	020		100	223.0	-2.0	0	11.0	26.0	157.0	0	0.0	10.0	5.0	KS 168	A	
6 216	KAMENSK SUITE DONBASS AREA	48.0	39.5	000	048		0	214.5	15.0	0	0.0	26.0-178.0		0	0.0	0.0	0.0	KS 169	B	
6 217	BELAKALITVENSK SUITE DONBASS AREA	48.0	39.5	000	045		0	217.0	9.5	0	0.0	28.5	177.0	0	0.0	0.0	0.0	KS 171	B	
6 220	NAGOL'CHENSK SUITE MIXED DONBASS	48.0	38.0	000	049			32.0-12.0		0	0.0	24.0-178.0		0	0.0	0.0	0.0	KS 175	B	
6 268	MID CARBONIFEROUS DONBASS COMBINED	48.0	38.0	000	000			33.6	-9.1	27	13.1	29.8	178.5	0	0.0	13.2	6.7	00 000	A	
6 287	ALMAZ+KAMENSK SUITES SOUTH DONBASS	48.0	37.0	006	017	N	100	225.0-36.0		6	12.0	42.0	150.0	0	0.0	13.0	7.0	SO 835	A	
6 334	ALMAZ SUITE SEDIMENTS DONBASS	48.0	38.0	006	006	N	100	223.0	-2.0	22	11.0	31.0	166.0	0	0.0	11.0	6.0	SO 811	B	
6 335	KAMENSK SUITE SEDIMENTS DONBASS	48.0	38.0	016	016	N	100	228.0	22.0	9	8.0	17.0	168.0	0	0.0	9.0	5.0	SO 811	A	
6 336	BELAKALITVENSK SUITE SEDIM DONBASS	48.0	38.0	017	017	N	88	39.0	-7.0	7	10.0	29.0	173.0	0	0.0	10.0	5.0	SO 811	A	
6 337	NAGOL'CHENSK SUITE SEDIMENT DONBAS	48.0	38.0	013	013	N	35	49.0-17.0		8	11.0	19.0	166.0	0	0.0	11.0	6.0	SO 811	A	
6 338	NAGOL'CHENSK SUITE SEDIMENT DONBAS	48.0	38.0	004	004	N	100	210.0	14.0	10	5.0	29.0-177.0		0	0.0	13.0	7.0	SO 811	B	
6 339	CHISTYAKOVSK SUITE SEDIMENT DONBAS	48.0	38.0	007	007	N	71	34.0	-5.0	9	15.0	32.0	177.0	0	0.0	15.0	7.0	SO 811	B	
6 340	MOSCOV'N+BASHKIR SOUTH DONBASS COM	48.0	38.0	072	072	N	86	42.0-11.0		16	17.0	24.0	170.0	0	0.0	17.0	9.0	SO 811	A	**
6 152	MOSCOVIAN STAGE DONBASS AREA	48.0	41.0	000	000		100	212.0	5.0	0	14.0	33.0-170.0		0	0.0	14.0	7.0	09 105	B	
6 153	MOSCOVIAN STAGE DONBASS AREA	48.0	38.0	000	000		100	223.0	9.0	0	8.0	24.0	166.0	0	0.0	8.0	4.0	09 106	B	

CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	K0	ED 95	PCLE LAT	FOLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 341	LISIGHANSK SUITE SEDIMENTS DONBASS	48.0	41.0	015	015	N	73	21.0	-6.0	3	21.0	36.0-165.0		0	0.0	21.0	11.0	S8010	B	
6 342	KAMENSK SUITE SEDIMENTS DONBASS	48.0	41.0	006	006	N	100	201.0	8.0	11	14.0	35.0-165.0		0	0.0	14.0	7.0	S8010	B	
6 343	BELAKALITVENSK SUITE SEDIM DONBASS	48.0	41.0	007	007	N	73	35.0-12.0		6	21.0	28.0-169.0		0	0.0	21.0	11.0	S8010	B	
6 344	SMOLIANINOVSK SUITE SEDIME DONBASS	48.0	41.0	006	006	N	100	192.0	25.0	26	10.0	28.0-152.0		0	0.0	11.0	6.0	S8010	B	
6 345	MOSCOV'N+BASHKIR NORTH DONBAS COMB	48.0	41.0	034	034	N	86	22.0	13.0	40	15.0	34.0-165.0		0	0.0	15.0	8.0	S0810	A	**
6 141	DONBAS UPPER CARBONIFEROUS REOBEDS	48.0	38.0	004	218		100	213.0-10.0		37	0.0	39.0 174.0		0	0.0	0.0	0.0	09092	B	
6 41	AVILOV STAGE DONBASS AREA	48.0	38.0	000	048	N	100	209.0	-8.0	0	0.0	39.0 179.0		0	0.0	4.0	2.0	05049	A	
6 143	AVILOV SUITE DONBASS AREA	48.0	38.0	000	186		100	206.5	-8.0	0	3.0	40.0-177.0		0	0.0	3.0	2.0	09094	A	
6 179	AVILOV SUITE DONBASS AREA	48.0	38.0	000	073	N	100	207.0	-8.0	0	3.0	40.0-178.0		0	0.0	3.0	2.0	00000	A	
6 265	AVILOV SUITE SEDIMENTS COMBINED	48.0	38.0	000	000		0	0.0	0.0	0	0.0	40.0-179.0	999	2.6	0.0	0.0	00000	A	**	
6 144	ISAEV SUITE DONBASS AREA	48.0	41.0	000	000		100	212.0	20.0	0	8.0	25.0-174.0		0	0.0	8.0	4.0	09095	B	
6 75	UPPER CARBONIFEROUS SEDIMENT DONBA	49.0	38.0	000	007	Y	100	205.0	9.0	13	18.0	32.0-172.0		0	0.0	18.0	9.0	08110	B	
6 40	ARAUCARITE SUITE 1 DONBASS AREA	48.0	38.0	000	076	N	100	218.0-15.0		0	0.0	38.0 168.0		0	0.0	2.0	1.0	05048	A	
6 181	ARAUCARITE SUITE 2 DONBASS AREA	48.0	39.0	000	129	N	100	215.0-11.0		0	2.0	38.0 170.0		0	0.0	2.0	1.0	00000	A	
6 201	ARAUCARITE SUITE 3 DONBASS AREA	0.0	0.0	000	060	N	100	202.0-27.0		0	0.0	0.0 0.0		0	0.0	0.0	0.0	00000	B	
6 239	ARAUCARITE SUITE 4 DONBASS AREA	49.0	38.0	000	137	N	100	213.0-23.0		0	3.0	44.0 171.0		0	0.0	3.0	2.0	KS151	A	
6 264	ARAUCARITE SUITE COMBINED DONBASS	48.7	38.6	000	002		100	212.0-19.1		69	11.1	42.7 172.9		0	0.0	11.6	6.1	00000		
6 246	ARAUCARITE+AVILOV COMBINED DONBASS	48.4	38.2	009	296	Y	100	208.0-22.0		24	4.0	46.0 176.0		0	4.0	0.0	0.0	S0802	A	**
6 206	WISEAN SEDIMENTS MIXED DONBASS	48.0	38.0	000	042			211.0	-5.0	0	10.0	38.0 178.0		0	0.0	10.0	5.0	KS195	A	*
6 205	AZOV SEA AREA SEDIMENT	49.0	38.0	000	010		100	200.0	35.0	0	17.0	21.0-162.0		0	0.0	20.0	11.0	KS199	A	
6 207	TOURNAISIAN LIMESTONE AZOV AREA	48.0	38.0	000	025		100	224.0	5.0	0	13.0	27.0 167.0		0	0.0	12.0	6.0	KS196	A	
6 331	TOURNAISIAN SEDIMENTS AZOV REGION	48.0	38.0	021	025	N	100	224.0	5.0	6	12.0	27.0 167.0		0	0.0	12.0	6.0	S8612	A	*
6 329	NAMURIAN SEDIMENTS AZOV REGION	48.0	38.0	030	036	N	7	21.0	20.0	7	10.0	48.0 197.0		0	0.0	10.0	6.0	S8012	A	*
6 330	WISEAN SEDIMENTS AZOV REGION	48.0	38.0	042	050	N	10	27.0	11.0	5	10.0	42.0 181.0		0	0.0	10.0	5.0	S8012	A	*
6 248	AZOV SEA AREA SEDIMENTS COMBINED	48.0	38.0	093	111	N	94	31.0	9.0	21	27.0	40.0 177.0		0	0.0	28.0	14.0	S0812	B	
6 47	TOURNAISIAN SEDS SOUTHERN URALS	54.0	57.0	000	010	N	100	243.0-30.0		0	0.0	29.0 159.0		0	0.0	11.0	6.0	05053	A	
6 163	TOURNAISIAN SEDIMENTS URAL RIVER	52.0	59.0	000	145		100	250.0-20.0		0	10.0	20.0 163.0		0	0.0	10.0	5.0	09115	A	



## CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	P	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2	
6 164	TOURNAISIAN SECS SOUTHERN URALS	53.0	57.0	000	000		100	257.0-27.0		0	8.0	19.0	147.0	0	0.0	9.0	5.0	09116	B		
6 271	TOURNAISIAN SOUTH URALS COMBINED	53.0	57.7	000	000		0	0.0	0.0	0	0.0	22.8	156.3	73	14.6	0.0	0.0	00000	A	**	
6 260	GREY LIMESTONE SOUTHERN URALS	53.0	57.0	004	004	Y	50	96.0	-9.0	17	14.0	-6.0	145.0	0	0.0	14.0	7.0	S0828	B		
6 359	ZILAIR SUITE SEDIMENTS SOUTH URALS	54.0	59.0	000	080		0	44.0	34.0	0	9.0	40.0	179.0	0	0.0	10.0	6.0	KS203	A		
6 346	ZILAIR SUITE SEDIMENTS SOUTH URALS	53.0	57.0	013	031	N	58	257.0-27.0		25	8.0	19.0	147.0	0	0.0	10.0	5.0	S0819	A		
6 347	ZILAIR SUITE SEDIMENTS SOUTH URALS	53.0	57.0	015	023	N	0	86.0	40.0	13	10.0	20.0	135.0	0	0.0	13.0	8.0	S0820	A		
6 348	ZILAIR SUITE SEDIMENTS SOUTH URALS	53.0	57.0	020	036	N	0	132.0	50.0	4	10.0	4.0	97.0	0	0.0	13.0	8.0	S0821	A	*	
6 254	ZILAIR SUITE SOUTH URALS COMBINED	52.0	57.5	048	090	W	29	0.0	0.0	0	0.0	19.6	141.0	102	0.0	11.0	6.0	00000	A	**	
6 256	PALEOZOIC SED STH URALS SEE 7-314																				
6 252	BEREZOVSK SUITE SOUTHERN URALS	53.0	59.0	002	010	N	76	87.0	40.0	12	7.0	21.0	135.0	0	0.0	12.0	8.0	S0816	A		
6 253	BEREZOVSK SUITE SOUTHERN URALS	52.5	59.0	013	037	Y	100	225.0-43.0		4	10.0	46.0	174.0	0	0.0	8.0	5.0	S0817	A		
6 263	BEREZOVSK SUITE COMBINED STH URALS	52.8	59.0	015	047	Y	0	0.0	0.0	0	0.0	35.0	151.5	8	19.0	0.0	0.0	00000	A	*	
6 147	MOSCOW STAGE BAGARYAK RIVER	56.5	62.0	002	044	N	100	247.0-27.0		12	6.0	25.0	162.0	0	0.0	6.0	3.0	S0824	A	*	
6 157	VISEAN SEDIMENTS MIASS RIVER	55.0	63.0	000	000		100	209.0-30.0		0	9.0	45.0	161.0	0	0.0	10.0	6.0	09110	B		
6 209	VISEAN SANDSTONE OF RIVER MIASS	55.3	61.5	002	019	Y	100	209.0-30.0		10	10.0	45.0-160.0		0	0.0	10.0	6.0	S0831	A	*	
6 212	VALERYANOVSKAYA SUITE TOBOL RIVER	52.6	62.5	001	023	Y	100	235.0	10.0	6	12.0	16.0	184.0	0	0.0	12.0	6.0	S0829	A	*	
6 156	BAGARYAK RIVER RED SEDIMENTS	56.0	62.0	000	000		100	190.0	11.0	0	6.0	28.0-131.0		0	0.0	6.0	3.0	09109	B		
6 210	BAGARYAK RIVER RED SEDIMENTS	56.2	61.8	001	020	Y	100	190.0	11.0	27	6.0	28.0-130.0		0	0.0	6.0	3.0	S0830	A	*	
6 189	VISEAN LIMESTONE SOUTHERN URALS	58.0	57.0	000	013	N	100	257.0-27.0		0	8.3	19.0	147.0	0	0.0	10.0	5.0	00000	A	*	
6 272	LOWER CARB CENTRAL URALS COMBINED	55.5	61.5	000	000		0	0.0	0.0	0	0.0	33.6-162.3		8	26.0	0.0	0.0	00000	B		
6 145	RED BEDS OF TOBOL AREA	52.5	62.5	002	079	N	100	200.0-47.0		62	2.0	62.0-158.0		0	0.0	3.0	2.0	S0823	A	*	
6 295	SEDIMENT+IGNEOUS ROCKS SOUTH URALS	52.0	59.0	023	057	N	100	224.0-39.0		6	8.0	45.0	173.0	0	0.0	9.0	6.0	S0844	A	*	
6 294	BASALT DIABASE PORPHYRITE S URALS	52.0	59.0	004	105	N	100	250.0	-6.0	5	6.0	15.0	162.0	0	0.0	6.0	3.0	S0842	A	*	
6 292	BASIC INTRUSIVE COMPLEXES S URALS	53.5	59.0	004	112	N	42	36.0	48.0	50	11.0	55.0	178.0	0	0.0	14.0	9.0	S0840	A	*	
6 291	KHUDOLAZOVSK COMPLEX SOUTH URALS	53.0	59.0	003	028	Y	0	82.0	53.0	5	10.0	30.0	131.0	0	0.0	13.0	9.0	S0839	A	*	
6 295	ALEUROLITE TUFFS SANDSTONE S URALS	52.5	59.5	005	018	N	100	255.0-59.0		7	14.0	39.0	132.0	0	0.0	17.0	10.0	S0843	A	*	
6 285	AKHUNOVSK COMPLEX SOUTHERN URALS	54.0	60.0	071	408	N	48	48.0	35.0	23	13.0	40.0	174.0	0	0.0	15.0	9.0	S0833	A	*	



CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T R	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 293	MAGNITOGORSK COMPLEX SOUTH URALS	52.5	59.5	018	122	N	20	60.0	40.0	57	10.0	36.0	159.0	0	0.0	12.0	7.0	S0 841	A	*
6 284	MAGNITOGORSK GRANITE SOUTH URALS	54.0	59.5	022	164	N	83	64.0	37.0	11	4.0	32.0	159.0	0	0.0	4.0	2.0	S0 832	A	*
6 323	UP DEVON LR CARB S URALS COMBINED	53.0	59.0	000	000			0.0	0.0	0	0.0	37.1	161.9	8	20.9	0.0	0.0	00 000	A	
6 203	TOURNAISIAN SS OF S KAZAKHSTAN	52.0	68.0	000	117		0	260.0-74.0		0	3.0	48.0	114.0	0	5.0	0.0	0.0	KS 201	A	*
6 146	VLADIMIROVSKAYA SUITE KAZAKHSTAN	51.0	68.0	000	051		100	232.0-52.0		0	5.0	48.0	161.0	0	0.0	7.0	5.0	09 099	A	
6 193	KAZAKHSTAN MID-UPPER CARBONIFEROUS	52.0	67.5	000	070	X	100	210.0-57.0		0	0.0	65.0	180.0	0	0.0	0.0	0.0	13 056	B	
6 194	KAZAKHSTAN RED BEDS UPPER CARB B	50.5	68.0	000	040	X	100	202.0-52.0		0	0.0	65.0-164.0		0	0.0	0.0	0.0	13 057	B	
6 195	KAZAKHSTAN RED BEDS UPPER CARB C	50.0	70.0	000	050	N	100	204.0-53.0		0	0.0	65.0-167.0		0	0.0	0.0	0.0	13 058	B	
6 196	KAZAKHSTAN RED BEDS UPPER CARB D	48.0	67.5	000	070	X	100	206.0-50.0		0	0.0	64.0-172.0		0	0.0	0.0	0.0	13 059	B	
6 197	KAZAKHSTAN RED BEDS UPPER CARB E	43.5	70.0	000	378	X	100	204.0-46.0		0	0.0	63.0-171.0		0	0.0	0.0	0.0	13 055	B	
6 269	KAZAKH MIDDLE-UPPER CARB COMBINED	49.1	68.5	000	000		0	0.0	0.0	0	0.0	62.3-177.4		74	7.8	0.0	0.0	00 000	A	**
6 198	KAZAKHSTAN RED BEDS LOWER CARB A	50.5	68.0	000	040	N	100	201.0-53.0		0	0.0	67.0-164.0		0	0.0	0.0	0.0	13 060	B	
6 199	KAZAKHSTAN RED BEDS LOWER CARB B	50.0	70.0	000	044	N	100	196.0-54.0		0	0.0	70.0-154.0		0	0.0	0.0	0.0	13 061	B	
6 200	KAZAKHSTAN RED BEDS LOWER CARB C	48.0	67.5	000	040	N	100	197.0-51.0		0	0.0	69.0-158.0		0	0.0	0.0	0.0	13 062	B	
6 270	KAZAKHSTAN LOWER CARB CN COMBINED	49.3	67.8	000	124		0	0.0	0.0	0	0.0	68.7-158.9		999	3.6	0.0	0.0	00 000	A	**
6 162	TAIDONSK HORIZON KULIUMBE RIVER	66.0	89.0	000	000		100	284.0-66.0		0	7.0	39.0	146.0	0	0.0	11.0	9.0	09 114	B	
6 297	TAIDONSK HORIZON KULIUMBE RIVER	68.0	89.0	001	008	N	100	287.0-64.0		33	7.0	36.0	145.0	0	0.0	11.0	9.0	S0 845	B	
6 110	RED SEDIMENT VISEAN OF KUZBAS	54.0	88.0	000	009	N	100	274.0-40.0		4	28.0	18.0	162.0	0	0.0	34.0	21.0	10 121	B	
6 108	LOWER BALAKHONSK SUITE KUZBAS	54.0	88.0	000	020	N	100	296.0-41.0		6	14.0	10.0	146.0	0	0.0	16.0	11.0	10 116	A	
6 223	LOWER BALAKHONSK SUITE KUZBAS	54.0	88.0	000	030	N	100	270.0-42.0		0	11.0	20.0	162.0	0	0.0	14.0	8.0	KS 158	A	
6 286	LOWER BALAKHONSK SUITE KUZBAS	55.0	88.0	003	049	Y	100	295.0-42.0		9	7.0	6.0	145.0	0	0.0	9.0	5.0	S0 834	A	*
6 109	OSTROG SUITE SEDIMENTS 1 KUZBAS	54.0	88.0	000	012	N	100	302.0-24.0		4	26.0	7.0	134.0	0	0.0	28.0	15.0	10 117	B	
6 111	OSTROG SUITE SEDIMENTS 2 KUZBAS	55.0	88.0	000	014	N	100	315.0-42.0		0	14.0	-1.0	139.0	0	0.0	17.0	10.0	KS 159	A	
6 298	OSTROG SUITE SEDIMENTS 3 KUZBAS	55.0	86.0	003	017	N	100	315.0-59.0		14	12.0	13.0	119.0	0	0.0	14.0	8.0	S0 846	A	*
6 224	TOMSK SUITE KUZNETZ BASIN	55.0	88.0	000	018	N	100	290.0-46.0		0	10.0	13.0	146.0	0	0.0	12.0	8.0	KS 160	A	
6 299	PODYAKOVSK+TOMSK SUITES KUZBAS	53.0	87.0	001	028	N	100	295.0-61.0		39	6.0	21.0	133.0	0	0.0	8.0	5.0	S0 847	A	*
6 300	ABYSHEVSK+PODONINSK SUITES KUZBAS	55.0	87.0	004	006	N	100	322.0-34.0		6	27.0	-8.0	123.0	0	0.0	31.0	18.0	S0 848	B	

## CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KC	ED 95	POLE LAT	FCLC LCGN	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
6 48	LOWER CARB SEDIMENT SIBERIA	53.0	91.0	000	000	N	0	142.0	87.0	0	0.0	48.0	98.0	0	0.0	0.0	0.0	05054	B	
6 49	LOWER CARB SEDIMENT SIBERIA	55.0	90.0	000	000	N	0	100.0	50.0	0	0.0	20.0	153.0	0	0.0	0.0	0.0	05055	B	
6 50	LOWER CARB SEDIMENT SIBERIA	53.0	91.0	000	000	N	0	82.0	78.0	0	0.0	49.0	129.0	0	0.0	0.0	0.0	05056	B	
6 51	LOWER CARB SEDIMENT SIBERIA	55.0	91.0	000	000	N	0	92.0	70.0	0	0.0	41.0	141.0	0	0.0	0.0	0.0	05057	B	
6 52	LOWER CARB SEDIMENT SIBERIA	54.0	92.0	000	000	N	0	103.0	45.0	0	0.0	12.0	156.0	0	0.0	0.0	0.0	05058	B	
6 53	LOWER CARB SEDIMENT SIBERIA	54.0	92.0	000	000	N	0	120.0	84.0	0	0.0	46.0	110.0	0	0.0	0.0	0.0	05059	B	
6 54	LOWER CARB SEDIMENT SIBERIA	54.0	91.0	000	000	N	0	121.0	84.0	0	0.0	46.0	110.0	0	0.0	0.0	0.0	05060	B	
6 302	NADALTAISK SUITE ETC MINUSINSK	54.0	91.0	011	114	Y	100	299.0-70.0		44	4.0	29.0	127.0	0	0.0	7.0	6.0	S0 850	A	
6 70	BYSTRIANSK SUITE MINUSINSK BASIN	54.0	91.0	000	010	N	0	0.0	0.0	0	0.0	38.0	127.0	0	0.0	6.0	6.0	07041	A	
6 113	BYSTRIANSK SUITE TUVA RIVER	54.0	92.0	000	126	N	100	295.0-66.0		6	9.0	25.0	134.0	0	0.0	14.0	12.0	10124	A	
6 168	SEDIMENT MINUSINSK BASIN	54.0	91.0	007	180	N	0	101.0	72.0	22	13.0	38.0	134.0	0	0.0	23.0	20.0	10123	A	
6 204	GREY SANDSTONE MINUSINSK MIXED	54.0	91.0	000	107	N		109.0	71.0	0	6.0	34.0	132.0	0	0.0	11.0	9.0	KS 200	A	
6 114	BAINOVSK+YAMKINSK SUITES	54.0	92.0	000	019	N	100	286.0-36.0		6	14.0	7.0	158.0	0	0.0	17.0	10.0	10122	A	
6 301	PODSINSK SUITES ETC MINUSINSK	53.0	91.0	007	017	N	100	314.0-47.0		9	12.0	1.0	131.0	0	0.0	16.0	10.0	S0 849	A	
6 112	AKTAL+OUKAZHA SUITES TUVA BASIN	51.0	94.0	000	041	N	100	292.0-31.0		6	10.0	3.0	160.0	0	0.0	11.0	6.0	10118	A	
6 275	LOWER CARBONIF MINUSINSK COMBINED	53.3	91.7	000	614			0.0	0.0	0	0.0	22.0	136.7	18	16.5	0.0	0.0	00000	A	**
6 257	TRAP-SILL ANGARA RIVER	54.5	100.5	023	703	Y	100	275.0	50.0	46	1.0	22.0	168.0	0	0.0	1.0	1.0	S0 825	A	
6 258	TRAP-SILL ANGARA RIVER	56.0	101.0	005	127	Y	100	286.0	68.0	33	2.0	33.0	147.0	0	0.0	4.0	3.0	S0 826	A	
6 288	TRAP-SILL ANGARA RIVER BASIN	55.0	99.0	001	030	N	100	297.0-76.0		35	3.0	37.0	130.0	0	0.0	6.0	5.0	S0 836	A	
6 289	TRAP-SILLS ANGARA RIVER BASIN	55.0	101.0	022	673	N	100	275.0-49.0		56	1.0	21.0	170.0	0	0.0	2.0	1.0	S0 837	A	*
6 358	TRAP-SILLS ANGARA RIVER COMBINED	55.0	100.0	000	999		100	0.0	0.0	0	0.0	29.2	154.9	20	21.1	0.0	0.0	00000	B	
6 208	TUSHAMINSK SUITE ANGARA RIVER	59.5	102.5	001	019	A	100	307.0-85.0		22	5.0	51.0	118.0	0	0.0	11.0	11.0	S0 827	A	
6 221	KATA RIVER SUITE MIXED POLARITY	59.0	105.0	000	061	N		128.0	81.0	0	10.0	47.0	125.0	0	0.0	19.0	19.0	KS 178	A	
6 276	LOWER-MIDDLE CARB ANGARA RIVER COM	58.8	103.8	000	080		0	0.0	0.0	0	0.0	49.1	121.6	357	6.0	0.0	0.0	00000	A	*
6 243	KURAMINSK ERUPTIVE SEE 7-210																			
6 255	YGNATYN+KUCHUGUNLR SR MARKHA RIVER	63.5	116.5	012	084	A	52	183.0	61.0	17	17.0	16.0	115.0	0	0.0	26.0	20.0	S0 822	A	*
6 290	SYENITE STOCK ALDAN SHIELD	59.0	125.5	001	028	A	100	322.0-67.0		67	6.0	23.0	151.0	0	0.0	10.0	8.0	S0 838	A	*

CARBONIFEROUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LGNG	B	N	T R	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LONG	KP	EF 95	DM	DP	OTHER LISTS	F 1	F 2
6 192	SEDIMENTS+LAVAS NE SIBERIA	65.2	166.0	000	018	N	100	25.0-79.0		3	21.0	45.0	153.0	0	0.0	39.9	39.9	00000	B	
6 191	SEDIMENTS+LAVAS NE SIBERIA	65.2	166.0	000	021	N	100	11.0-76.0		3	17.0	39.0	159.0	0	0.0	31.1	28.9	00000	B	
6 283	SEDIMENTS+LAVAS NE SIBERIA	65.0	166.0	001	039	N	100	18.0-78.0		3	16.0	42.0	156.0	0	0.0	30.0	28.0	S0744	B	

## PERMIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	FCLE LCNG	KP	EP 95	DM	DP	OTHER LIST	F 1	F 2
7 235	CARBONATE-SALIFEROUS SUITES DCNBAS	49.0	38.3	004	106	N	100	222.0-23.0		76	8.0	40.0	162.0	0	8.0	0.0	0.0	S0719	A	*
7 204	LOWER PERMIAN RED BEDS DONBASS	49.0	38.0	000	424	A	74	39.6 23.1	15.4	5.4	40.7	162.7	0	0.0	5.8	3.1	KS140	A		
7 308	CUPRIFEROUS SST SUITE SOUTH DCNBAS	48.0	38.0	050	193	W	90	218.0-20.0		200	5.0	41.0	165.0	0	5.0	0.0	0.0	S0721	A	
7 309	CUPRIFEROUS SST SUITE NORTH DCNBAS	48.7	38.2	071	162	W	100	223.0-18.0		300	5.0	37.0	167.0	0	5.0	0.0	0.0	S0720	A	
7 236	CUPRIFEROUS SST SUITE COMBINED	48.7	38.1	121	355	W	95	39.9 19.4	18.5	3.8	39.5	165.8	323	2.9	4.0	2.1	S0720	A	**	
7 38	RED SEDIMENTS DONBASS AREA	48.0	38.0	000	034	N	100	225.0 -9.0		0	0.0	33.0	161.0	0	0.0	9.0	5.0	05046	A	
7 139	RED SEDIMENTS DCNBASS AREA	49.0	38.0	003	151		100	223.0-20.0		37	0.0	37.0	161.0	0	0.0	0.0	0.0	09086	B	
7 140	SAKMARIAN STAGE DONBASS AREA	48.0	38.0	003	082		100	219.0-19.0		33	0.0	41.0	165.0	0	0.0	0.0	0.0	09087	B	
7 252	LOWER PERMIAN DONBASS COMBINED	48.3	38.0	000	000		0	0.0 0.0		0	0.0	37.0	162.3	340	6.7	0.0	0.0	00000	A	**
7 146	DRONOVSK SUITE DONBASS AREA	49.5	38.0	000	029	N	100	223.5-23.0		0	0.0	39.0	158.5	0	0.0	0.0	0.0	KS131	A	
7 227	DRONOVSK SUITE DONBASS AREA	49.0	38.0	006	025	N	100	218.0-25.0		150	8.0	42.0	164.0	0	8.0	0.0	0.0	S0711	A	*
7 189	SUKHONA SUITE MIXED SUKHONA RIVER	61.0	45.0	000	008	N		46.0 39.0		0	7.0	40.0	160.0	0	0.0	8.0	5.0	KS127	B	
7 221	SUKHONA+NIZHNYUSTINSK SUITES TATAR	61.0	44.0	010	136	N	29	39.0 45.0		7	5.0	46.0	170.0	0	0.0	6.0	4.0	S0701	A	
7 22	UPPER TATAR SEDIMENT SUKHONA RIVER	61.0	46.0	000	049	N	0	42.0 48.0		0	11.0	48.0	165.0	0	0.0	14.0	10.0	05038	A	
7 222	SEVERDOVINA SUITE UPPER TATARIAN	61.0	46.2	015	244	N	30	45.0 44.0	20.0	9.0	44.0	164.0	0	0.0	11.0	7.0	S0702	A		
7 23	UPPER TATARIAN VIATKA RIVER	59.0	51.0	000	034	N	0	42.0 48.0		0	0.0	49.0	169.0	0	0.0	7.0	5.0	05039	A	
7 24	UPPER TATARIAN TRANSVOLGA REGION	53.0	52.0	000	035	N	0	46.0 46.0		0	0.0	48.0	164.0	0	0.0	11.0	8.0	05040	A	
7 186	UPPER TATARIAN BUGURUSLAN AREA	54.0	52.0	000	038	N	0	43.0 46.0		0	5.0	49.0	167.0	0	0.0	6.0	4.0	KS123	A	
7 187	UPPER TATARIAN VIATKA RIVER	59.0	51.0	000	029	N	0	49.0 44.0		0	11.0	43.0	162.0	0	0.0	13.0	8.0	KS124	A	
7 188	UPPER TATARIAN TRANSVOLGA REGION	55.0	53.0	000	007	N	0	40.0 37.0		0	13.0	45.0	173.0	0	0.0	17.0	11.0	KS126	B	
7 242	UPPER TATARIAN REDBEDS COMBINED 1	56.3	51.4	000	000		0	0.0 0.0		0	0.0	48.1	166.8	361	3.2	0.0	0.0	00000	A	
7 259	UPPER TATARIAN REDBEDS VIATKA R	59.0	50.5	003	035	N	46	45.0 47.0	13	6.0	48.0	165.0	0	0.0	8.0	5.0	S0704	A		
7 255	UPPER TATARIAN REDBEDS VETLUGA R	57.0	44.0	007	007	A	0	31.0 51.0	68	5.0	57.0	170.0	0	0.0	7.0	5.0	S0731	B		
7 258	UPPER TATARIAN REDBEDS VOLGA RIVER	55.0	49.0	003	020	N	35	29.0 43.0	6	14.0	53.0-177.0		0	0.0	17.0	11.0	S0703	A		
7 261	UPPER TATARIAN REDBEDS VOLGA RIVER	55.0	49.0	003	155	Y	51	45.0 45.0	14	3.0	47.0	161.0	0	0.0	4.0	3.0	S0732	A		
7 257	UPPER TATARIAN REDBEDS VIATKA R	59.0	50.7	006	140	Y	64	47.0 51.0	17	3.0	48.0	161.0	0	0.0	4.0	3.0	S0734	A		
7 262	UPPER TATARIAN TRANS-VOLGA REGION	53.5	52.0	003	032	N	75	45.0 49.0	42	4.0	50.0	160.0	0	0.0	5.0	3.0	S0735	A		

PERMIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LIST S	F 1	F 2
7 263	UPPER TATARIAN TRANS-VOLGA REGION	52.9	52.2	007	082	Y	39	45.0	48.0	60	12.0	50.0	160.0	0	0.0	16.0	10.0	S0736	A	
7 305	SEVERODVINA SUITE UP TATAR S URALS	52.5	55.0	005	260	Y	63	38.0	47.0	9	12.0	53.0	170.0	0	0.0	16.0	10.0	S0706	A	
7 306	SARMINSK SUITE UP TATAR STH URALS	52.5	55.0	001	006	N	0	39.0	59.0	69	12.0	61.0	152.0	0	0.0	17.0	12.0	S0706	B	
7 307	SVERODVINA+SARMINSK SUITE STH URAL	52.5	55.0	006	266	Y	61	38.0	48.0	9	3.0	54.0	168.0	0	0.0	4.0	3.0	S0706	A	
7 288	UPPER TATARIAN REDBEDS COMBINED 2	55.9	49.6	000	000			0.0	0.0	0	0.0	51.1	165.7	193	4.1	0.0	0.0	00000	A	**
7 26	LOWER TATARIAN TRANSVOLGA AREA	54.0	52.0	000	019	N	100	222.0	-39.0	0	0.0	45.0	171.0	0	0.0	10.0	7.0	05041	A	
7 27	LOWER TATARIAN SUKHONA RIVER	61.0	45.0	000	037	N	100	220.0	-35.0	0	0.0	41.0	172.0	0	0.0	11.0	6.0	05042	A	
7 28	LOWER TATARIAN KAMA DISTRICT	57.0	54.0	000	035	N	100	226.0	-44.0	0	0.0	45.0	167.0	0	0.0	11.0	7.0	05043	A	
7 190	LOWER TATARIAN KAMA RIVER	57.0	54.0	000	035	N	100	230.0	-37.0	0	7.0	39.0	167.0	0	0.0	8.0	5.0	KS128	A	
7 191	AMANAK SUITE LOWER TATARIAN	54.0	52.0	000	020	N	100	223.0	-39.0	0	8.0	44.0	169.0	0	0.0	10.0	7.0	KS129	A	
7 228	AMANAK SUITE ETC LR TATAR KAZAN	54.0	53.0	006	044	N	100	227.0	-39.0	18	5.0	43.0	166.0	0	5.0	0.0	0.0	S0712	A	
7 239	LOWER TATARIAN REDBEDS VIATKA RIV	56.0	51.0	000	019	T	100	222.0	-37.0	36	4.0	43.0	171.0	0	0.0	5.0	3.0	S0724	A	
7 241	LOWER TATARIAN REDBEDS COMBINED 1	56.2	52.3	000	000		100	0.0	0.0	0	0.0	42.5	168.7	972	1.8	0.0	0.0	00000	A	
7 256	LOWER TATARIAN RED-BEDS VOLGA	56.0	49.0	030	030	Y	100	228.0	-42.0	18	12.0	43.0	161.0	0	0.0	14.0	9.0	S0733	A	
7 289	LOWER TATARIAN REDBEDS COMBINED 2	56.0	51.0	000	000			0.0	0.0	0	0.0	43.1	168.9	948	1.8	0.0	0.0	00000	A	**
7 229	LOWER TATARIAN AND UPPER KAZANIAN	52.5	55.0	013	257	N	100	227.0	-39.0	5	4.0	42.0	168.0	0	0.0	5.0	3.0	S0713	A	
7 231	LOWER TATARIAN AND UPPER KAZANIAN	57.1	54.7	013	126	A	100	229.0	-43.0	200	5.0	42.0	168.0	0	0.0	6.0	4.0	S0715	A	
7 310	LR TATAR AND UPPER KAZAN COMBINED	54.8	54.9	026	483	A	100	0.0	0.0	0	0.0	42.0	168.0	0	5.0	0.0	0.0	00000	A	**
7 31	TATARIAN UPPER AND LOWER COMBINED	0.0	0.0	000	283	N	0	42.0	44.0	189	4.0	47.0	169.0	295	0.0	4.0	4.0	00000	A	
7 30	TATARIAN UNDIFFERENTIATED VIATKA R	58.0	49.0	000	000	N	0	0.0	0.0	0	0.0	52.0	176.0	0	0.0	13.0	9.0	02033	A	
7 238	TATARIAN UNDIFFERENTIATED VIATKA R	58.0	48.0	009	024	T	100	230.0	-41.0	29	5.0	40.0	160.0	0	0.0	6.0	4.0	S0723	A	
7 157	TATARIAN SEDIMENT VIATKA RIVER	58.0	49.0	000	000	N	100	227.0	-27.0	0	0.0	34.0	170.2	0	0.0	0.0	0.0	00000	B	
7 62	TATARIAN SEDIMENTS ZAVOLZHYE	55.0	53.0	000	007	A	71	40.0	37.0	21	13.0	44.0	176.0	0	0.0	17.0	11.0	08082	B	
7 264	TATARIAN REDBEDS ZAVOLZHYE	54.2	52.6	007	069	N	100	226.0	-40.0	300	5.0	44.0	167.0	0	0.0	6.0	4.0	S0737	A	
7 225	AMANBULAK SUITE TATARIAN TURKMENIA	41.0	55.0	001	055	N	82	45.0	34.0	7	11.0	46.0	160.0	0	0.0	12.0	7.0	S0709	A	
7 250	TATARIAN UNDIFFERENTIATED COMBINED	53.2	51.6	000	000		0	0.0	0.0	0	0.0	43.8	167.0	115	6.3	0.0	0.0	00000	A	**
7 184	RED BEDS OF LAKE INDER MIXED	48.5	52.0	000	035	N		37.0	50.0	0	4.0	52.0	152.0	0	0.0	5.0	4.0	KS121	A	

## PERMIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	PCLE LCNG	KP	EF 95	DM	DP	OTHER F LISTS	F 1	F 2
7 135	UPPER PERMIAN SEDIMENT PERM AREA	57.0	53.0	020	262		100	226.7-41.8	259	3.8	43.2	167.2	250	3.8	4.6	2.8	09069	A		
7 32	KAZANIAN RED BEDS PERM AREA	57.5	55.0	002	024	N	100	222.0-42.0	0	0.0	46.0	173.0	0	0.0	0.0	0.0	02034	B		
7 33	KAZANIAN RED BEDS PERM AREA	57.0	55.0	000	015	N	100	230.0-39.0	0	8.0	40.0	167.0	0	0.0	11.0	7.0	05044	A		
7 240	KAZANIAN RED BEDS VIATKA RIVER	56.0	51.0	000	027	T	100	225.0-39.0	22	6.0	43.0	168.0	0	0.0	7.0	4.0	S0725	A		
7 243	UPPER KAZANIAN RED BEDS KAMA RIVER	55.5	50.5	004	175	Y	100	219.0-51.0	9	4.0	56.0	165.0	0	0.0	7.0	4.0	S0726	A		
7 244	UPPER KAZANIAN RED BEDS KAMA RIVER	55.0	52.0	003	626	Y	100	214.0-50.0	5	3.0	55.0	173.0	0	0.0	5.0	3.0	S0727	A		
7 245	LOWER KAZANIAN RED BEDS KAMA RIVER	54.5	52.5	003	027	Y	100	220.0-45.0	10	8.0	50.0	169.0	0	0.0	10.0	6.0	S0728	A		
7 230	KAZANIAN REDBEDS WEST BASHKIRIA	56.0	54.0	004	068	N	100	224.0-34.0	8	13.0	41.0	173.0	0	0.0	15.0	9.0	S0714	A		
7 156	KAZANIAN SEDIMENT VIATKA RIVER	58.0	49.0	000	000	N	100	227.0-23.0	0	0.0	32.0	171.5	0	0.0	0.0	0.0	00000	B		
7 234	LOWER PETCHORA SUB-SUITE KAZANIAN	65.5	58.0	001	009	A	100	263.0-39.0	12	14.0	23.0	148.0	0	0.0	16.0	10.0	S0718	B		
7 34	KAZANIAN REDBEDS COMBINED 1	57.0	55.0	000	039	N	100	227.0-43.0	0	0.0	45.0	170.0	0	0.0	0.0	0.0	00000	B		
7 246	KAZANIAN REDBEDS COMBINED 2	56.2	52.4	000	000		0	0.0 0.0	0	0.0	46.6	170.8	86	5.6	0.0	0.0	00000	A	**	
7 36	UFIMIAN RED BEDS BASHKIRIA	56.0	55.0	000	031	N	100	229.0-37.0	0	7.0	40.0	168.0	0	0.0	9.0	6.0	05045	A		
7 232	UFIMIAN RED BEDS BASHKIRIA	55.6	55.3	009	109	A	100	229.0-36.0	286	7.0	39.0	168.0	0	0.0	8.0	5.0	S0716	A		
7 35	UFIMIAN RED BEDS BASHKIRIA	57.5	56.0	002	020	N	100	220.0-38.0	0	0.0	43.0	179.0	0	0.0	0.0	0.0	02035	B		
7 233	UFIMIAN LOWER PART IN PERM AREA	58.0	56.0	001	006	A	100	233.0-38.0	19	16.0	37.0	168.0	0	0.0	19.0	11.0	S0717	B		
7 247	UFIMIAN UPPER PART IN KAZAN AREA	55.0	53.0	002	070	Y	100	217.0-35.0	13	5.0	45.0	180.0	0	0.0	6.0	4.0	S0729	A		
7 37	UFIMIAN STAGE REDBEDS COMBINED 1	57.0	55.0	000	051	N	100	224.0-39.0	0	0.0	43.0	173.0	0	0.0	0.0	0.0	00000	B		
7 249	UFIMIAN STAGE REDBEDS COMBINED 2	0.0	0.0	000	000		0	0.0 0.0	0	0.0	41.1	173.5	171	7.0	0.0	0.0	00000	A		
7 265	UFIMIAN SHESHMINSKII HORIZON	57.0	56.0	006	048	Y	100	224.0-23.0	5	9.0	35.0	178.0	0	0.0	9.0	5.0	S0738	A		
7 266	UFIMIAN RED BEDS PRIKAME AREA	59.0	57.0	029	588	N	100	229.0-31.0	57	10.0	35.0	176.0	0	0.0	11.0	7.0	S0739	A		
7 290	UFIMIAN STAGE REDBEDS COMBINED 3	56.9	55.5	000	000		100	0.0 0.0	0	0.0	37.0	174.5	108	4.7	0.0	0.0	00000	A	**	
7 185	SARMA SUITE OF RIVER DONGUZ AREA	52.5	55.0	000	012	N	0	39.0 59.0	0	11.0	61.0	152.0	0	0.0	17.0	12.0	KS122	A		
7 220	PETCHOP+BYZOV SUITES SEE 8-203																			
7 314	PALEOZOIC SEDIMENTS SOUTHERN URALS	51.5	58.5	015	419	W	73	45.0 38.0	33	7.0	46.0	171.0	0	0.0	8.0	5.0	S0914	A		
7 219	DONLAP SUITE MANGYSHLAK PENINSULA	44.0	53.0	060	060	N	0	39.0 40.0	6	8.0	52.0	163.0	0	0.0	10.0	6.0	S0630	A	*	
7 224	OTPAN SUITE MANGYSHLAK PENINSULA	44.0	53.0	001	016	N	56	29.0 36.0	7	15.0	56.0	178.0	0	0.0	18.0	10.0	S0708	A		

PERMIAN OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	PCLE LAT	PCLE LCNG	KP	EF 95	DM	DP	OTHER LIST	F 1	F 2
7 237	KIIMA SUITE LR PERM DAHEZKAZGAN	52.0	67.5	004	055	Y	100	233.0-56.0		55	6.0	51.0	160.0	0	0.0	8.0	6.0	S0722	A	
7 173	KAYRAKTY RIVER REDBEDS LR PERMIAN	52.0	67.5	000	055	X	100	233.0-56.0		0	0.0	51.0	160.0	0	0.0	0.0	0.0	13044	B	
7 174	KOKTAL RIVER REDBEDS LR PERMIAN	43.5	70.0	000	266	X	100	204.0-46.0		0	0.0	63.0-171.0		0	0.0	0.0	0.0	13045	B	
7 172	KAYRAKTY RIVER REDBEDS UP PERMIAN	52.0	67.5	000	023	X	100	225.0-56.0		0	0.0	54.0	169.0	0	0.0	0.0	0.0	13043	B	
7 311	PERMIAN REDBEDS KAZAKSTAN COMBINED	50.0	69.0	000	399		100	0.0	0.0	0	0.0	55.2	167.9	77	10.6	0.0	0.0	00000	A	**
7 210	ERUPTIVE ROCKS KURAMINSKII RANGE	41.0	71.0	003	000		100	137.5-40.4		64	15.5	50.3	-32.6	0	0.0	18.6	12.1	13054	A	*
7 57	BELOYARSK SUITE YENISEI RIVER	0.0	0.0	000	023	V	35	0.0	0.0	0	0.0	43.0	157.0	0	0.0	0.0	0.0	07038	B	
7 183	BELOYARSK SUITE YENISEI RIVER	53.0	91.0	000	062	N	0	74.0	69.0	0	12.0	47.0	151.0	0	0.0	20.0	17.0	KS145	A	*
7 143	ILYINSK SUITE KUZNETSK BASIN	54.0	87.0	000	040	N	0	158.0	61.0	0	4.0	-1.0	108.0	0	0.0	6.0	4.0	10099	A	
7 268	KOLCHUGINSK SUITE KUZNETSK BASIN	55.0	88.0	027	204	A	81	133.0	48.0	19	16.0	3.0	128.0	0	0.0	21.0	14.0	S0741	A	
7 312	KOLCHUGINSK SUITE KUZNETZ COMBINED	55.0	87.5	028	244	Y	80	0.0	0.0	0	0.0	5.5	124.7	16	15.7	0.0	0.0	00000	A	**
7 144	YERUNAKOVO SUITE KUZNETSK BASIN	54.0	87.0	000	010	N	0	109.0	57.0	0	14.0	21.0	136.0	0	0.0	21.0	15.0	10100	A	*
7 193	ROCKS KULIUMBE RIVER SEE 8-134																			
7 267	NORILSK BASALT AND SEDIMENTS	69.0	88.0	003	067	N	100	257.0-75.0		24	4.0	60.0	152.0	0	0.0	7.0	6.0	S0740	A	*
7 145	UP BALAKHONSK+KUZNETSK SUITES	54.0	88.0	000	035	N	100	306.0-41.0		0	10.0	3.0	136.0	0	0.0	12.0	8.0	10103	A	
7 180	UPPER BALAKHONSK SUITE KUZNETSK	54.0	88.0	000	016	N	0	159.0	42.0	0	18.0	-8.0	107.0	0	0.0	22.0	13.0	KS147	A	
7 269	UP BALAKHONSK SUITE KUZNETSK BASIN	55.0	88.0	020	081	A	42	122.0	61.0	17	17.0	19.0	130.0	0	0.0	27.0	20.0	S0742	A	*
7 138	BARREN MEASURES MINUSINSK AREA	53.0	92.0	000	000		0	84.0	64.0	0	4.0	37.0	155.0	0	0.0	6.0	5.0	09085	B	
7 249	KLINTAIGA SUITE ANGARA RIVER	58.5	102.5	001	037	A	100	100.0	84.0	17	6.0	56.0	122.0	0	0.0	11.0	11.0	S0730	A	*
7 313	MAYMECHA-KOTUY ROCKS SEE 8-199 ETC																			
7 63	TUFFACEOUS BEDS TAIMYR PENINSULA	76.0	111.0	003	060	A	0	149.0	51.0	0	0.0	19.0	139.0	0	0.0	10.0	7.0	08078	A	*
7 218	SIBERIAN IGNEOUS ROCKS SEE 8-200																			
7 192	NERSK SUITE VERKHUYHANSK AREA	66.0	128.0	000	018		0	240.0	47.0	0	6.0	15.0	74.0	0	0.0	8.0	5.0	KS130	A	
7 226	NERSK SUITE VERKHUYHANSK AREA	64.5	130.0	001	016	N	0	169.0	81.0	32	7.0	47.0	135.0	0	0.0	15.0	14.0	S0710	A	*
7 74	YUZAGOL+KALUZINA SUITE VLACIVOSTOK	43.0	132.0	000	000	N	0	94.0	50.0	0	0.0	16.0-164.0		0	10.0	0.0	0.0	10102	B	
7 181	YUZAGOL SUITE VLADIVOSTOK AREA	43.0	132.0	000	048		0	90.0	48.0	0	10.0	19.0-160.0		0	0.0	13.0	9.0	KS139	A	*
7 182	KUZULIAN SUITE VLADIVOSTOK AREA	43.0	132.0	000	029		100	274.0-50.0		0	10.0	18.0-164.0		0	0.0	13.0	9.0	KS138	A	*





**Explanatory Notes**

- 2- 8 BARRANDIAN COMBINED C TO F. UPPER CAMBRIAN TO ORDOVICIAN. THE ERROR IS THE MEAN OF THE ERRORS IN THE CONSTITUENT RESULTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=475.00MY
- 2- 14 BARRANDIAN COMBINED A1 TO A4. PRECAMBRIAN TO MIDDLE CAMBRIAN. THE ERROR IS THE MEAN OF THE ERRORS IN THE CONSTITUENT RESULTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=562.50MY
- 2- 55 VERKHOLENSK SUITE (ADDITION FROM KHARAMOV 1971). UPPER CAMBRIAN. SPECIMENS UNIT WEIGHT N=35. ABOUT 16M THICKNESS. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2- 56 VERKHOLENSK SUITE (KODIONOV REVISED IN KHARAMOV 1971) UPPER CAMBRIAN. STORAGE TESTS. SILTSTONE AND SANDSTONE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2- 57 VERKHOLENSK SUITE (KODIONOV REVISED IN KHARAMOV 1971) UPPER CAMBRIAN. ABOUT 50M THICKNESS SAMPLED. SPECIMENS UNIT WEIGHT N=36. RED SEDIMENTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2- 58 VERKHOLENSK SUITE (REVISION IN KHARAMOV 1971) UPPER CAMBRIAN. THICKNESS ABOUT 30CM. SPREAD 100 KM. FIFTEEN BEDS AT 4 LOCALITIES. RED CLAYS AND SANDSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2- 61 EVENKIY SERIES KRASNYYI YAR (ADDITIONS FROM GURARII IN KHARAMOV 1971) UPPER CAMBRIAN AGE "CONDITIONAL". "AGE ANALOGUE" OF VERKHOLENSK SUITE. NINETY-SIX BEDS THROUGH 150M SAMPLED AT 1 LOCALITY. REDBEDS OF ANGARA RIVER.  
ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2- 67 VERKHOLENSK SUITE (REVISION IN KHARAMOV 1971) UPPER CAMBRIAN. SAMPLED OVER 25KM THROUGH 400M. RED MARLS, CLAYS AND SANDSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2- 92 VERKHOLENSK SUITE (DAVIDOV AND KRAVCHINSKI ADDITIONS FROM KHARAMOV 1971) MIDDLE TO UPPER CAMBRIAN. SAMPLED OVER 110KM THROUGH 600M. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=520.00MY
- 2- 96 MAYA STAGE, UST'MAYA GROUP (REVISIONS FROM KHARAMOV 1971) MIDDLE CAMBRIAN. SPECIMENS UNIT WEIGHT N=120. SAMPLED THROUGH 300M OVER 6KM. STORAGE TESTS. LIMESTONES AND SHALES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2- 99 MAYA AND AMGA STAGES, UST'BOTOMA GROUP (SIDOROVA REVISIONS FROM KHARAMOV 1971) MIDDLE CAMBRIAN. SAMPLED 120M THICKNESS. STORAGE TESTS. LIMESTONE AND SHALE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-100 GAMBACORTA FORMATION HAWKES RHYODACITE (BECK AND SCHMIDT 1971) RB-SR WR ISOCHRON 500 (ERROR 10) MY CITED. SAMPLES UNIT WEIGHT N=4. GREEN SCHIST FACIES METAMORPHISM. POLE NEAR THAT FOR JURASSIC (9-37,38,42,56,93) AND MAGNETIZATION REGARDED AS JURASSIC.  
PREFERRED RADIOMETRIC AGE OF ROCK=500.00MY
- 2-101 HASI MESSAUD SEDIMENTS (BUCUR 1971) CAMBRO-ORDOVICIAN. PRESUMABLY SAMPLES UNIT WEIGHT N=30. CLEANING IN 100 OF AND 200 DEG C. SAMPLES FROM DEPTH GAVE COHERENT DATA. SURFACE SAMPLES HAD DIRECTIONS CLOSE TO PRESENT FIELD.  
ASSIGNED GEOLOGICAL AGE OF ROCK=502.50MY
- 2-105 RED BEDS OF WADI FAM AND PETRA (BUREK 1971) CAMBRO-ORDOVICIAN. STABLE SECONDARY MAGNETIZATION NEAR PRESENT FIELD REMOVED BY ACID LEACHING.  
ASSIGNED GEOLOGICAL AGE OF ROCK=502.50MY
- 2-106 SIJARIRA GROUP. SEE 1-334.
- 2-107 WICHITA GRANITE. RADIOMETRIC AGES OF 525MY CITED. RESULT FROM AF CLEANING. SEE 2-45 WHICH IS BASED ON THERMAL CLEANING.  
PREFERRED RADIOMETRIC AGE OF ROCK=525.00MY
- 2-108 BASINSK GROUP OF ASHA SERIES (KOMISSAROVA IN KHARAMOV 1971) VENDTIAN. K-AR AGE ON GLAUCONITE 573MY. SUMMARY OF 5 DETERMINATIONS BY KOMISSAROVA EACH GIVEN UNIT WEIGHT IN KHARAMOV. UPDATES 2-80. SEE 2-159 FOR CONTRASTING RESULTS FROM MIDDLE ASHA, AND STRATIGRAPHIC NOTE. SANDSTONE, SILTSTONE AND ARGILLITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=573.00MY
- 2-109 VOLYN', SOKOLETS AND YAPYSHEV HORIZONS DNEISTER (KRUGLYAKOVA IN KHARAMOV 1971) CAMBRIAN. VARIEGATED SILTSTONE AND ARGILLITE. VOLYN'. SUPERCEDES 2-15.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY

- 2-110 GORNYI ALTAI GROUP (ZOTKEVICH IN KHRAVMOV 1971) LOWER ORDOVICIAN TO UPPER CAMBRIAN. THICKNESS 80M. POLYMICT SEDIMENT. ANUI RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=480.00MY
- 2-111 VERKHOLENSK SUITE (GURARII AND TRUBIKHIN IN KHRAVMOV 1971) UPPER CAMBRIAN. SITES UNIT WEIGHT N=16. ABOUT 100M THICKNESS. COMBINATION OF 3 DETERMINATIONS LISTED IN KHRAVMOV. RED SANDSTONE AND SILTSTONE. SUPERCEDES 2-60. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-112 VERKHOLENSK SUITE, LENA RIVER (OSIPOVA AND SIDOROVA IN KHRAVMOV 1971) UPPER CAMBRIAN. RED BEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-114 VERKHOLENSK SUITE COMBINED. UPPER CAMBRIAN. N=4. AVERAGE OF 2-16, 60, 111 AND 112. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-115 ILGA SUITE (DAVIDOV AND KRAVCHINSKI IN KHRAVMOV 1971) UPPER CAMBRIAN. CORRESPONDS TO VERKHOLENSK STAGE OR IS TRANSITIONAL TO THE OVERLYING UST-KUTSK STAGE. SAMPLED THROUGH 18M. STORAGE TESTS. CLASTIC REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-116 TRAP ROCKS LENA RIVER (DAVIDOV AND KRAVCHINSKI IN KHRAVMOV 1971) ASSIGNED TO UPPER CAMBRIAN. SAMPLES UNIT WEIGHT N=16. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-117 CHUKUK AND MARKHA SUITES OLENEK RIVER (RODIONOV IN KHRAVMOV 1971) UPPER CAMBRIAN. SAMPLED OVER 80KM THROUGH 180M. SPECIMENS UNIT WEIGHT N=19. GREY AND BROWNISH-GREY CLAYS AND LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-118 UST TAGUL SUITE. SAYAN AREA (DAVIDOV AND KRAVCHINSKI IN KHRAVMOV 1971) LOWER CAMBRIAN. K-AR AGE 609MY (GLAUCONITE). SAMPLES FROM 58 BEDS THROUGH ABOUT 150M OVER 15KM. DEMAGNETIZATION OF PILOT SPECIMENS. STATISTICS DERIVED FROM INTERSECTIONS OF REMAGNETIZATION CIRCLES. RED SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=555.00MY PREFERRED RADIOMETRIC AGE OF ROCK=609.00MY
- 2-119 VERKHOLENSK SUITE, KIRENSK AREA (RODIONOV IN KHRAVMOV 1971) UPPER CAMBRIAN. ABOUT 170M THICKNESS SAMPLED. STORAGE TESTS. CLAYS, SILTSTONES AND SANDSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-120 MAYA AND AMGA STAGES, SILIGAR, DZHAKHTAR AND OLENEK GROUPS, OLENEK RIVER (SIDOROVA IN KHRAVMOV 1971) MIDDLE CAMBRIAN. SAMPLED THROUGH 420M. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-121 MAYA AND AMGA STAGES, AMGA RIVER (SIDOROVA IN KHRAVMOV 1971) MIDDLE CAMBRIAN. SAMPLES FROM 100M THICKNESS OVER 50KM. STORAGE TESTS. BEDS ARE "ANALOGUE OF LOWER PART OF UST BOTOMA SUITE OF LENA RIVER". GREENISH GREY ARGILLACEOUS LIMESTONES, MARLS AND SHALES. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-122 UST\*MAYA STAGE, ALDAN RIVER (SIDOROVA IN KHRAVMOV 1971) MIDDLE CAMBRIAN. SAMPLES FROM 125M THICKNESS OVER 30KM. SPECIMENS UNIT WEIGHT N=22. STORAGE TESTS. LIMESTONES, MARLS AND SHALES. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-123 UST\*MAYA AND CHAYA STAGES, ALDAN RIVER (SIDOROVA SUMMARY IN KHRAVMOV 1971) MIDDLE CAMBRIAN. ABOUT 300M THICKNESS SAMPLED OVER 100KM. STORAGE TESTS. COMBINES AND SUPERCEDES 2-97 AND 2-98. LIMESTONES AND SHALES. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-127 BHANDER SERIES OF THE UPPER VINDHYAN (ATHAVALE, HANSRAJ AND VERMA 1972) MIDDLE CAMBRIAN. UPPER VINDHYAN DIVIDED INTO KAIMUR (BOTTOM, SEE 1-126), REWA (2-128) AND BHANDER (TOP) SERIES. KIMBERLITE PIPE INTRUSIVE INTO KAIMUR 1140MY (RB-SR CRAWFORD AND COMPSTON 1970). SOME POSSIBLE EQUIVALENTS (JODHPUR SANDSTONE) OVERLIE MALANI RHYOLITE (745MY, 1-58). THUS UPPER VINDHYAN MAY EXTEND FROM 1200MY INTO LOWER PALEOZOIC. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-128 REWA SERIES OF THE UPPER VINDHYAN (ATHAVALE, HANSRAJ AND VERMA 1972) LATE PRECAMBRIAN. SEE 2-127.
- 2-129 HUDSON FORMATION (FORMERLY ELDER MOUNTAIN SANDSTONE) (LUCK 1972) MIDDLE CAMBRIAN. SAMPLES UNIT WEIGHT N=17. REPLACES 2-18. AUTHOR STATES THAT THERE IS A "STRONG POSSIBILITY THAT DIRECTIONS INFLUENCED BY RECENT CHEMICAL MAGNETIZATIONS". ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-131 LENA STAGE, PODKRASNOTSIVETNAYA (=SUB-REDOCK) SUITE (SIDOROVA REVISED IN KHRAVMOV 1971) MIDDLE CAMBRIAN. SAMPLED THROUGH 30M OVER 20KM. STORAGE TESTS. LENA RIVER, LIMESTONES AND DOLOMITES. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

2-132 LENA RIVER CHARA SUITE (SIDOROVA REVISED IN KHRAMOV 1971) MIDDLE CAMBRIAN. SPECIMENS UNIT WEIGHT N=22. SAMPLED THROUGH 70M OVER 2KM. STORAGE TEST. YELLOW DOLOMITE OF OLEKMA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

2-133 LENA STAGE COMBINED. MIDDLE CAMBRIAN. AVERAGE OF 2-81,82,83 AND 132 N=4. ENTRY 131 IS DIVERGENT FROM OTHERS AND IS NOT INCLUDED. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

2-134 NW ARGENTINA SANDSTONES (THOMPSON 1973) CAMBRIAN. POSITION WITHIN CAMBRIAN NOT KNOWN. MEAN OF 5 SITES LISTED IN ORIGINAL. ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY

2-135 ALDAN STAGE UST\*KUNDATSKAYA SUITE (ZOTKEVICH AND PONOMAREV SUMMARY RESULT LISTED IN KHRAMOV 1973) LOWER CAMBRIAN. SEVEN ROCK GROUPS EACH GIVEN UNIT WEIGHT. TWENTY-EIGHT EXPOSURES 1 TO 9 BEDS IN EACH. THICKNESS SAMPLED 365M. GREY AND BLACK SANDY AND CLAYEY LIMESTONES OF MIDDLE AND LOWER PART OF ALDAN STAGE. PYRRHOTITE RESPONSIBLE FOR REMANENCE. MAGNETIZATION PRE-FOLDING WHICH IS OF "LATE SALAIRSK AGE". SUMMARY OF 2 DETERMINATIONS (A) 43 SAMPLES ALL NORMAL, DIRECTIONS DETERMINED BY INTERSECTION OF REMAGNETIZATION CIRCLES, 205, -32. (B) 21 SAMPLES ALL REVERSED, AF AND TH DEMAGNETIZATION, 020,+02. ASSIGNED GEOLOGICAL AGE OF ROCK=555.00MY

2-136 ALDAN STAGE EMYAKINSKAYA SUITE (OSIPOVA IN KHRAMOV 1973) LOWER CAMBRIAN. FOUR EXPOSURES OVER 5KM. SAMPLED 20 BEDS THROUGH FULL THICKNESS (150 M) OF SUITE. SAMPLES UNIT WEIGHT N=20. VARIATED CLAYS AND LIMESTONES. THERMAL DEMAGNETIZATION AT 400 DEG C. AF DEMAGNETIZATION AT 800 OE DOES NOT SUBSTANTIALLY CHANGE NRM. ASSIGNED GEOLOGICAL AGE OF ROCK=555.00MY

2-137 ALDAN STAGE VARIATED SUITE (OSIPOVA IN KHRAMOV 1973) LOWER CAMBRIAN. TWO EXPOSURES 10KM APART. TWELVE SAMPLES SPACED THROUGH 30M. SPECIMENS UNIT WEIGHT N=19. THERMAL DEMAGNETIZATION AT 400 DEG C AND AF DEMAGNETIZATION AT 800 OE DOES NOT SUBSTANTIALLY CHANGE DIRECTIONS. CLAYEY LIMESTONE AND DARK-RED ARGILLITE. ASSIGNED GEOLOGICAL AGE OF ROCK=555.00MY

2-139 VERKHOLENSK SUITE (RODIONOV IN KHRAMOV 1973) UPPER CAMBRIAN. SIX EXPOSURES, 160M THICKNESS, 104 BEDS. SPECIMENS UNIT WEIGHT N=194. AF DEMAGNETIZATION OF SELECTED SPECIMENS IN 600 OE. AGE ASSIGNMENT MADE BECAUSE SUITE LIES BETWEEN LOWER ORDOVICIAN UST\*KUTSK SUITE AND MIDDLE CAMBRIAN

CARBONATES, RED CLAYS, ALEUROLITES AND SANDSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY

2-140 VERKHOLENSK SUITE (DAVIDOV, KRAVCHINSKI AND RODIONOV SUMMARY RESULT IN KHRAMOV 1973) UPPER CAMBRIAN. UNIT WEIGHT TO 4 DETERMINATIONS (N=4). AF (300 OE) AND THERMAL (100 DEG C) DEMAGNETIZATION OF SELECTED SPECIMENS. (A) IGLINSKAYA SUITE (=UPPER PART OF VERKHOLENSK) 1 EXPOSURE, 18M THICKNESS, 26 BEDS, 26 SAMPLES. IDENTICAL TO 2-115. (B) 1 EXPOSURE CHECHUI RIVER, 90M THICKNESS, 36 BEDS, 36 SAMPLES, MEAN 161,-17. (C) 2 EXPOSURES, MIRONOVA, 85M AGGREGATE THICKNESS, 20 BEDS, 20 SAMPLES, 174,-14. (D) 2 EXPOSURES, ICHERY, 200M THICKNESS, 70 BEDS, 70 SAMPLES, 171,-09. RED SANDSTONES AND ALEUROLITES. SEE NOTE 2-139. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY

2-141 MAYA AND AMGA STAGES (OSIPOVA SUMMARY RESULT IN KHRAMOV 1973) MIDDLE CAMBRIAN. SAMPLES UNIT WEIGHT N=64. (A) SILIGIRSKAYA SUITE 280M THICKNESS, 8 BEDS, 8 SAMPLES, MEAN 151,-22. (B) DZHAKHTARSKAYA SUITE 130M THICKNESS, 12 BEDS, 12 SAMPLES, 152,-28. (C) OLENEK SUITE 80M THICKNESS 24 SAMPLES, 159,-38. ALEUROLITE, VARIATED LIMESTONE AND MARL. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

2-142 UST\*MAYA AND AMGA STAGES (OSIPOVA SUMMARY RESULT IN KHRAMOV 1973) MIDDLE CAMBRIAN. TWELVE EXPOSURES OVER 60KM. SAMPLES UNIT WEIGHT N=21. AF CLEANING 800 OE DOES NOT CHANGE DIRECTIONS SUBSTANTIALLY. (A) UST\*MAYA SUITE 125M THICKNESS 12 LAYERS, 12 SAMPLES, MEAN 167,-35. SUPERCEDES 2-122. (B) AMGA SUITE, 315M THICKNESS, 9 LEVELS, 9 SAMPLES, 163,-27. GREY CLAY AND SHALE. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

2-143 MAYA STAGE, CHERNOLES SUITE (OSIPOVA IN KHRAMOV 1973) MIDDLE CAMBRIAN. FOUR EXPOSURES, 440M THICKNESS, 60 BEDS. SAMPLES UNIT WEIGHT N=60. 800 OE DOES NOT CHANGE DIRECTIONS. SUPERCEDES 2-96. ANALOGUE OF UST\*MAYA STAGE. VARIATED CLAYEY LIMESTONES AND SHALES. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

2-144 SALT PSEUDOMORPH BEDS NEAR KHEWRA, PAKISTAN (WENSINK 1972) MIDDLE CAMBRIAN. IN 2-153 UNIT WEIGHT IS GIVEN TO ALL 10 SITES N=10. IN ENTRY 2-144 4 SITES ARE REJECTED BECAUSE THEY ARE CONSIDERED UNRELIABLE AND UNIT WEIGHT IS GIVEN TO REMAINING 6 SITES (N=6). ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY

- 2-145 FEN CARBONATITE COMPLEX (POORTER 1972). RB-SR AND K-AR AGES RANGE 600-530MY. SAMPLES UNIT WEIGHT N=19. SAMPLING OVER 100M ONLY. PREFERRED RADIOMETRIC AGE OF ROCK=565.00MY
- 2-146 MIRNY CHARNOKITES (MCQUEEN ET AL 1972) RB-SR AGE OF 502MY CITED (DECAY CONST.=1.47) CONSIDERED TO BE DATE OF METAMORPHISM AND MAGNETIZATION. SITES UNIT WEIGHT N=5. PREFERRED RADIOMETRIC AGE OF ROCK=502.00MY
- 2-148 BONNETERRE DOLOSTONE AND ASSOCIATED ORE (BEALES, CARPEEDO AND STRANGWAY 1974) UPPER CAMBRIAN. CLEANING 100 OE. ST. JOE MINE MISSOURI. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-149 UPPER BHANDER SANDSTONES (KLOOTWIJK 1973) EARLY PALEOZOIC. BHANDER SERIES CONSISTS OF SHALES (BOTTOM), SANDSTONE (LOWER BHANDER SANDSTONE), SHALES AND SANDSTONE (UPPER BHANDER SANDSTONE). THIS MAGNETIZATION BELIEVED TO BE ORIGINAL, BUT A MAGNETIZATION WAS ALSO DETECTED WHICH WAS THOUGHT TO BE CAUSED BY HEATING OWING TO DECCAN TRAPS. SEE 2-127. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-150 VERKHOLFNSK SUITE COMBINED 2. UPPER CAMBRIAN. N=6. AVERAGE OF POLES 2-16, 60, 111, 112, 139 AND 140. SUPERCEDES 2-114. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY
- 2-152 MAYA AND AMGA STAGES COMBINED. MIDDLE CAMBRIAN. IT DOES NOT SEEM POSSIBLE TO SEPARATE THE RESULTS FROM THESE STAGES SATISFACTORILY, AND THE FOLLOWING POLES HAVE BEEN AVERAGED, 2-94, 95, 99, 120, 121, 123, 141, 142 AND 143 (N=9) TO PROVIDE A SUMMARY OF THE RESULTS FROM THESE MIDDLE CAMBRIAN SEDIMENTARY ROCKS. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-153 SALT PSEUDOMORPH BEDS. SEE 2-144. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-154 DUNDAS GROUP. SAMPLES SELECTED BY EMBLETON AND GIDDINGS (1974) FROM WORK OF BRIDEN (1967) AND CONSIDERED BY THEM TO BE INDICATORS OF CAMBRIAN FIELD. UPPER CAMBRIAN. SAMPLES UNIT WEIGHT N=8. SVENITE AND TUFF. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-155 AROONA DAM REDBEDS (EMBLETON AND GIDDINGS 1974) LOWER CAMBRIAN. SAMPLES UNIT WEIGHT N=11. CLEANING 500 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=555.00MY
- 2-156 FROME GROUP FLINDERS RANGES (EMBLETON AND GIDDINGS 1974). SAMPLES UNIT WEIGHT. ENTRY 2-156 IS RESULT FROM LOWER PART OF THE FROME GROUP (MIDDLE CAMBRIAN). THERMAL CLEANING 500 TO 590 DEG C. REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=527.50MY
- 2-157 FROME GROUP. RESULTS FROM UPPER PART (UPPER CAMBRIAN TO LOWER ORDOVICIAN). SEE 2-156. RED SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=480.00MY
- 2-158 FROME GROUP COMBINED. LOWER AND MIDDLE CAMBRIAN. SUM OF 2-156 AND 157. ASSIGNED GEOLOGICAL AGE OF ROCK=542.50MY
- 2-160 ARUMBERRA SANDSTONE (EMBLETON 1972A) LATE PROTEOZOIC OR EARLY CAMBRIAN. SAMPLES UNIT WEIGHT N=16. CLEANING ABOUT 600 DEG C. ELLERY CREEK. ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY
- 2-161 HUGH RIVER SHALE (EMBLETON 1972A). REGARDED AS LOWER TO MIDDLE CAMBRIAN BECAUSE OVERLIES ARUMBERRA SANDSTONE (2-160) UNCONFORMABLY, AND IS OVERLAIN CONFORMABLY BY MIDDLE CAMBRIAN LIMESTONE. SAMPLES UNIT WEIGHT N=7. CLEANING ABOUT 600 DEG C. ELLERY CREEK. ASSIGNED GEOLOGICAL AGE OF ROCK=542.50MY
- 2-162 INFRACAMBRIAN ORE AND HOST ROCKS OF BAFQ REGION (BECKER, FORSTER AND SOFFEL 1973) LATEST PRECAMBRIAN OR EARLY CAMBRIAN. CLEANING IN 300 OE. POLE AGREES WITH ROCKS OF COMPARABLE AGE FROM INDIA AND PAKISTAN INDICATING IRAN WAS PART OF GONDWANALAND. ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY
- 2-163 FEN CARBONATITE COMPLEX (STORETVEGT 1973). AVERAGE OF 8 K-AR BIOTITE AGES IS 582MY, RB-SR BIOTITE AGE IS 563MY. K-AR WR AGES OF ABOUT 250MY THOUGHT TO REFLECT EARLY PERMIAN IGNEOUS ACTIVITY. DETAILED THERMAL AND AF DEMAGNETIZATION OF 30 SAMPLES FROM 7 SITES SUGGEST PRESENCE OF 2 ANTIPARALLEL COMPONENTS ABOUT THE AXIS QUOTED HERE. ACCURATE SEPARATION OF TWO COMPONENTS NOT POSSIBLE. AUTHOR REGARDS EARLIER RESULT (2-145) AS AN UNRESOLVED MAGNETIZATION UNREPRESENTATIVE OF THE CAMBRIAN FIELD. PREFERRED RADIOMETRIC AGE OF ROCK=563.00MY
- 2-164 VERKHOLENSK SUITE COMBINED 3. UPPER CAMBRIAN. THE VERKHOLENSK SUITE IS A REDBED UNIT LYING BETWEEN THE LOWER ORDOVICIAN UST'KUTSK SUITE AND MIDDLE CAMBRIAN CARBONATE BEDS. IT IS ASSIGNED

TO THE UPPER CAMBRIAN IN KHRAMOV (1971). MANY RESULTS ARE AVAILABLE AND ARE LISTED BETWEEN ENTRIES 2-16 AND 2-119. THEY HAVE BEEN OBTAINED OVER A DECADE, AND INTERIM SUMMARIES ARE GIVEN IN 2-114 AND 2-150. IN 2-164 AN AVERAGE IS FORMED OF THE MOST RECENT RESULTS LISTED IN KHRAMOV (1971 AND 1973) GIVING EACH UNIT WEIGHT N=11. THESE RESULTS ARE 2-55,56,57,58,87,92,111,112, 119,139 AND 140. SUPERCEDES 2-114 AND 2-150. ASSIGNED GEOLOGICAL AGE OF ROCK=507.50MY

2-165 ASHA SERIES. SEE 3-4 AND 2-169.  
ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=573.00MY

2-166 ASHA SERIES. SEE 3-57 AND 2-169.  
ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=573.00MY

2-167 ASHA SERIES. SEE 3-58 AND 2-169.  
ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=573.00MY

2-168 ASHA SERIES. SEE 3-59 AND 2-169.  
ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=573.00MY

2-169 KUKKARAUKIAN BEDS OF ASHA SERIES COMBINED (KOMISSAROVA SUMMARY IN KHRAMOV 1971) VENDIAN. THE ASHA SERIES WAS FORMERLY CONSIDERED TO BE LOWER PALEOZOIC BUT IS NOW ASSIGNED TO THE LATEST PRE-CAMBRIAN OR POSSIBLY EARLIEST CAMBRIAN. IT OUGHT TO HAVE BEEN IN OUR ISSUE TWO (IRVING AND HASTIE 1975). THE ASHA IS DIVIDED INTO 4 GROUPS, THE URYUKIAN (BOTTOM), THE BASINSK, THE KUKKARAUKIAN AND THE ZIGANIAN (TOP). THE BASINSK (2-80, 2-108) AND KUKKARAUKIAN (2-165 TO 2-169) HAVE BEEN STUDIED PALEOMAGNETICALLY. THE BASINSK HAS YIELDED A K-AR GLAUCONITE AGE OF 573MY. ENTRY 2-169 SUPERCEDES EARLIER STUDIES OF THE KUKKARAUKIAN AND IS A SUMMARY OF 3 RESULTS FROM RED SANDSTONES AND ARGILLITES LISTED IN KHRAMOV (1971) GIVING EACH UNIT WEIGHT N=3.  
ASSIGNED GEOLOGICAL AGE OF ROCK=590.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=573.00MY

3- 17 YOUNGER GABBROS OF SCOTLAND. EARLY RESULT REFERRED INITIALLY TO THE AGE RANGE CAMBRIAN TO DEVONIAN, SEE 2-1. NOW CONSIDERED TO BE ORDOVICIAN. SEE 3-100.  
ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3- 37 BRATSK SUITE (ADDITION FROM KHRAMOV 1971) MIDDLE TO UPPER ORDOVICIAN. SPECIMENS UNIT WEIGHT

N=133. THICKNESS OF 200M OVER 30KM NEAR NIZHNEI-LIMSK, 4 OUTCROPS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=458.00MY

3- 38 MAKAROVSK SUITE (ADDITION FROM KHRAMOV 1971) MIDDLE TO UPPER ORDOVICIAN. SPECIMENS UNIT WEIGHT N=78. THREE OUTCROPS, 100M THICKNESS, OVER 5KM, NEAR KIRENSK.  
ASSIGNED GEOLOGICAL AGE OF ROCK=458.00MY

3- 39 DOLBOR SUITE (ADDITIONAL INFORMATION FROM KHRAMOV 1971). MIDDLE ORDOVICIAN. TWO OUTCROPS, 200M THICKNESS SAMPLED OVER 2KM.  
ASSIGNED GEOLOGICAL AGE OF ROCK=467.00MY

3- 40 MANGAZEIKA STAGE, CHERTOVSK AND BAKSAN HORIZONS (ADDITION FROM KHRAMOV 1971) MIDDLE ORDOVICIAN. TWO OUTCROPS, 10 BEDS. STORAGE TESTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=467.00MY

3- 41 MANGAZEIKA STAGE (ADDITION FROM KHRAMOV 1971) MIDDLE ORDOVICIAN. TWO OUTCROPS, 12 BEDS, 10CM THICKNESS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=467.00MY

3- 42 KRIVAYA LUKA (ADDITION FROM KHRAMOV 1971). MIDDLE ORDOVICIAN. SPECIMENS UNIT WEIGHT N=31. THREE OUTCROPS, 15 BEDS, 62M THICKNESS. SANDSTONES AND SILTSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=467.00MY

3- 43 KRIVAYA LUKA (ADDITION FROM KHRAMOV 1971) MIDDLE ORDOVICIAN. SPECIMENS UNIT WEIGHT N=20. TEN BEDS 64M THICKNESS, 2 OUTCROPS 2KM APART, LENA RIVER. CLAYS, SANDSTONES AND LIMESTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=467.00MY

3- 45 CHUNYA SUITE (ADDITIONS FROM KHRAMOV 1971) LOWER ORDOVICIAN. ORIGINALLY CITED AS CHUNYA SUITE IN KHRAMOV AND SHOLPO (KS258). IN THE LIST OF KHRAMOV (1971) IT IS CITED AS UST-KUTSKIAN BUT IN HIS NOTES IT IS STATED THAT ITS "STAGE IS NOT IDENTIFIED". THE ORIGINAL DESIGNATION AS CHUNYAN IN RODIONOV (1966) IS THEREFORE RETAINED HERE. SPECIMENS UNIT WEIGHT N=9. THICKNESS 6CM OVER 50KM.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY

3- 60 NORTH SERGINSKI DIABASE (ADDITIONAL INFORMATION FROM KHRAMOV 1971) MIDDLE TO UPPER ORDOVICIAN. DIABASE AND PORPHYRITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=458.00MY



- 3- 69 COLORADO INTRUSIVES (LARSON AND MUTSCHLER 1971) CAMBRO-ORDOVICIAN. RADIOMETRIC AGES (MY) FROM 3 LOCATIONS ARE RB-SR 510, PB ALPHA 525-601, K-AR BIOTITE 500, K-AR WR 427-585. AVERAGE OF FIRST 3 IS 550 (N=6). SEPARATE RESULTS FOR AF AND THERMAL CLEANING OF SAME ROCKS GIVEN. ENTRY 3-71 IS AVERAGE OF 3-69 AND 70. POLES NOT FAR FROM UPPER PALEOZOIC POLES BUT AUTHORS STATE "ALL OUR STUDIES INDICATE THAT THE MAGNETIZATION IS THERMO-REMANENT ACQUIRED DURING THE CAMBRIAN AND ORDOVICIAN".  
ASSIGNED GEOLOGICAL AGE OF ROCK=458.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=550.00MY
- 3- 70 COLORADO INTRUSIVE. SEE 3-69.  
ASSIGNED GEOLOGICAL AGE OF ROCK=458.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=550.00MY
- 3- 71 COLORADO INTRUSIVE COMBINED. SEE 3-69.  
ASSIGNED GEOLOGICAL AGE OF ROCK=458.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=550.00MY
- 3- 74 TREMADOCIAN LENINGRAD COMBINED (NEW DATA FROM KHRAMOV 1971) LOWER ORDOVICIAN. STORAGE TESTS. AVERAGE OF 3-1, 63, 64 AND 65.  
ASSIGNED GEOLOGICAL AGE OF ROCK=472.50MY
- 3- 76 BRATSK SUITE NEPA RIVER (RODIONOV IN KHRAMOV 1971) UPPER ORDOVICIAN. SPECIMENS UNIT WEIGHT N=98. TWO OUTCROPS, AGGREGATE THICKNESS 100M. UNFOSSILIFEROUS BEDS. AGE ASSIGNED ON BASIS OF MAGNETIC DIRECTIONS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 77 BRATSK SUITE (RODIONOV IN KHRAMOV 1971) UPPER ORDOVICIAN. SAMPLING THROUGH 103M THICKNESS OVER 100KM. STORAGE TESTS. RED BEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 78 BRATSK SUITE. UPPER ORDOVICIAN. SAMPLING THROUGH 58M THICKNESS. APPARENTLY REPLACES 3-61 (KHRAMOV 1971) BUT NOTE NAME AND AGE DIFFERENCE. SEE 3-77  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 79 BRATSK SUITE. UPPER ORDOVICIAN. SAMPLING THROUGH 40M THICKNESS OVER 1KM. SEE 3-77.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 80 BRATSK AND MAKAROVSK SUITES (RODIONOV IN KHRAMOV 1971) UPPER ORDOVICIAN. ENTRIES 3-80 AND 3-81 ARE CLOSELY ASSOCIATED SEQUENCES. 3-80, TWO OUTCROPS, AGGREGATE THICKNESS 130M. 3-81, TWO OUTCROPS, AGGREGATE THICKNESS 52M. STORAGE TESTS.  
REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 81 BRATSK AND MAKAROVSK SUITE. SEE 3-80.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 82 MAKAROVSK SUITE (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) UPPER ORDOVICIAN. THICKNESS 115M OVER 20KM. STORAGE TESTS. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 83 KRIVAYA LUKA STAGE (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) UPPER PART OF MIDDLE ORDOVICIAN. CHERTOVA RIVER GROUP SAMPLED THROUGH 105M THICKNESS OVER 12KM. STORAGE TESTS. FERRUGINOUS SHELLY LIMESTONES, SILTSTONES AND SANDSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=460.50MY
- 3- 84 UST KUTSK AND KAZIMIROVSK SUITES (RODIONOV IN KHRAMOV 1971) LOWER ORDOVICIAN. SAMPLED 37M THICKNESS. SUPERCEDES 3-44. LIMESTONES AND SANDSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3- 85 UST KUTSK SUITE (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) LOWER ORDOVICIAN. SAMPLED 16 BEDS THROUGH 20M. STORAGE TESTS. RED SANDSTONES, SILTSTONES AND DOLOMITES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3- 86 UST KUTSK SUITE (RODIONOV IN KHRAMOV 1971) LOWER ORDOVICIAN. SAMPLED THROUGH 60M THICKNESS OVER 12KM. GREY LIMESTONE AND BROWN SANDSTONE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3- 87 UST KUTSK SUITE COMBINED. LOWER ORDOVICIAN. N=5. AVERAGE OF 3-10, 44, 84, 85 AND 96. 3-56 IS DIVERGENT AND IS NOT INCLUDED.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3- 88 BRATSK SUITE COMBINED. UPPER ORDOVICIAN. N=5. AVERAGE OF 3-77, 76, 77, 78 AND 79. PREDOMINANTLY UPPER ORDOVICIAN ALTHOUGH ENTRY 3-76 IS IN PART LOWER SILURIAN.  
ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 89 KRIVAYA LUKA SUITE COMBINED. UPPER PART OF MIDDLE ORDOVICIAN. N=5. AVERAGE OF 3-42, 43, 61, 62 AND 83.  
ASSIGNED GEOLOGICAL AGE OF ROCK=460.50MY

- 3- 90 CHUNYA SUITE COMBINED. LOWER PART OF MIDDLE ORDOVICIAN. AVERAGE OF 3-45 AND 66. AN ARBITRARY ERROR HAS BEEN ASSIGNED. ASSIGNED GEOLOGICAL AGE OF ROCK=474.50MY
- 3- 91 BRATSK AND MAKAROVSK SUITE COMBINED 1. UPPER ORDOVICIAN. N=4. AVERAGE OF 3-38, 80, 81 AND 82. IN THIS ENTRY RESULTS DESIGNATED BRATSK + MAKAROVSK AND MAKAROVSK ONLY ARE COMBINED. SEE 3-118. ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY
- 3- 92 MANGAZEIKA SUITE COMBINED. LOWER PART OF UPPER ORDOVICIAN. AVERAGE OF 3-43 AND 41. SEE 3-119. ASSIGNED GEOLOGICAL AGE OF ROCK=443.50MY
- 3- 93 DOLGOR SUITE COMBINED. UPPER PART OF UPPER ORDOVICIAN. AN ARBITRARY ERROR OF 10 DEG HAS BEEN ASSIGNED. AVERAGE OF 3-39 AND 51. SEE 3-119. ASSIGNED GEOLOGICAL AGE OF ROCK=439.50MY
- 3- 96 JUNDUCKIN FORMATION (LUCK 1972) LOWER ORDOVICIAN. EARLIER DATA RECALCULATED GIVING SAMPLES UNIT WEIGHT N=20. RED SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=472.50MY
- 3- 97 SANDSTONE FROM SALTA, ARGENTINA (THOMPSON 1973) ORDOVICIAN. CLEANING 350 DEG C. BEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY
- 3- 98 BUILTH WELLS VOLCANIC SERIES (PIPER AND BRIDEN 1973) UPPER LLANVIRN. 400M THICK. CORRECTED FOR DIP. SPILITIC AND KEPATOPHYRIC LAVAS AND TUFFS. SUPERCEDES 3-32. ASSIGNED GEOLOGICAL AGE OF ROCK=468.50MY
- 3- 99 ASHGILLIAN INTRUSIVES (PIPER AND BRIDEN 1973) UPPER ORDOVICIAN. MINOR BASIC INTRUSIONS OF BUILTH INLIER. CORRECTED FOR REGIONAL DIP. ASSIGNED GEOLOGICAL AGE OF ROCK=440.00MY
- 3-100 YOUNGER GABBROS ABERDEEN (SALLOMY AND PIPER 1973A) ORDOVICIAN. RE-SR AGE 486 (ERROR 17) MY. DECAY CONST.=1.43, K-AR 461 (ERROR 5) MY. AUTHORS SUGGEST MAGNETIC AGE ABOUT 470MY. BODIES UP TO 6KM THICK. MAXIMUM SAMPLED IN ANY ONE BODY 4KM. STRUCTURAL REORIENTATION INCREASES DISPERSION. AUTHORS ARGUE THAT MAGNETIZATION WAS ACQUIRED AFTER FOLDING WHICH OCCURRED AT TEMPERATURES IN EXCESS OF 500-600 DEG C. SUPERCEDES 5-56. ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY  
PREFERRED RADIOMETRIC AGE OF ROCK=478.00MY
- 3-101 NORTHERN BIRKBECK VOLCANICS (BRIDEN AND MORRIS 1973) LOWER ORDOVICIAN PROBABLY. OVERLAIN BY CARADOCIAN SEDIMENTS. CORRECTED FOR FOLDING. SAMPLES FROM BINSEY AND HIGH IRERY GROUPS. SUPERCEDES 3-31. ASSIGNED GEOLOGICAL AGE OF ROCK=472.50MY
- 3-102 CARROCK FELL GABBRO COMPLEX (BRIDEN AND MORRIS 1973) PRE-CARBONIFEROUS. AGE UNCERTAIN. PALEOMAGNETIC EVIDENCE INDICATES ORDOVICIAN AGE BECAUSE OF SIMILARITY OF POLE WITH OTHERS FROM BRITISH ORDOVICIAN. CORRECTED FOR TILT OF OVERLYING CARBONIFEROUS LIMESTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY
- 3-103 TRAP SILL (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1973) UPPER CAMBRIAN TO LOWER ORDOVICIAN. UNIT WEIGHT TO 28 SAMPLES. AF CLEANING 275 DE. FRAGMENTS OCCUR IN ORDOVICIAN SEDIMENT 100M THICK. ASSIGNED GEOLOGICAL AGE OF ROCK=480.00MY
- 3-104 TRENTON GROUP (MCELHINNY AND OPDYKE 1973) MIDDLE ORDOVICIAN. SAMPLES UNIT WEIGHT N=29. THICKNESS SAMPLED 80M. DENLEY AND STEUREN LIMESTONES OF TRENTON SERIES. MAGNETIZATION POST-SLUMPING. REPLACES 3-7 AND 8. ASSIGNED GEOLOGICAL AGE OF ROCK=467.00MY
- 3-105 WHEELREA IGNEOUS RITES (MORRIS ET AL 1973) MIDDLE LLANVIRN AGE CITED. RESULT FROM 17 SITES FROM 4 BANDS N=4. SAMPLING OVER 1000 SQ KM. MAGNETIZATION PRE-FOLDING. CONFIRMS 3-46. ASSIGNED GEOLOGICAL AGE OF ROCK=472.00MY
- 3-106 CONNEMARA GABBROS (MORRIS ET AL 1973) UPPER CAMBRIAN TO LOWER ORDOVICIAN. RE-SR AGE 510 (ERROR 10) MY CITED. PROVISIONAL RESULT FROM 14 SITES FROM 3 BODIES. SITES UNIT WEIGHT N=14. SAMPLING OVER 250 SQ KM. DIRECTIONS GIVEN ARE IN SITU. ASSIGNED GEOLOGICAL AGE OF ROCK=472.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=510.00MY
- 3-107 TREFGAN ANDESITIC SERIES (MORRIS, BRIDEN, PIPER AND SALLOMY 1973) ARENIG. SAMPLING THROUGH 200M THICKNESS OVER 50CM. IN SITU DIRECTION QUOTED. ASSIGNED GEOLOGICAL AGE OF ROCK=490.00MY
- 3-108 FISHGUARD VOLCANIC SERIES (MORRIS ET AL 1973) LOWER ORDOVICIAN. SAMPLING THROUGH 100M THICKNESS OVER 8KM. MAGNETIZATION IS STABLE PRE-FOLDING BUT SECONDARY. REGARDED AS EARLY CALEDONIAN, POSSIBLY LATE SILURIAN. ASSIGNED GEOLOGICAL AGE OF ROCK=472.50MY



3-109 ST. GEORGE GROUP AND ASSOCIATED ORE (BEALES, CARRACEDO AND STRANGWAY 1974) LOWER ORDOVICIAN. CLEANING IN 100 DE. SAMPLES FROM DOLOSTONES (8 SITES) AND SPHALERITE ORES (6 SITES). NEWFOUNDLAND.

ASSIGNED GEOLOGICAL AGE OF ROCK=472.50MY

3-110 SULITJELMA GABBRO (PIPER 1974) MID-ORDOVICIAN. INTRUDES ORDOVICIAN LAVAS AND PRECEDES GRANITE DATED AT 443 (ERROR 16) MY (RB-SR). AMPHIBOLITE GRADE METAMORPHISM. THE DIRECTION GIVEN IS WITH RESPECT TO PRESENT HORIZONTAL. MASON (1975) ARGUES THAT THIS MAY NOT BE JUSTIFIED AND CORRECTIONS FOR TECTONIC ROTATIONS MAY BE NEEDED.

ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3-111 CARADOCIAN VOLCANICS (MORRIS AND ROBINSON 1971) ORDOVICIAN. THREE LOCALITIES GIVE INCONSISTENT RESULTS. IN 3-111 CORRECTION FOR BEDDING IMPROVES PRECISION AND DIRECTION GIVEN IS WITH RESPECT TO BEDDING. IN 3-112 AND 113 CORRECTION FOR BEDDING DOES NOT AFFECT SCATTER, AND MAGNETIZATION CONSIDERED SECONDARY AS IT IS ROUGHLY PARALLEL TO PERMIAN FIELD, AND DIRECTIONS WITH RESPECT TO HORIZONTAL GIVEN.

ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3-112 CARADOCIAN VOLCANICS. SEE 3-111.

ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3-113 CARADOCIAN VOLCANICS. SEE 3-111.

ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3-114 QUEENSTON FORMATION (PETERSEN 1975) UPPER ORDOVICIAN. PRELIMINARY RESULT READ FROM FIG.1 OF ORIGINAL.

ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3-116 TUMBLAGOODA SANDSTONE (EMBLETON AND GIDDINGS 1974). GENERALLY CONSIDERED ORDOVICIAN BUT POSSIBLE RANGE IS MIDDLE CAMBRIAN TO EARLY SILURIAN. SAMPLES UNIT WEIGHT N=17. THICKNESS 100M. CLEANING AT 400 DEG C. MOUTH OF MURCHINSON RIVER. RED SANDSTONE.

ASSIGNED GEOLOGICAL AGE OF ROCK=467.50MY

3-117 STAIRWAYS SANDSTONE (EMBLETON 1972B) MIDDLE ORDOVICIAN, UPPER LLANVIRN TO LLANDEILO. THICKNESS 350M. CLEANING 600-630 DEG C. ELLERY CREEK.

ASSIGNED GEOLOGICAL AGE OF ROCK=459.00MY

3-118 BRATSK AND MAKAROVSK SUITES COMBINED 2. UPPER ORDOVICIAN. IN THIS ENTRY RESULTS DESIGNATED

BRATSK, MAKAROVSK, AND BRATSK + MAKAROVSK ARE COMBINED GIVING EACH UNIT WEIGHT, 3-37,38,76,77, 78,79,80,81 AND 82, N=9. SEE 3-119. REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=444.00MY

3-119 STRATIGRAPHIC NOTE CONCERNING THE ORDOVICIAN OF THE SIBERIAN PLATFORM. NALIVKIN 1973 P.220 GIVES THE FOLLOWING STRATIGRAPHIC SUCCESSION. (1) UST' KUTSKIAN, LOWER ORDOVICIAN, 3-10,44,56,84,85,86 AND 87. (2) CHUNYIAN, LOWER PART OF MIDDLE ORDOVICIAN, 3-45,66 AND 90. (3) KRIVOLUKIAN, UPPER PART OF MIDDLE ORDOVICIAN, 3-42,43,61,62,83 AND 89. (4) MANGAZEIAN, LOWER PART OF UPPER ORDOVICIAN, 3-40,41 AND 92. (5) DOLBOCRIAN, UPPER PART OF UPPER ORDOVICIAN, 3-39,51 AND 93. IN THE SOUTHERN REGION OF THE PLATFORM THE UPPER ORDOVICIAN COMPRISES THE MAKAROVSKIAN, THE UPPER PART OF WHICH CONTAINS THE BRATSK SUITE. THE MAKAROVSKIAN IS THEREFORE APPROXIMATELY EQUIVALENT TO THE MANGAZEIAN AND DOLBOPIAN TOGETHER. NALIVKIN'S STRATIGRAPHIC DESIGNATIONS ARE FOLLOWED IN OUR LIST. THEY DIFFER IN SOME DETAILS FROM THOSE GIVEN IN KHRAMOV'S LISTS. THE ENTRIES ARE ARRANGED APPROXIMATELY IN STRATIGRAPHIC ORDER YOUNGEST FIRST.

3-120 BEERNERVILLE ALKALINE COMPLEX, KITTATINY MOUNTAIN, NEW JERSEY (PROKO AND HARGRAVES 1973) LATE ORDOVICIAN. K-AR, RB-SR AND PB-ALPHA AGE OF 435 (ERROR 20) MY CITED. INTRUSIVE INTO MARTINSBERG SHALE (=ORDOVICIAN) AND OVERLAIN BY SHAWANGUNK CONGLOMERATE (=LATE SILURIAN). CORRECTED FOR DIP OF THESE SEDIMENTS. SITES UNIT WEIGHT N=20. CLEANING 300 DE. MAGNETIZATION ASCRIBED TO FEMATITE PRODUCED BY DEEP WEATHERING IN THE INTERVAL 435 MY TO LATE SILURIAN. NEPHELINE SYENITE AND BREC-CIA PLUG.

ASSIGNED GEOLOGICAL AGE OF ROCK=440.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=435.00MY

4- 32 MUGGA PORPHYRY (BOFFINGER ET AL 1970) SILURIAN. RB-SR ISOCHRON 423 (ERROR 9) MY, DECAY CONSTANT= 1.39. SEE ISSUE TWO.

ASSIGNED GEOLOGICAL AGE OF ROCK=415.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=423.00MY

4- 49 ORTHOPHYRE SUITE (ADDITIONAL INFORMATION ABOUT 4-47,5-86 GIVEN IN KHRAMOV 1971). UPPER SILURIAN TO LOWER DEVONIAN. SITES UNIT WEIGHT N=7. SELECTIVE AF AND THERMAL CLEANING. PORPHYRITES.

ASSIGNED GEOLOGICAL AGE OF ROCK=387.00MY

4- 50 ONEISTER SEDIMENTS (KRUGLYAKOVA AND KHARAMOV IN KHARAMOV 1971) UPPER SILURIAN. FOURTEEN BEDS FROM 5 OUTCROPS THROUGH 450M THICKNESS. SAMPLES UNIT WEIGHT N=28. MARLS, SHALES AND LIMESTONES. SUP-

ERCEDES 4-2.  
ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY

4- 51 CHINETINSK SUITE (ZOTKEVICH IN KHRAVMOV 1971) LOWER SILURIAN. SAMPLES AND SITES NOT GIVEN. GREY AND GREEN SEDIMENTS OF 150M THICKNESS. ASSIGNED GEOLOGICAL AGE OF ROCK=425.50MY

4- 52 SOUTH URAL SEDIMENTS (KOMISSAROVA IN KHRAVMOV 1971) WENLOCK. ONE OUTCROP, 13 BEDS, 150M THICKNESS. STORAGE TESTS. GREYISH-GREEN SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=410.00MY

4- 54 YARAK SUITE (DAVIDOV AND KRAVCHINSKI IN KHRAVMOV 1971) SILURIAN APPROX., NOT OLDER THAN SILURIAN. SAMPLES UNIT WEIGHT N=12. SAMPLING FROM 8 BEDS THROUGH 20M THICKNESS. STORAGE TESTS. RED SEDIMENT. ASSIGNED GEOLOGICAL AGE OF ROCK=415.00MY

4- 55 RED BEDS OF ZMEINNY ISLAND (ANFEROVA IN KHRAVMOV 1971) SILURIAN. AGE ASSIGNED FROM MAGNETIZATION DIRECTIONS. POSSIBLE RANGE PALEOZOIC TO EARLY TRIASSIC. SAMPLES UNIT WEIGHT N=22. ASSIGNED GEOLOGICAL AGE OF ROCK=415.00MY

4- 56 ONEISTER SEDIMENTS COMBINED 2. UPPER SILURIAN. AVERAGE OF 4-3 AND 50. SUPERCEDES 4-4. AN ARBITRARY ERROR HAS BEEN ASSIGNED. ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY

4- 57 ORTHOPHYRE SUITE COMBINED. UPPER SILURIAN TO LOWER DEVONIAN. AVERAGE OF 4-47 AND 49. ASSIGNED GEOLOGICAL AGE OF ROCK=387.00MY

4- 59 LOWER YENISEI SEDIMENTS COMBINED. UPPER SILURIAN AVERAGE OF 4-41 AND 42. LUDLOVIAN REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY

4- 60 LOWER YENISEI SEDIMENTS COMBINED. LOWER SILURIAN. AVERAGE OF 4-39 AND 40. REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=425.50MY

4- 61 LAIDLAW FORMATION (LUCK 1973) LUDLOW. BASAL UNIT OF HATTONS CORNER GROUP. VOLCANICS. ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY

4- 63 DOURO VOLCANICS (LUCK 1973) WENLOCK. SUPERCEDES 4-10. ASSIGNED GEOLOGICAL AGE OF ROCK=410.00MY

4- 64 HAWKINS SERIES (LUCK 1973) WENLOCKIAN VOLCANICS. ASSIGNED GEOLOGICAL AGE OF ROCK=410.00MY

4- 65 SILURIAN OF YASS COMBINED. MEAN OF RESULTS IN ENTRIES 4-61,63 AND 64 GIVING SITES UNIT WEIGHT N=13. ASSIGNED GEOLOGICAL AGE OF ROCK=415.00MY

4- 66 TIVER STAGE (POGARSKAYA IN KHRAVMOV 1973) UPPER SILURIAN TO LOWER DEVONIAN. SAMPLES UNIT WEIGHT N=53. THREE HORIZONS, 16 EXPOSURES, 52 BEDS, 513M THICKNESS. RED AND GREEN ALEUROLITE, LIMESTONE, ARGILLITE AND MARL. ASSIGNED GEOLOGICAL AGE OF ROCK=387.00MY

4- 67 MAI NOVETS AND SKALSKII HORIZONS (POGARSKAYA IN KHRAVMOV 1973) LUDLOW. SAMPLES UNIT WEIGHT N=54. 11 EXPOSURES, 66 BEDS, 251M THICKNESS. LIMESTONE DOLOMITIC MARL AND ARGILLITE. ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY

4- 68 KITAIGORODSKII, MUKSHINSKII AND UST'EVSKII HORIZONS (POGARSKAYA IN KHRAVMOV 1973) WENLOCK TO LLANDOVERY. SAMPLES UNIT WEIGHT N=30. FOUR EXPOSURES, 28 BEDS, 121M THICKNESS. DOLOMITE AND DOLOMITIC MARL. ASSIGNED GEOLOGICAL AGE OF ROCK=419.50MY

4- 69 CHINETINSK SUITE (ZOTKEVICH SUMMARY RESULT IN KHRAVMOV 1973) LOWER SILURIAN (LLANDOVERY-WENLOCKIAN FAUNA). THICKNESS 150M, 5 EXPOSURES. (A) 19 SAMPLES ALL NORMAL 124,+36, AF CLEANING 100-150 OE. (B) 11 SAMPLES ALL REVERSED 297,-27, ESTIMATED FROM INTERSECTIONS OF REMAGNETIZATION CIRCLES. (A) REPLACES 4-51. GREENISH-GREY SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=419.50MY

4- 70 TARATASH INTRUSIVE COMPLEX (DANUKALCV IN KHRAVMOV 1973) SILURIAN-ORDOVICIAN. K-AR AGE OF 530-570MY (CAMBRIAN) QUOTED AS AGE OF METAMORPHISM WHICH IS INCONSISTENT WITH THE GEOLOGICALLY ASSIGNED AGE. SAMPLES UNIT WEIGHT. COMPARE 5-161, 1-406 AND 1-407. THERMAL AND AF (800 OE) DEMAGNETIZATION OF SELECTED SAMPLES DID NOT CHANGE DIRECTIONS. TWO GRANITE INTRUSIONS NEAR TARATASH. ASSIGNED GEOLOGICAL AGE OF ROCK=447.50MY

4- 71 TUNGUS SYNCLINE LIMESTONES (GONCHAROV SUMMARY RESULT IN KHRAVMOV 1973) WENLOCK AND LLANDOVERY. SPECIMENS UNIT WEIGHT N=100. SEVEN EXPOSURES, KULIUMBE RIVER, AF (600) AND THERMAL CLEANING OF SELECTED SPECIMENS. (A) 100M THICKNESS, 25 LEVELS, 25 SAMPLES, 49 SPECIMENS (10N 39R), MEAN

- 112,+69. (B) 30CM THICKNESS, 26 LEVELS, 26 SAMPLES, 51 SPECIMENS (37N 14R), MEAN 696,+58. ASSIGNED GEOLOGICAL AGE OF ROCK=419.50MY
- 4- 72 SALROCK GROUP SEDIMENTS (MORRIS ET AL 1973) WENLOCK. UNIT WEIGHT TO SITES N=28. SAMPLED 100M OVER 3KM.  
ASSIGNED GEOLOGICAL AGE OF ROCK=410.00MY
- 4- 73 SALROCK AND UPPER OWENDUFF INTRUSIVES (MORRIS ET AL 1973) UPPER SILURIAN. SAMPLING OVER 4KM. SITES UNIT WEIGHT N=7. GRANODIORITE AND ANDESITE INTRUSIVE INTO ABOVE SEDIMENTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY
- 4- 74 KNOCKNAVEEN GROUP (MORRIS ET AL 1973) UPPER SILURIAN. SITES UNIT WEIGHT N=4. SAMPLING OVER 10 KM. RED ARKOSE AND SILTSTONE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY
- 4- 75 TORTWORTH TRAPS (MORRIS ET AL 1973) LLANDOVERY. SAMPLES UNIT WEIGHT N=11. SAMPLED AT 5 SITES OVER 10KM. TRAPS OF TORTWORTH INLIER GLOUCESTERSHIRE. TWO ANDESITE BODIES. MAGNETIZATION PROBABLY PRE-TILTING.  
ASSIGNED GEOLOGICAL AGE OF ROCK=425.50MY
- 4- 76 BLOOMSBURG FORMATION (IRVING AND OPDYKE 1965) UPPER SILURIAN. UNIT WEIGHT TO 17 LEVELS AT ONE LOCALITY. UNIT WEIGHT IN 4-27 TO NINE WIDELY SPACED LOCALITIES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY
- 4- 77 BLOOMSBURG FORMATION OVERPRINT (ROY, OPDYKE AND IRVING 1967) UPPER CARBONIFEROUS TO LOWER PERMIAN. COMPONENT WITH LOWER BLOCKING TEMPERATURES THAN THE NORTHERLY COMPONENT OF 4-27 AND CONSIDERED TO BE AN OVERPRINT ACQUIRED DURING DEEP BURIAL IN THE APPALACHIAN OROGENY.  
ASSIGNED GEOLOGICAL AGE OF ROCK=282.50MY
- 4- 80 GRIMSBY SANDSTONE (PETERSEN 1975) SILURIAN. PRELIMINARY RESULT READ FROM FIG.1 OF ORIGINAL.  
ASSIGNED GEOLOGICAL AGE OF ROCK=415.00MY
- 4- 81 ANDESITES OF SOMERSET AND GLOUCESTERSHIRE (PIPER 1975) LOWER SILURIAN, UPPER LLANDOVERY. SITES UNIT WEIGHT N=5. POSITIVE FOLD TEST INDICATES MAGNETIZATION IS ORIGINAL. AUTHOR SUGGESTS THAT RESULTS, WHEN COMPARED WITH OTHERS, INDICATE RAPID POLAR SHIFT OF 60 DEG IN LATE ORDOVICIAN AND EARLY SILURIAN.  
ASSIGNED GEOLOGICAL AGE OF ROCK=429.50MY
- 4- 82 SILURIAN OF THE YENISEI COMBINED. AVERAGE OF ENTRIES 4-59 AND 60. AN ARBITRARY ERROR OF 15 DEG IS ASSIGNED.  
ASSIGNED GEOLOGICAL AGE OF ROCK=415.00MY
- 5- 17 NORTH URAL BAUXITES (IVANOV AND SVYAZHINA ADDITIONAL INFORMATION TAKEN FROM KHRAMOV 1971). EIFELIAN. SAMPLES UNIT WEIGHT N=144. SAMPLES FROM SUBROVSK ORE HORIZON OF THE VAGRANSK SUITE IN 4 MINES SPREAD OVER 5KM. AF DEMAGNETIZATION OF SELECTED SAMPLES (600 OE) LEFT DIRECTIONS UNCHANGED. BAUXITE OVERLIES ERODED LIMESTONE OF PETROPAVLOVSK SUITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=367.00MY
- 5- 91 SOUTH URAL BAUXITES (IVANOV AND SVYAZHINA ADDITION FROM KHRAMOV 1971). FRASNIAN. DEMAGNETIZATION (600 OE) OF SELECTED SAMPLES GAVE NO CHANGE IN DIRECTION. STORAGE TESTS. SAMPLES FROM ORLOVSK SUITE EXPOSED IN 5 PRED BAUXITE MINES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY
- 5- 95 KRASNOYARSK SEDIMENTS (DAVIDOV AND KRAVCHINSKI ADDITIONS FROM KHRAMOV 1971) UPPER DEVONIAN. SAMPLES UNIT WEIGHT N=18. SAMPLES FROM UNIT 70M THICK AT MOUTH OF KACHA RIVER. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY
- 5-115 PERRY FORMATION COMBINED. UPPER DEVONIAN. MEAN OF POLES 5-66,68,72 AND 73 GIVING EACH UNIT WEIGHT N=4.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY
- 5-119 RUSSIAN PLATFORM SEDIMENTS (POGARSKAYA IN KHRAMOV 1971) FANENNIAN TO FRASNIAN. THICKNESS 136M. AREA 60 BY 160KM. MOTTLED MARLS, CLAYS AND SANDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY
- 5-120 SEDIMENTS OF LENINGRAD AREA COMBINED 2. UPPER DEVONIAN. AVERAGE OF 5-7,8,9,90 AND 119. N=5. POLARITY RATIO ESTIMATED FROM COLUMN 11 OF KHRAMOV (1971). SUPERCEDES 5-114.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY
- 5-121 KOLTUBAN SUITE (DANUKALOV IN KHRAMOV 1971) FRASNIAN. THICKNESS 120CM. STORAGE TESTS AND SELECTIVE DEMAGNETIZATION. SANDSTONE, SILTSTONE, TUFFS AND PORPHYRITES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY
- 5-122 ULUTAU SUITE (DANUKALOV IN KHRAMOV 1971) GIVETIAN. SAMPLES UNIT WEIGHT N=38, THICKNESS 200M. IGNEOUS ROCKS, TUFFS AND TUFFACEOUS BRECCIAS OF

BUIYDA RIVER.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-123 ULUTAU SUITE, BUGULTGYR HORIZON (DANUKALOV IN KHRAMOV 1971) GIVETIAN. SAMPLES UNIT WEIGHT N=43. TWO LOCALITIES 750 AND 500M THICK, 35 OUTCROPS. SEDIMENTS AND TUFFS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-124 ULUTAU SUITE (DANUKALOV IN KHRAMOV 1971) GIVETIAN. SAMPLES UNIT WEIGHT N=156. FOUR LOCALITIES, 80 OUTCROPS. SUITE SURVEYED THROUGH ITS ENTIRE THICKNESS WHICH IS 1500M, TOGETHER WITH THE APPROXIMATELY 5CM THICK BUGULTGYR HORIZON. SEDIMENTS AND TUFFS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-125 ULUTAU SUITE (DANUKALOV IN KHRAMOV 1971) GIVETIAN. SAMPLES UNIT WEIGHT N=27. ENTIRE THICKNESS OF 1800M SURVEYED AT 1 LOCALITY NEAR URAL RIVER. SANDSTONES AND TUFFS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-126 ULUTAU SUITE COMBINED. GIVETIAN. AVERAGE OF 5-122,123,124 AND 125. EACH UNIT WEIGHT N=4.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-127 IRENDYK AND KARMALYTASH SUITES (DANUKALOV IN KHRAMOV 1971) LOWER TO MIDDLE DEVONIAN (?). SOMETIMES CONSIDERED PERMIAN OR CARBONIFEROUS. THICKNESS 1300M. SELECTIVE DEMAGNETIZATION. IGNEOUS ROCKS AND TUFFS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=377.00MY

5-130 ONEISTER RED SEDIMENTS COMBINED 2 (KHRAMOV 1971) GEDINNIAN AND COBENZIAN (LOWER DEVONIAN). MINOR MODIFICATIONS ARE MADE TO KHRAMOV'S EARLIER WORK SEE 5-15,104,105,106,107 AND 108. THIS AVERAGE IS GIVEN BY KHRAMOV AS AVERAGE OF 7 ENTRIES IN HIS 1971 LIST. SUPERCEDES 5-113. RED ARGILLITES, CLAYS AND SILTSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-131 DOMANIK HORIZON (IVANOV AND SVYAZHINA IN KHRAMOV 1971) FRASNIAN. SAMPLES UNIT WEIGHT N=30. STORAGE AND AF TESTS GIVE NO DIRECTION CHANGES. LIMESTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY

5-132 VOLONGA REDBEDS. (GONCHAROV IN KHRAMOV 1971) MIDDLE TO UPPER DEVONIAN (FAMENNIAN,FRASNIAN AND GIVETIAN). SAMPLES UNIT WEIGHT N=146. SAMPLED THROUGH 600M THICKNESS OVER 14KM. STORAGE TESTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=354.50MY

5-134 URAL BAUXITES COMBINED. UPPER DEVONIAN. AVERAGE OF 5-17,91 AND 92. N=3.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY

5-136 KRASNOYARSK REDBEDS COMBINED. UPPER DEVONIAN. RESULTS FROM EXTENSIVE STUDIES ARE COMBINED INTO 5 AGE GROUPS 5-136 TO 140. 5-136 IS AVERAGE OF 5-18,19,20,44,45,54,55,93,152 AND 157. N=10.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY

5-137 KRASNOYARSK REDBEDS COMBINED, MIDDLE TO UPPER DEVONIAN. AVERAGE OF 5-21,22,24 AND 25. N=4.  
ASSIGNED GEOLOGICAL AGE OF ROCK=357.50MY

5-138 KRASNOYARSK REDBEDS COMBINED, MIDDLE DEVONIAN. AVERAGE OF 5-26,27,43,95 AND 96. N=5.  
ASSIGNED GEOLOGICAL AGE OF ROCK=364.50MY

5-139 KRASNOYARSK REDBEDS COMBINED, LOWER TO MIDDLE DEVONIAN. AVERAGE OF 5-28,101. N=2. SEE 5-136.  
ASSIGNED GEOLOGICAL AGE OF ROCK=377.00MY

5-140 KRASNOYARSK REDBEDS COMBINED, LOWER DEVONIAN. AVERAGE OF 5-29,40,41,42 AND 71. N=5.  
ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-142 SCHARFENSTEIN QUARTZ PORPHYRY (KONRAD AND NAIRN 1972) UPPER DEVONIAN TO LOWER CARBONIFEROUS. AGE ASSIGNED ON BASIS OF MAGNETIZATION DIRECTIONS. PREVIOUSLY CONSIDERED PERMIAN. CLEANING 150 OE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=342.00MY

5-143 BOWNING GROUP VOLCANICS (LUCK 1973) GEDINNIAN.  
ASSIGNED GEOLOGICAL AGE OF ROCK=392.50MY

5-144 AINSLIE VOLCANICS (LUCK 1973) LOWER DEVONIAN. VERTICAL THICKNESS 170M. THIS IS ONE OF THE ROCK UNITS STUDIED BY GREEN (1961) IN 5-32.  
ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-145 LOCHIEL FORMATION (LUCK 1973) UPPER DEVONIAN. SAMPLES UNIT WEIGHT N=25. BASALTIC FLOWS. SUPERCEDES 5-36 (RENAMED).  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY

5-146 FOYERS PLUTONIC COMPLEX (KNEEN 1973) UPPER SILURIAN TO LOWER DEVONIAN. K-AR AGE 490 (ERROR 18) MY. SAMPLES SPREAD OVER 10KM. VARIOUS ROCKS, INTERMEDIATE TO ACID INTRUSIVES, CONTACT SCHISTS, UNALTERED SANDSTONES. STABLE REMANENCE DUE TO HEMATITE. RANDOM DIRECTIONS OBSERVED IN BOULDERS

IN DEVONIAN CONGLOMERATE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=387.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=400.00MY

5-147 BARITU FORMATION (THOMPSON 1973) LOWER DEVONIAN.  
STABLE MAGNETIZATION ACQUIRED AFTER FOLDING. RED  
AND REDDISH-PURPLE SANDSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-153 KOLTUBANSK SUITE (DANUKALOV SUMMARY IN KHRA-  
MOV 1973) FRASNIAN TO FAMENNIAN. THE AVERAGE OF THE  
2 FOLLOWING RESULTS IS GIVEN ALLOWING SAMPLES  
UNIT WEIGHT. (A) 120M THICKNESS, 42 EXPOSURES,  
MEAN 233,-28, SUPERCEDES 5-121. (B) 4 EXPOSURES,  
35 BEDS, 235,-25. TUFFACEOUS SANDSTONE, ALEURO-  
LITE, TUFF, BRECCIA, PORPHYRITE AND RED SHALE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY

5-154 POKAYAMSK, UST'BEZMOSHITSK AND KUMUSHKINSK  
SUITES (GONCHAROV IN KHRAMOV 1973) LOWER FRASNI-  
AN TO UPPER FAMENNIAN. THREE DETERMINATIONS OVER  
80KM. SAMPLES UNIT WEIGHT. (A) POKAYAMSK SUITE,  
96M THICKNESS, 2 EXPOSURES, 24 SAMPLES, MEAN DI-  
RECTION 221,+07. (B) UST'BEZMOSHITSK SUITE, 176M  
THICKNESS, 1 EXPOSURE, 10 BEDS, 10 SAMPLES, 245,  
+08. (C) KUMUSHKINSK SUITE, 180M THICKNESS, 5  
EXPOSURES, 41 BEDS, 41 SAMPLES, 234,+13. RED AND  
BROWN SANDSTONE AND ALEUROLITE OF VOLONGA RIVER.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY

5-155 SOUTHERN URAL SEDIMENTS (DANUKALOV IN KHRA-  
MOV 1973) FRASNIAN. SAMPLES UNIT WEIGHT N=35. THICK-  
NESS 1000M, 3KM SPREAD, 35 BEDS. SANDSTONES AND  
SHALES IN KOLPACHKA RIVER AREA.  
ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY

5-156 KALARGONSK AND FOKINSK SUITES (LIND IN KHRA-  
MOV 1973) UPPER DEVONIAN. SAMPLES UNIT WEIGHT N=112.  
SAMPLED 110M AGGREGATE THICKNESS, 3 EXPOSURES.  
BASE OF SUITES CONTAINS LATE FRASNIAN FAUNA. THE  
SUITES APPEAR TO BE OF SIMILAR AGE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY

5-157 KOKHAISK AND OIDANOVSK SUITES (APARIN IN KHRA-  
MOV 1973) FRASNIAN. SAMPLES UNIT WEIGHT N=30.  
THREE EXPOSURES 80CM THICK. AF DEMAGNETIZATION  
100-200 OE DOES NOT CHANGE DIRECTIONS. MAGNETI-  
ZATION PRE-FOLDING. SUPERCEDES 5-55.  
ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY

5-158 TRAVYANSK AND NADEZHINSK SUITES (GONCHAROV IN  
KHRAMOV 1973) GIVETIAN. SPECIMENS UNIT WEIGHT  
N=87. THICKNESS 270M, 8 EXPOSURES OVER 2KM, 51  
BEDS. VOLONGA RIVER AREA. SUPERCEDES 5-132.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-159 ULUTAU SUITE (DANUKALOV IN KHRAMOV 1973) MIDDLE  
DEVONIAN APPROX., MAY BE YOUNGER. THICKNESS 50M,  
13 BEDS, 2 EXPOSURES, BIAGODY AREA. SAMPLES UNIT  
WEIGHT N=13. TUFFITE, TUFFACEOUS SANDSTONE AND  
ALEUROLITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=364.50MY

5-160 SOUTHERN URAL SEDIMENTS (DANUKALOV IN KHRA-  
MOV 1973) GIVETIAN. SAMPLES UNIT WEIGHT N=16. THICK-  
NESS 30M, 16 BEDS, 2 EXPOSURES, KOLPACHKA RIVER  
AREA. TUFFS AND QUARTZITIC SHALES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY

5-161 TARATASH INTRUSIVE COMPLEX (DANUKALOV IN KHRA-  
MOV 1973) MIDDLE DEVONIAN. K-AR AGE OF 450MY (=ORDO-  
VICIAN) IS CITED AND IS REGARDED AS THE AGE OF  
METAMORPHISM. THIS CANNOT BE SO IF THE ASSIGNED  
AGE IS CORRECT. A MIDDLE DEVONIAN AGE IS ACCEP-  
TED HERE. SAMPLES UNIT WEIGHT N=21. THREE GRAN-  
ITE INTRUSIONS. AF (800 OE) AND THERMAL DEMAGNE-  
TIZATION DID NOT CHANGE DIRECTIONS. COMPARE 4-70  
AND 1-406.  
ASSIGNED GEOLOGICAL AGE OF ROCK=364.50MY

5-162 BARAGASH SUITE (ZOTKEVICH IN KHRAMOV 1973) LOWER  
TO MIDDLE DEVONIAN. FAUNAS MAINLY EARLY WITH  
SOME MIDDLE DEVONIAN CORALS. KOBLENZIAN ACCORD-  
ING TO NALIVKIN. THICKNESS 450M, 2 EXPOSURES. AF  
CLEANING (600 OE). MAGNETIZATION PRE-FOLDING BUT  
PROBABLY CAUSED BY UPPER CARBONIFEROUS TO LOWER  
PERMIAN INTRUSION SOME 1-2KM DISTANT.  
ASSIGNED GEOLOGICAL AGE OF ROCK=377.00MY

5-163 MANTUROVSK SUITE (LIND IN KHRAMOV 1973) EIFELIAN  
TO LOWER GIVETIAN. SAMPLES UNIT WEIGHT N=44. 10M  
THICKNESS, 1 EXPOSURE, DALDYKAN RIVER. VARIEGA-  
TED MARL AND CLAY LIMESTONE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=366.00MY

5-164 TERRIGENOUS CARBONATE SERIES (GONCHAROV IN KHRA-  
MOV 1973) MIDDLE DEVONIAN. THICKNESS 80M, 21  
BEDS, 1 EXPOSURE, KULIUMBE RIVER. THERMAL CLEAN-  
ING 500 DEG C OF 5 SAMPLES GAVE 298,-74. GREY  
AND RED ALEUROLITE AND LIMESTONE OF TUNGUS SYNC-  
LINE. SUPERCEDES 5-99.  
ASSIGNED GEOLOGICAL AGE OF ROCK=364.50MY

5-165 ZUBOVSK SUITE (LIND IN KHRAMOV 1973) LOWER DEVO-  
NIAN. SPECIMENS UNIT WEIGHT N=22. ONE EXPOSURE,  
LATE SIEGENIAN FAUNA. BETWEEN LUDELVIAN BEDS AND  
KUREISKII HORIZON. RED-BROWN MARL AND ARGILLITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-166 KUREISK AND ZUBOVSK SUITES (GONCHAROV IN KHRA-  
MOV 1973) LOWER DEVONIAN. SPECIMENS UNIT WEIGHT  
N=22. ONE EXPOSURE, LATE SIEGENIAN FAUNA. BETWEEN  
LUDELVIAN BEDS AND KUREISKII HORIZON. RED-BROWN  
MARL AND ARGILLITE. ASSIGNED GEOLOGICAL AGE OF  
ROCK=382.50MY



1973) LOWER DEVONIAN. THE AVERAGE OF THE 2 FOLLOWING DETERMINATIONS GIVING SAMPLES UNIT WEIGHT. (A) KUREISK SUITE, 43M THICKNESS, 20 BEDS, 20 SAMPLES, MEAN 273,-62. (B) ZUBOVSK SUITE, 90M THICKNESS, 15 BEDS, 15 SAMPLES, MEAN 285,-74. AF (600 OE) AND THERMAL DEMAGNETIZATION (400 DEG C) OF SELECTED SPECIMENS GAVE SIMILAR DIRECTIONS. RED ALEUROLITE, LIMESTONE AND DOLOMITE. REPLACES 5-103.

ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-167 OLENEK DIKE (KAMYSHEVA IN KHRAMOV 1973) DEVONIAN AGE ASSUMED. SAMPLES UNIT WEIGHT. ONE EXPOSURE GABBRO-DOLERITE.

ASSIGNED GEOLOGICAL AGE OF ROCK=370.00MY

5-168 CHEVIOT HILL LAVAS (THORNING 1974). K-AR AGE RANGE 394-370 CITED, MEAN 380MY. SITES UNIT WEIGHT N=11. SAMPLING OVER 10KM. MOST SAMPLES CLEANED IN 350 OE. ANDESITE AND RHYOLITE. CONCORDANT RESULTS ALSO REPORTED FROM GRANITE (ONE SITE) AND METAMORPHOSED ANDESITE (TWO SITES). PREFERRED RADIOMETRIC AGE OF ROCK=380.00MY

5-169 CAITHNESS OLD RED SANDSTONE (WAAGE AND STORETVEDT 1973) LOWER DEVONIAN. ORCADIAN BASIN. BEDS CONTAIN A POSSIBLY ORIGINAL NORMAL COMPONENT AND A LESS STABLE REVERSE COMPONENT WHICH AUTHORS SUGGEST WAS ACQUIRED DURING DEEP BURIAL IN THE LOWER DEVONIAN. POLE CALCULATED FROM NORMAL DIRECTIONS.

ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-170 ORKNEY LAVAS, OLD RED SANDSTONE (STORETVEDT AND PETERSEN 1972) MIDDLE-UPPER DEVONIAN. UNIT WEIGHT TO SPECIMENS. OF 60 SAMPLES FROM 2 LAVAS ONLY 7 GAVE SATISFACTORY DIRECTIONS CARRIED BY SPINEL PHASE. MAGNETIZATIONS OF HEMATITE PHASE REGARDED AS SECONDARY.

ASSIGNED GEOLOGICAL AGE OF ROCK=357.50MY

5-171 STRATHMORE LAVAS (SALLOMY AND PIPER 1973B) LOWER DEVONIAN. RADIOMETRIC AGE 394 (ERROR 5) MY CITED FROM 3 LAVAS. SAMPLED 7000M THICKNESS OVER 4000 SQ KM. RESULTS BASED ON 34 SITES INCLUDING 3 SITES IN SEDIMENTS ADJACENT TO LAVAS. SIXTEEN OTHER SITES HAD OBLIQUE DIRECTIONS AND WERE ATTRIBUTED TO TRANSITIONAL FIELD DIRECTIONS. FOLD TEST SHOWS THAT MAGNETIZATION IS PRE-MIDDLE DEVONIAN. CONGLOMERATE AND CONTACT TESTS INDICATE MAGNETIZATION ACQUIRED AT TIME OF FORMATION.

ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

PREFERRED RADIOMETRIC AGE OF ROCK=394.00MY

5-172 MIDLAND VALLEY COMBINED (SALLOMY AND PIPER 1973

B) LOWER DEVONIAN. AVERAGE OF 29 DEMAGNETIZED SITES SELECTED FROM 5-61, 62 AND 171.

ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY

5-173 BRISTOL SEDIMENTS (MORRIS ET AL 1973) UPPER DEVONIAN TO LOWER CARBONIFEROUS. PORTISHEAD BEDS (8 SITES) WHICH ARE DEVONIAN AND OVERLYING LOWER CARBONIFEROUS (2 SITES) WERE SAMPLED. RECBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=342.00MY

5-174 ELMINA SANDSTONE (RIFEN, FITCHES AND MCELHINNY 1973) DEVONIAN, POSSIBLY CARBONIFEROUS. NRM ALONG MESOZOIC FIELD AND CONSIDERED TO DATE FROM TIME OF FORMATION OF ATLANTIC. DIRECTIONS IN SITU QUOTED.

ASSIGNED GEOLOGICAL AGE OF ROCK=337.50MY

5-175 TIMAN REGION COMBINED. DEVONIAN. MEAN OF 5-154 AND 158. AN ARBITRARY EFFOR IS ASSIGNED.

ASSIGNED GEOLOGICAL AGE OF ROCK=370.00MY

5-176 URAL REGION COMBINED 1. DEVONIAN. N=16. AVERAGES OF RESULTS MOSTLY FROM SOUTHERN URALS ARE GIVEN. ALL AVAILABLE RESULTS ARE COMBINED, 5-89,100, 117,121,126,127,131,134,141,149,150,153,155,159, 160 AND 161.

ASSIGNED GEOLOGICAL AGE OF ROCK=370.00MY

5-177 URAL REGION COMBINED 2. DEVONIAN. N=13. AVERAGE OF ENTRIES LISTED IN 5-176 LESS RESULTS FROM THE ZILAYIR RIVER SUITE (5-89,117) WHICH ARE INCONSISTENT, AND THOSE FROM CERTAIN PORPHYRIES (141) WHICH ARE DIVERGENT FROM THE MAIN GROUP. THE AVERAGE POLE IS IN GOOD AGREEMENT WITH THE AVERAGE POLE 5-176, AND THE DEVONIAN OF THE LENINGRAD (5-120) AND DNEISTER (5-130) REGIONS.

ASSIGNED GEOLOGICAL AGE OF ROCK=370.00MY

5-178 KRASNOYARSK RECBEDS COMBINED 2. DEVONIAN. AVERAGE OF 5-25,41(DIVERGENT),42,43,44,54,55,71, 93,95,96,101,152 AND 157 (N=14). MANY EARLY DATA WERE REPORTED WITHOUT INFORMATION ABOUT THE NUMBER OF SAMPLES. THESE ARE ENTERED IN THE B CATEGORY AND NOT USED IN THIS COMBINATION WHICH IS THUS MORE SELECTIVE THAN 5-182.

ASSIGNED GEOLOGICAL AGE OF ROCK=370.00MY

5-180 ORKNEY AND SHETLAND OLD RED SANDSTONE LAVAS (MORRIS ET AL 1973). ORKNEY LAVAS ARE MIDDLE DEVONIAN. ESTIMATED AGE BASED ON RADIOMETRIC STUDIES OF 370MY CITED FOR SHETLAND LAVAS (2N 1R) THAT UNDERLIE LOWER GIVETIAN SEDIMENTS. UNIT WEIGHT TO SITES N=7.

ASSIGNED GEOLOGICAL AGE OF ROCK=364.50MY

PREFERRED RADIOMETRIC AGE OF ROCK=370.00MY

- 5-181 MEREENIE SANDSTONE (EMBLETON 1972). CONTAINS DEVONIAN FOSSILS AND MAY BE IN PART SILURIAN. THICKNESS 10CM. CLEANING 620-650 DEG C. POLE DOES NOT AGREE WITH POLES FROM NEW SOUTH WALES. ELLERY CREEK. ASSIGNED GEOLOGICAL AGE OF ROCK=390.00MY
- 5-182 DEVONIAN REDBEDS OF KRASNOYARSK COMBINED. AVERAGE OF BOTH A AND B DATA N=27, AS FOLLOWS, 5-18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 40, 41, 42, 43, 44, 45, 54, 55, 71, 93, 95, 96, 101, 152 AND 157. ASSIGNED GEOLOGICAL AGE OF ROCK=370.00MY
- 5-183 ULUTAU SUITE COMBINED. GIVETIAN. AVERAGE OF 5-122, 123, 124, 125 AND 159 GIVING EACH UNIT WEIGHT N=5. SUPERCEDES 5-126. ASSIGNED GEOLOGICAL AGE OF ROCK=361.50MY
- 5-188 DEVONIAN OF THE LOWER YENISEI RIVER COMBINED. LOWER AND MIDDLE DEVONIAN. AVERAGE OF 5-97, 98, 99, 103, 156, 163, 164, 165, 166, EACH GIVEN UNIT WEIGHT N=9. A PROVISIONAL AVERAGE OF RATHER SCATTERED DATA. ASSIGNED GEOLOGICAL AGE OF ROCK=377.00MY
- 5-189 CARBONATES OF COLUMBUS, OHIO (MARTIN 1975). IN ENTRY 5-189 RESULTS FROM 24M OF COLUMBUS LIMESTONE, LOWER TO MIDDLE DEVONIAN, ARE GIVEN. SAMPLES THROUGH 25M AT ONE QUARRY GAVE LOWER (5-192) NORMALLY MAGNETIZED SECTION AND UPPER (5-189 AND 190) REVERSELY MAGNETIZED SECTION. THE TRANSITION OCCURRED IN THE LOWER DELAWARE. CLEANING IN 250 OE. SAMPLES UNIT WEIGHT THROUGHOUT. ASSIGNED GEOLOGICAL AGE OF ROCK=367.00MY
- 5-190 DELAWARE LIMESTONE, UPPER EIFELIAN. SEVEN METRES SAMPLED. SEE 5-189. ASSIGNED GEOLOGICAL AGE OF ROCK=367.00MY
- 5-191 COLUMBUS AND DELAWARE LIMESTONES. LOWER TO UPPER EIFELIAN. AVERAGE OF 5-189 AND 190. SEE 5-189. ASSIGNED GEOLOGICAL AGE OF ROCK=367.00MY
- 5-192 COLUMBUS AND RAISIN RIVER DOLOMITE. UPPER EMSIAN. NORMALLY MAGNETIZED SAMPLES FROM TOP OF RAISIN RIVER AND BASE OF COLUMBUS. THICKNESS SAMPLED 5M. SEE 5-189. ASSIGNED GEOLOGICAL AGE OF ROCK=372.00MY
- 6-95 TALCHIR BEDS. UPPER CARBONIFEROUS. OVERLIE CAMBRIAN SALT PSEUDOMOPPH BEDS (2-153) AND ARE OVERLAIN BY CONULARIA BEDS AND PERMIAN SPECKLED SANDSTONE (7-297). ASSIGNED GEOLOGICAL AGE OF ROCK=302.50MY
- 6-105 CORSICAN LAVAS AND DYKES. STEPHANIAN TO PERMIAN. PRESUMABLY REPLACES E-81. SEE OUR FIRST ISSUE. ASSIGNED GEOLOGICAL AGE OF ROCK=258.50MY
- 6-124 BEACON GROUP SEDIMENTS. SEE NOTE 9-39.
- 6-141 DONBASS UPPER CARBONIFEROUS REDBEDS (KHRAMOV 1967). THIS DATA MAY OR MAY NOT BE FROM BEDS THAT ARE STRATIGRAPHICALLY APPROXIMATELY COMPARABLE TO THE GZHELIAN RESULTS OF 6-246, BUT HAS BEEN OBTAINED BY DIFFERENT AUTHORS. ASSIGNED GEOLOGICAL AGE OF ROCK=302.50MY
- 6-145 TOBOL REDBEDS (IVANOV AND SVYAZHINA WITH ADDITIONAL INFORMATION FROM KHFAMOV 1971) UPPER CARBONIFEROUS. SAMPLES UNIT WEIGHT N=79. TWO OUTCROPS 50M APART. DEMAGNETIZATION OF SELECTED SPECIMENS AT 600 OE GAVE NO CHANGE IN DIRECTION. ASSIGNED GEOLOGICAL AGE OF ROCK=302.50MY
- 6-147 MOSCOW STAGE (IVANOV AND SVYAZHINA WITH ADDITIONAL INFORMATION FROM KHRAMOV 1971) MOSCOVIAN. THICKNESS 3M. DEMAGNETIZATION OF SELECTED SAMPLES AT 600 OE DID NOT CHANGE DIRECTION. ARGILLACEOUS BROWN SANDSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-208 TUSHAMINSK SUITE (DAVIDOV AND KRAVCHINSKI WITH REVISION IN KHRAMOV 1971) TOURNAISIAN. SAMPLES UNIT WEIGHT N=19. THICKNESS SPAN 30M. GREENISH-BROWN SILTY TUFFACEOUS SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY
- 6-209 MIASS RIVER SANDSTONE (IVANOV AND SVYAZHINA WITH ADDITIONAL INFORMATION FROM KHRAMOV 1971) VISEAN. SAMPLES UNIT WEIGHT N=19. THICKNESS 50M SAMPLED. SELECTED SAMPLES UNCHANGED IN 600 OE. RED SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY
- 6-210 BAGAPYAK RIVER SANDSTONE (IVANOV AND SVYAZHINA WITH ADDITIONAL INFORMATION IN KHRAMOV 1971) VISEAN. THICKNESS 2M. SELECTED SAMPLES UNCHANGED IN 600 OE. REDDISH-BROWN SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY
- 6-212 VALERYANOVSKAYA SUITE (IVANOV AND SVYAZHINA WITH ADDITIONAL INFORMATION FROM KHRAMOV 1971) NAMUPEAN. SAMPLES UNIT WEIGHT N=23. THICKNESS 10CM. SELECTIVE AT 600 OE DID NOT CHANGE DIRECTION. PLAGIOCLASE-PYROXENE PORPHYRITES. ASSIGNED GEOLOGICAL AGE OF ROCK=323.50MY

- 6-228 MIDDLE PAGANZO GROUP COMBINED. UPPER CARBONIFEROUS TO PERMIAN. COMBINATION OF 3 RESULTS IN 6-227 AND 7-72 (N=4). ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY
- 6-235 COLOMBIAN SANDSTONE (CREEP 1973) PERMO-CARBONIFEROUS. POLES SAID TO BE "MORE CONSISTENT WITH A POST TRIASSIC POSSIBLY CRETACEOUS RATHER THAN A PERMO-CARBONIFEROUS MAGNETIC AGE". LATER THE AUTHOR SAYS THAT THE MAGNETIZATION "IS CONSISTENT WITH MAGNETIZATION IN THE TRIASSIC GEOMAGNETIC FIELD". AVERAGE OF 4 SITES IN TABLE 2 OF ORIGINAL. ASSIGNED GEOLOGICAL AGE OF ROCK=285.00MY
- 6-240 CODROY GROUP COMBINED. LOWER CARBONIFEROUS. AVERAGE OF ENTRIES 6-67 AND 170. ASSIGNED GEOLOGICAL AGE OF ROCK=335.00MY
- 6-242 MIDDLE PAGANZO GROUP LA COLINA LAVA (THOMPSON AND MITCHELL 1972, EMLETON 1970) UPPER CARBONIFEROUS TO PERMIAN. K-AR AGE 295MY GIVEN. MEAN OF 3 SITES EACH UNIT WEIGHT N=3. SPREAD 25KM. CLEANING AT 300 OE. LAVA OCCURS AT SAME STRATIGRAPHIC LEVEL AT EACH SITE NEAR BASE OF MIDDLE PAGANZO. SAMPLES CONSIDERED TO LOCATE BASE OF PERMO-CARBONIFEROUS REVERSED INTERVAL. ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=295.00MY
- 6-245 GZHELIAN STAGE COMBINED (AVERAGE OF DATA OF BAGINA, KOMISSAROVA AND KHRAMOV GIVEN IN KHRAMOV 1971) UPPER CARBONIFEROUS. AGGREGATE THICKNESS 26M. SUMMARY OF ENTRIES 6-59, 176, 218 AND 225, EACH GIVEN UNIT WEIGHT N=4. PRESUMABLY SUPERCEDES 6-142. ASSIGNED GEOLOGICAL AGE OF ROCK=286.00MY
- 6-246 ARAUCARITE SUITE COMBINED (KHRAMOV AND TRETIAK LISTED IN KHRAMOV 1971) UPPER CARBONIFEROUS. AVERAGE OF 6 DETERMINATIONS FROM ARAUCARITE AND AVILOV GROUPS OF THE GZHELIAN STAGE LISTED IN KHRAMOV (1971). UNIT WEIGHT TO EACH DETERMINATION N=6. AGGREGATE THICKNESS 2860M. STORAGE AND REPRECIPITATION TESTS. THIS SUMMARY VALUE MAY ALSO BE REGARDED AS A COMBINATION OF RESULTS IN 6-264 AND 265. COMPARE THE GZHELIAN STAGE OF THE MOSCOW BASIN 6-245. ASSIGNED GEOLOGICAL AGE OF ROCK=286.00MY
- 6-247 BASHKIR STAGE OF DONBASS COMBINED. BASHKIRIAN. N=5. AVERAGE OF 6-154,188,211,219 AND 251. PRESUMABLY SUPERCEDED BY 6-340 WHICH INCLUDES BASHKIRIAN AND MOSCOVIAN. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-248 AZOV AREA SEDIMENT (KOMISSAROVA IN KHPAMOV 1971) TOURNAISIAN TO NAMURIAN. RESULTS 6-329, 330 AND 331 AVERAGED GIVEN EACH UNIT WEIGHT N=3. AGGREGATE THICKNESS ABOUT 100CM. NINETY-THREE LEVELS. STORAGE TESTS. SANDSTONES AND LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=339.50MY
- 6-250 OKA-SERPUKHOV SUITE (KHRAMOV IN KHRAMOV 1971) LOWER NAMURIAN BUT CITED AS VISEAN IN KHRAMOV AND SHOLPO (1967). EIGHT LAYERS. RED CLAYS. ASSIGNED GEOLOGICAL AGE OF ROCK=323.50MY
- 6-251 BASHKIR SUITE (KOMISSAROVA AND KHRAMOV IN KHRAMOV 1971) BASHKIRIAN (BOTTOM). THICKNESS 150M. STORAGE TESTS. GREY SHALES OF MIKHAILOVSKAYA RAVINE. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-252 BEPEZOVSK SUITE (DANUKALOV IN KHRAMOV 1971) LOWER VISEAN TO UPPER TOURNAISIAN. SPECIMENS UNIT WEIGHT N=25. SILTSTONES, TUFFS AND PORPHYRITES. ASSIGNED GEOLOGICAL AGE OF ROCK=337.00MY
- 6-253 BEREZOVSK SUITE (DANUKALOV IN KHRAMOV 1971) LOWER VISEAN AND UPPER TOURNAISIAN. THICKNESS 900M. STORAGE TESTS AND AF DEMAGNETIZATION OF SELECTED SAMPLES. DIABASE, PORPHYRITE, ALBITOPHYRE AND TUFFACEOUS SANDSTONE. SAMPLES UNIT WEIGHT N=37. ASSIGNED GEOLOGICAL AGE OF ROCK=337.00MY
- 6-254 ZILAIR SUITE COMBINED (DANUKALOV IN KHRAMOV 1971) FAMENNIAN TO TOURNAISIAN. THE ZILAIR HAS BEEN STUDIED THOUGH MUCH OF ITS THICKNESS AT 3 LOCALITIES, TWO OF WHICH AGREE (6-346 AND 347) AND ARE AVERAGED HERE. THE THIRD RESULT (186) HAS VERY HIGH INTERNAL DISPERSION. SELECTIVE THERMAL AND AF DEMAGNETIZATION. AN EARLIER STUDY 5-89 GAVE DIFFERENT POLE POSITIONS AND IS NOT INCLUDED IN THIS AVERAGE. ASSIGNED GEOLOGICAL AGE OF ROCK=345.00MY
- 6-255 YGNATYN AND KUCHUGUNUR SERIES (KAMYSEVA IN KHRAMOV 1971) TRIASSIC TO DEVONIAN. PREVIOUSLY ATTRIBUTED TO TERTIARY. K-AR AGE OF 352MY (CARBONIFEROUS-DEVONIAN BOUNDARY). UNIT WEIGHT TO 6 "GROUPS OF OUTCROPS" N=6. AREA 30 BY 40KM. EIGHT SITES BASALT, 4 SITES GABBRO-DOLERITE SHEETS. LOWER VILYUI AND MARKHA RIVERS. SEE 5-118. PREFERRED RADIOMETRIC AGE OF ROCK=352.00MY
- 6-257 ANGARA TRAP SILL (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) CARBONIFEROUS AGE "CONDITIONAL". INTRUDES ORDOVICIAN. SAMPLES UNIT WEIGHT N=703.



THREE LOCALITIES AT EACH 15-50M SAMPLED. SELECTIVE AF CLEANING 400 OE DOES NOT CHANGE DIRECTION. POLES AND DIRECTIONS ARE INCONSISTENT. PRESUMABLY THE INCLINATIONS SHOULD BE NEGATIVE. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY

6-258 ANGARA TRAP SILL. CARBONIFEROUS AGE "CONDITIONAL". TWO LOCALITIES SAMPLED THROUGH 30M. DIRECTIONS AND POLES ARE INCONSISTENT. PRESUMABLY THE INCLINATIONS OUGHT TO BE NEGATIVE. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY

6-260 URAL GREY LIMESTONE (SULTANAEV AND KHRAMOV IN KHRAMOV 1971) TOURNAISIAN. SPECIMENS UNIT WEIGHT N=8. ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY

6-263 BEREZOVSK SUITE COMBINED. LOWER VISEAN TO UPPER TOURNAISIAN. AVERAGE OF 6-252 AND 253. AN ARBITRARY ERROR OF 20 DEG IS ADDED. ASSIGNED GEOLOGICAL AGE OF ROCK=337.00MY

6-264 ARAUCARITE SUITE COMBINED. UPPER CARBONIFEROUS. AVERAGE OF 6-40,181,201 AND 239. N=4. ASSIGNED GEOLOGICAL AGE OF ROCK=302.50MY

6-265 AVILOV SUITE COMBINED. UPPER CARBONIFEROUS. AVERAGE OF 6-143 AND 179. ASSIGNED GEOLOGICAL AGE OF ROCK=286.00MY

6-266 TULA HORIZON COMBINED. LOWER VISEAN. AVERAGE OF 6-44 AND 183. AN ARBITRARY ERROR OF 10 DEG HAS BEEN ASSIGNED. SEE 6-349 FOR STRATIGRAPHIC NOTE. ASSIGNED GEOLOGICAL AGE OF ROCK=334.50MY

6-267 VISEAN SEDIMENTS COMBINED 1. AVERAGE OF 6-158, 159,160 AND 183 N=4. TIKHVIN, NEPOLCHI AND VYTEGRA REGIONS SOUTHEAST OF LAKES LADOGA AND ONEGA. ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY

6-268 DONBASS SEDIMENTS COMBINED. MIDDLE CARBONIFEROUS AVERAGE OF 6-213,214(=341),215,216,217 AND 220, N=6. THIS IS A SUMMARY VALUE OF RESULTS FROM BOTH THE NORTH AND SOUTH DONBASS AVAILABLE UP TO 1967. IT IS SUPERCEDED BY ENTRIES 6-340 AND 345. ASSIGNED GEOLOGICAL AGE OF ROCK=307.00MY

6-269 KAZAKH COMBINED. MIDDLE TO UPPER CARBONIFEROUS. AVERAGE OF 6-146,193,194,195,196 AND 197, N=6. ASSIGNED GEOLOGICAL AGE OF ROCK=301.00MY

6-270 KAZAKHSTAN COMBINED. LOWER CARBONIFEROUS. AVERAGE OF 6-198,199 AND 200, N=3. ASSIGNED GEOLOGICAL AGE OF ROCK=333.50MY

6-271 SOUTH URAL SEDIMENTS COMBINED. TOURNAISIAN. AVERAGE OF 6-47,163 AND 164, N=3. ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY

6-272 CENTRAL URAL SEDIMENTS COMBINED. LOWER CARBONIFEROUS. AVERAGE OF 6-156,157,189,209,210 AND 212. N=6. ENTRY 189 IS FROM THE WEST FLANKS, THE OTHERS FROM THE EAST FLANKS IN GENERAL REGION OF SVERDLOVSK. ASSIGNED GEOLOGICAL AGE OF ROCK=333.50MY

6-275 SEDIMENTS OF MINUSINSK BASIN COMBINED. LOWER CARBONIFEROUS. AVERAGE OF 6-112,113,168,204,301 AND 302 N=6. OLDER DATA THAT ARE NOW SUPERCEDED ARE LISTED IN 6-48,49,50,51,52,53,54,70 AND 114 AND ARE NOT INCLUDED. MALIVKIN (P.430 1973) GIVES THE FOLLOWING SUCCESSION. (1) VISEAN- BAINOVSK AND POZINSK SUITES (TOP), KRIVINSK, SOLOMENS, KOMARKOV AND SOGRINSK SUITES (MIDDLE) AND SAMOKHVAL SUITE (BOTTOM). (2) TOURNAISIAN- NADALTAISK (TOP), ALTAI (MIDDLE) AND BISTRYANSK (BOTTOM) SUITES. ASSIGNED GEOLOGICAL AGE OF ROCK=333.50MY

6-276 UPPER ANGARA RIVER COMBINED. LOWER TO MIDDLE CARBONIFEROUS. AVERAGE OF 6-208 AND 221. ASSIGNED GEOLOGICAL AGE OF ROCK=318.50MY

6-278 OKA-SERPUKHOV AND OKA BEDS COMBINED. UPPER VISEAN. N=4. AVERAGE OF 6-43,182,184 AND 250. SEE 6-349 FOR STRATIGRAPHIC NOTE. ASSIGNED GEOLOGICAL AGE OF ROCK=326.50MY

6-281 ISISMURRA FORMATION (LUCK 1973) VISEAN. SAMPLES FROM 5 SITES IN THE GREENLAND MEMBER (IGNIMPIITES) GAVE SCATTERED RESULTS THAT ARE AVERAGED HERE. SAMPLES FROM 1 SITE GAVE DIRECTIONS CLOSE TO PRESENT FIELD, FROM 2 OTHER SITES CLOSE TO PERMIAN FIELD. THESE ARE NOT INCLUDED IN THIS AVERAGE. ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY

6-282 VISEAN OF HUNTER VALLEY (IRVING 1966,LUCK 1973). LUCK REPORTS RESULTS FROM 8 SITES IN THE ISISMURRA FORMATION. ONE (J) IS MAGNETIZED PARALLEL TO THE PRESENT FIELD AND 2 (G,H) HAVE DIRECTIONS CLOSE TO THE PERMIAN FIELD WHICH HAS CAUSED OVERPRINTING IN THE HUNTER VALLEY (IRVING). IN THIS ENTRY THESE 3 SITES ARE REJECTED. THE OTHERS ARE COMBINED WITH THE 3 SITES OF ENTRY 6-60 GIVING

EACH UNIT WEIGHT N=8.  
ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY

6-283 SIBERIAN SEDIMENTS AND LAVAS (PECHERSKII IN KHRAMOV 1973) UPPER DEVONIAN TO LOWER PERMIAN. SAMPLES UNIT WEIGHT N=39. ONE EXPOSURE ON PEREVAL'NAYA RIVER. MAGNETIZATION PRE-FOLDING IN PART. PROBABLY PARTIALLY REMAGNETIZED IN CRETACEOUS. SUPERCEDES 6-191 AND 192.  
ASSIGNED GEOLOGICAL AGE OF ROCK=299.50MY

6-284 MAGNITOGORSK INTRUSIVE COMPLEX (DANUKALOV IN KHRAMOV 1973) MIDDLE TO UPPER CARBONIFEROUS. K-AR AGE OF 262MY. SAMPLES UNIT WEIGHT N=164. AF (800 OE) AND THERMAL CLEANING DID NOT CHANGE DIRECTIONS. TWENTY-TWO EXPOSURES IN GRANITES OF THE AKHUNOVO-KAFAGAISK INTRUSIVE MASSIF.  
ASSIGNED GEOLOGICAL AGE OF ROCK=301.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=262.00MY

6-285 AKHUNOVSK INTRUSIVE COMPLEX (DANUKALOV IN KHRAMOV 1973) MIDDLE TO UPPER CARBONIFEROUS. K-AR AGE OF 385MY WHICH IS DEVONIAN AND NOT CONSISTENT WITH GEOLOGICAL AGE CITED. UNIT WEIGHT TO GROUPS N=7. AF (800 OE) AND THERMAL CLEANING OF SELECTED SAMPLES DID NOT CHANGE DIRECTIONS. SEVEN ROCK GROUPS, 71 EXPOSURES OF GRANITE AND DIORITE IN THE KRASNINSK, PETROPAVLOVSK AND OSII-SHII BOR INTRUSIVE MASSIFS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=301.00MY

6-286 LOWER BALAKHONSK SUITE (APAFIN AND KIRILLOV SUMMARY IN KHRAMOV 1973) MIDDLE TO UPPER CARBONIFEROUS. REJECTED 90 PERCENT OF SAMPLES BECAUSE OF "REMAGNETIZATION" AND LOW INTENSITIES. SANDSTONES, ALEUROLITES AND ARGILLITES. (A) ALYKAEVSK AND MAZUROVSK FORMATIONS, 1000M THICKNESS, 24 SAMPLES, 2 EXPOSURES, DIRECTIONS ESTIMATED BY REMAGNETIZATION CIRCLE, MEAN 298, -57, GREY ROCKS. (B) MAZUROVSK FORMATION, BORE CORE 60M, 25 SAMPLES, SAMPLES UNIT WEIGHT N=49, AF CLEANING 600 OE, MEAN 294, -27. IN 6-286 RESULTS FROM THESE 2 STUDIES ARE AVERAGED GIVING SAMPLES UNIT WEIGHT N=49. THE ALYKAEVSK OVERLIES THE MAZUROVSK. SUPERCEDES 6-223 AND PRESUMABLY ALSO 6-108.  
ASSIGNED GEOLOGICAL AGE OF ROCK=301.00MY

6-287 DIAMOND(=ALMAZ) AND STONE(=KAMENSK) SUITES (OCHERTENKO AND SHEVLYAGIN IN KHRAMOV 1973) MOSCOVIAN. SPECIMENS UNIT WEIGHT N=19. SIX EXPOSURES IN PERVOMAIKAYA ANTICLINE, 10 LEVELS. AF CLEANING UP TO 1500 OE DID NOT CHANGE DIRECTIONS. MAGNETIZATION PRE-FOLDING. ARGILLITE AND ALEUROLITE IMPREGNATED WITH SIDERITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY

6-288 ANGARA RIVER TRAPS (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1973) CARBONIFEROUS AGE ASSUMED. SAMPLES UNIT WEIGHT. AF CLEANING (400 OE) OF SELECTED SAMPLES DOES NOT CHANGE DIRECTIONS. ONE EXPOSURE, ONE SILL INTERRUPTING DEVONIAN.  
ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY

6-289 ANGARA RIVER TRAPS. CARBONIFEROUS AGE ASSUMED. TWO SILLS INTRUSIVE INTO ORDOVICIAN. TWENTY-TWO EXPOSURES. SEE 6-288.  
ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY

6-290 SYENITE-PORPHYRY STOCK (KAMYSHEVA IN KHRAMOV 1973) CARBONIFEROUS AGE ASSUMED. COULD BE AS YOUNG AS TRIASSIC. SAMPLES UNIT WEIGHT. ONE EXPOSURE. AF CLEANING 80 OE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY

6-291 KHUDOLAZOVSK INTRUSIVE COMPLEX (MINIBAEV IN KHRAMOV 1973) LOWER CARBONIFEROUS. SPECIMENS UNIT WEIGHT N=56. THREE EXPOSURES. GABBRO DIORITE AND GABBRO DIABASE OF NORTHERN BUSKUNSK GROUP WHICH INTRUDE PEREZOVSK (LOWER CARBONIFEROUS) SUITE. ANOTHER RESULT FROM KHUDOLAZOVSK COMPLEX GIVEN IN 6-292.  
ASSIGNED GEOLOGICAL AGE OF ROCK=333.50MY

6-292 SOUTH URAL INTRUSIVE COMPLEXES (MINIBAEV SUMMARY RESULT IN KHRAMOV 1973) UPPER DEVONIAN TO LOWER CARBONIFEROUS. FOUR DETERMINATIONS EACH UNIT WEIGHT. GABBRO AND GABBRO-DIORITE (A) KHUDOLAZOVSK COMPLEX, LOWER CARBONIFEROUS, 2 EXPOSURES, 65 SAMPLES ALL N, MEAN 041, +61. (B) NURAMINO-MINDYAK COMPLEX, LOWER CARBONIFEROUS, 1 EXPOSURE, 17 SAMPLES ALL R, 226, -42. (C) FAIZULLINSK COMPLEX, UPPER DEVONIAN TO LOWER CARBONIFEROUS, 1 EXPOSURE, 15 SAMPLES, 204, -46. (D) UTLYKTASH COMPLEX, UPPER DEVONIAN TO LOWER CARBONIFEROUS, 1 EXPOSURE, 15 SAMPLES, 214, -41.  
ASSIGNED GEOLOGICAL AGE OF ROCK=340.50MY

6-293 MAGNITOGORSK INTRUSIVE COMPLEX (DANUKALOV IN KHRAMOV 1973) LOWER CARBONIFEROUS. K-AR AGES OF 266-299MY. UNIT WEIGHT TO EACH OF 5 ROCK GROUPS, 18 EXPOSURES. AF (800 OE) AND THERMAL CLEANING OF SELECTED SAMPLES DID NOT CHANGE DIRECTION. GRANO-SYENITE, DIORITE, GRANITE, GABBRO-DIORITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=333.50MY  
PREFERRED RADIOMETRIC AGE OF ROCK=282.00MY

6-294 BASALT, DIABASE AND PORPHYRITE (KARMANOVA IN KHRAMOV 1973) TOURNAISIAN ACCORDING TO FAUNA OF ADJACENT ROCKS. SAMPLES UNIT WEIGHT N=105. FOUR EXPOSURES. AF (300 OE) AND THERMAL (100 DEG C) PRODUCED LITTLE CHANGE IN DIRECTIONS. SUPERCEDES

- 6-163.  
ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY
- 6-295 SOUTHERN URAL SEDIMENTS (DANUKALOV IN KHRAMOV 1973) UPPER FAMENNTAN TO LOWER TOURNAISIAN. FIVE EXPOSURES ALONG SOLONCHATKA RIVER, 270M THICKNESS. ALEUROLITE, TUFF, TUFF-SANDSTONE, SHALE. ASSIGNED GEOLOGICAL AGE OF ROCK=345.50MY
- 6-296 SOUTH URAL SEDIMENTS AND IGNEOUS ROCKS. (DANUKALOV IN KHARAMOV 1973) EIFELIAN TO TOURNAISIAN. SAMPLES UNIT WEIGHT N=57. THICKNESS 780M, SPREAD 4KM, 57 BEDS, 23 EXPOSURES, SUONDAK RIVER. TUFFITE, TUFF, PORPHYRITE, DIABASE AND RED SHALE. ASSIGNED GEOLOGICAL AGE OF ROCK=353.50MY
- 6-297 TAIDONSK HORIZON (GONCHAROV IN KHARAMOV 1973) TOURNAISIAN. ONE EXPOSURE 12M THICKNESS, 8 BEDS. AF CLEANING (600 OE) OF 3 SPECIMENS GAVE 310, -58. DARK GREY LIMESTONE OF TUNGUS SYNCLINE. SUPERCEDES 6-162.  
ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY
- 6-298 OSTROG SUITE 3 (APARIN IN KHARAMOV 1973) VISEAN TO NAMURIAN. SAMPLES UNIT WEIGHT N=17. THREE EXPOSURES 1034M (WITH OVERLAPS) STUDIED. REMAGNETIZATION CIRCLES. GREY SANDSTONE, ALEUROLITE AND ARGILLITE. REPLACES 6-111.  
ASSIGNED GEOLOGICAL AGE OF ROCK=324.50MY
- 6-299 POD'YAKOVSK SUITE AND UPPER TOMSK HORIZON (APARIN IN KHARAMOV 1973) VISEAN. SAMPLES UNIT WEIGHT N=28. THICKNESS 277M. REMAGNETIZATION CIRCLES USED. GREY SANDSTONE, ALEUROLITE, TUFFITE, MARL AND LIMESTONE. SUPERCEDES 6-224.  
ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY
- 6-300 ABYSHEVSK AND PODONINSK SUITES (APARIN IN KHARAMOV 1973) "END OF FAMENNTAN TO BEGINNING OF TOURNAISIAN". SAMPLES UNIT WEIGHT N=6. FOUR EXPOSURES, 400M THICKNESS, 6 BEDS. MAY BE SECONDARY MAGNETIZATION. RED SANDSTONE, GREY ALEUROLITE, ARGILLITE AND TUFFITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=345.00MY
- 6-301 PODSINSK, BAINOVSK, YAMKINSK, SOLOMENSK AND KRIVINSK SUITES (APARIN IN KHARAMOV 1973) VISEAN. SAMPLES UNIT WEIGHT N=17. SEVEN EXPOSURES, 760M THICKNESS. SOURCE OF REMANENCE IS ALTERED ASH. RED AND GREY TUFFACEOUS SANDSTONE, ALEUROLITE AND TUFF. SUPERCEDES 6-114. SEE 6-275.  
ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY
- 6-302 NADALTAISK, ALTAI, BISTRYANSK AND TUBINSK SUITES (APARIN IN KHARAMOV 1973) CLOSE TO DEVONIAN-CARBONIFEROUS BOUNDARY. APPARENTLY FROM STROEGNT ZONE. THICKNESS 760M, 11 EXPOSURES. UNIT WEIGHT TO 23 INTERSECTIONS OF REMAGNETIZATION CIRCLES. MAGNETIZATION PRE-FOLDING. NADALTAISK, ALTAI AND BISTRYANSK ARE TOURNAISIAN AND TUBINSK IS FAMENNTAN, 132 SPECIMENS, 290, -62. SUPERCEDES 5-54. SEE 6-275 FOR STRATIGRAPHIC NOTE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=345.50MY
- 6-303 FLAMANVILLE GRANITE (VAN DER VOO AND KLOETWIJK 1972) CARBONIFEROUS AS SUGGESTED BY GEOLOGICAL EVIDENCE. DATED BY "PLEOCHROIC HALOS" AS 300-340MY.  
ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY  
PREFERRED RADIOMETRIC AGE OF ROCK=320.00MY
- 6-305 LOWER LIMESTONE SHALES ZONES Z-C1 (MCAULAY AND MORRIS 1971) TOURNAISIAN. UNIT WEIGHT TO SITES N=7. DIRECTIONS CLOSE TO PERMIAN FIELD AND MAY BE REMAGNETIZED.  
ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY
- 6-307 HOPEWELL GROUP (ROY AND PARK 1974) UPPER MISSISSIPPIAN. RESULT BASED ON SAMPLES FROM 13 SITES THROUGH 550M THICK SINGLE SECTION. MARINGOUIN AND SHEPODY FORMATIONS. AT MANY SITES ONE DRM AND TWO CRM'S (CALLED A AND B) WERE ISOLATED BY CHEMICAL LEACHING AND THERMAL DEMAGNETIZATION. THE CRM'S RESIDE IN THE RED PIGMENT AND THE DRM IS CARRIED BY DETRITAL SPECULAR HEMATITE. ALL MAGNETIZATIONS ARE APPROXIMATELY PARALLEL IRRESPECTIVE OF SIGN. DRM IS THE OLDEST AND CRM(A) IS THE YOUNGEST. A FOLD TEST SHOWS THE ENTIRE PROCESS OF MAGNETIZATION OCCUPIED LESS THAN 35MY. CRM(A) IS NORMAL AT 6 SITES AND REVERSED AT 2 SITES. THE CRM(B) AND DRM MAGNETIZATIONS ARE ALWAYS REVERSED. SITES ARE ENTERED IN COLUMN (B) AND GIVEN UNIT WEIGHT THROUGHOUT. ENTRIES 6-308 AND 309 GIVE COMPOSITE MAGNETIZATIONS OF WHICH 6-309 IS THE BEST OVERALL SUMMARY. ENTRIES 6-308, 332 AND 333 GIVE THE THREE MAGNETIZATIONS SEPARATELY. REVERSALS ARE TRAPPED WITHIN SINGLE SPECIMENS. ENTRY 6-307 IS CRM(A). RED BEDS. SEE 6-308, 309, 332 AND 333.  
ASSIGNED GEOLOGICAL AGE OF ROCK=329.50MY
- 6-308 HOPEWELL GROUP. DRM PLUS CRM(B), 25 SITES. SEE 6-307.  
ASSIGNED GEOLOGICAL AGE OF ROCK=329.50MY
- 6-309 HOPEWELL GROUP. DRM PLUS CRM(B) PLUS CRM(A), 27 SITES. REGARDED BY AUTHORS AS BEST OVERALL ESTIMATE OF AVERAGE FIELD DIRECTION. SEE 6-307.  
ASSIGNED GEOLOGICAL AGE OF ROCK=329.50MY

- 6-310 WACKERFIELD DYKE (TARLING, MITCHELL AND SPALL 1973) K-AR WP AGE 305 (ERROR 5) MY. SPECIMENS UNIT WEIGHT N=16. DIRECTIONS AND AGE SUGGEST IT IS PART OF WHIN SILL IGNEOUS PHASE. PREFERRED RADIOMETRIC AGE OF ROCK=305.00MY
- 6-311 ARENDAL DIABASE DYKES (HALVORSEN 1972) PERMO-CARBONIFEROUS. AGE ASSIGNED BY MAGNETIZATION DIRECTIONS. RESULTS OBTAINED BY AVERAGING THE VALUES FROM 8 SITES AT 4 LOCATIONS LISTED IN TABLE 2 OF ORIGINAL GIVING SITES UNIT WEIGHT N=8. AUTHOR ARGUES THAT AT 4 OF THE SITES THE ROCKS HAVE BEEN PARTIALLY REMAGNETIZED AT LATER TIME. ASSIGNED GEOLOGICAL AGE OF ROCK=285.00MY
- 6-312 DUBLIN LIMESTONE (MORRIS 1972) CARBONIFEROUS. SITES UNIT WEIGHT. CONGLOMERATE TEST SHOWS MAGNETIZATION TO BE SECONDARY, BELIEVED TO DATE FROM THE PERMO-CARBONIFEROUS AND TO HAVE BEEN ACQUIRED BEFORE FOLDING. TWO DIRECTIONS ATTRIBUTED TO RELATIVE ROTATION. ENTRY 6-312 DUBLIN AREA ROCKS REFERRED TO ZONES C-1, C-2, S AND D. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY
- 6-313 CARBONIFEROUS LIMESTONE. SOUTH CENTRAL IRELAND ZONES Z TO C-1. SEE 6-312. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY
- 6-314 EIRE LIMESTONE (MORFIS 1971) CARBONIFEROUS. RESULT BASED ON SAMPLES FROM 20 SITES IN Z ZONE OF LOWER LIMESTONE. THERMAL DEMAGNETIZATION (450 DEG C) YIELDED WHAT IS CONSIDERED A LOWER CARBONIFEROUS DIRECTION (6-314). THIS "PRIMARY" MAGNETIZATION HAS HIGHER BLOCKING TEMPERATURE THAN 6-315 WHICH IS CONSIDERED SECONDARY. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY
- 6-315 EIRE LIMESTONE (MORFIS 1971). AF DEMAGNETIZATION (600 OE) REVEALED THIS MAGNETIZATION PARALLEL TO PERMO-CARBONIFEROUS FIELD AND IS CONSIDERED SECONDARY. APPARENTLY SECONDARY MAGNETIZATION HAS HIGHER COERCIVITY THAN THE "PRIMARY" ONE. SEE 6-314. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY
- 6-316 PAGANZO GROUP LAGARES FORMATION (THOMPSON 1972) CARBONIFEROUS. CLEANED AT 450 DEG C. THESE ARE THE FIRST RESULTS FROM LOWER PAGANZO. COLLECTIONS FROM BUM-BUM, NORTHWESTERN ARGENTINA. SEE 6-316 AND 7-278. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY
- 6-317 MOSCOW STAGE DONBASS COMBINED. MOSCOVIAN. AVERAGE OF 152, 153 AND 287, N=3. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-318 LA COLINA FORMATION, BASALT FROM LAS TORRES (THOMPSON 1972), INCLUDES DATA OF EMLETON 1970 AND IS UPDATE OF 6-242. UPPER CARBONIFEROUS TO PERMIAN. K-AR AGE OF 295MY. POLARITY DESIGNATED MIXED IN ORIGINAL AND RATIO ASSIGNED FROM 6-242. SEE 7-278. ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY PREFERRED RADIOMETRIC AGE OF ROCK=295.00MY
- 6-319 LA COLINA FORMATION, PAGANZO VILLAGE (THOMPSON 1972) UPPER CARBONIFEROUS TO PERMIAN. CLEANED 300 DEG C. SEE 7-278. ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY
- 6-320 LA COLINA FORMATION, LOS COLORADOS (THOMPSON 1972) UPPER CARBONIFEROUS TO PERMIAN. INCLUDES DATA OF EMLETON 1970. PRESUMABLY SUPERCEDES 6-228. CLEANED AT ABOUT 500 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY
- 6-321 LA COLINA FORMATION, LOS COLORADOS (THOMPSON 1972) UPPER CARBONIFEROUS TO PERMIAN. MAY BELONG TO UPPER PAGANZO. CLEANED AT 350 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY
- 6-322 LA COLINA COMBINED 2. PERMO-CARBONIFEROUS. AVERAGE OF 6-318, 319, 320 AND 321, N=4. THE RESULTS COMBINED IN THIS ENTRY SUPERCEDE 6-227, 228, 231, 237 AND 242. ASSIGNED GEOLOGICAL AGE OF ROCK=285.00MY
- 6-323 UPPER DEVONIAN AND LOWER CARBONIFEROUS OF SOUTH URALS COMBINED. AVERAGE OF POLES IN ENTRIES 6-189, 210, 291, 292, 293, 294, 295 AND 296, N=8. ASSIGNED GEOLOGICAL AGE OF ROCK=340.50MY
- 6-324 QUARTZ DIORITE DYKES (BYLUND 1974). DIRECTION INDICATES UPPER CARBONIFEROUS AGE. RESULT BASED ON 30 DYKES, EACH UNIT WEIGHT (N=13), COLLECTED OVER 120KM. CLEANING IN 200 TO 300 OE. PRESUMABLY COMPLIMENTS 7-165. ASSIGNED GEOLOGICAL AGE OF ROCK=340.50MY
- 6-328 BENTONG GROUP AND SINGA FORMATION (MCELHINNY, HAILE AND CRAWFORD 1974) LOWER CARBONIFEROUS. SAMPLES UNIT WEIGHT N=8, FROM LANGKAWI ISLAND AND CENTRAL MALAYA ABOUT 300KM APART. POSITIVE FOLD TEST. RED MUDDY SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=335.00MY

- 6-329 AZOV REGION SEDIMENTS (KOMISSAROVA IN KHRAMOV 1971) NAMURIAN. SAMPLES UNIT WEIGHT N=36. THICKNESS OF 630M ALONG KAL'MIUS RIVER, 30 BEDS (28R, 2N). SANDSTONES AND LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=323.50MY
- 6-330 AZOV REGION SEDIMENTS (KOMISSAROVA IN KHRAMOV 1971) VISEAN. SAMPLES UNIT WEIGHT N=50. SAMPLES FROM RIVERS VOLNOVAKMA AND KAL'MIUS THROUGH THICKNESS OF 200M, 42 BEDS (38R, 4N). SANDSTONES AND LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY
- 6-331 AZOV REGION SEDIMENTS (KOMISSAROVA IN KHRAMOV 1971) TOURNAISIAN. SAMPLES UNIT WEIGHT N=25. THICKNESS OF 650M ALONG KAL'MIUS AND VOLNOVAKMA RIVERS, 21 BEDS. REPEAT OF 6-207. GREY LIMESTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=341.00MY
- 6-332 HOPEWELL GROUP. UPPER MISSISSIPPIAN. CRM (8). THIRTEEN SITES, N=13. SEE 6-307. ASSIGNED GEOLOGICAL AGE OF ROCK=329.50MY
- 6-333 HOPEWELL GROUP. UPPER MISSISSIPPIAN. DRM. TWELVE SITES, N=12. SEE 6-307. ASSIGNED GEOLOGICAL AGE OF ROCK=329.50MY
- 6-334 ALMAZ (=DIAMOND) SUITE (KOMISSAROVA AND KHRAMOV IN KHRAMOV 1971) MOSCOVIAN. SIX BEDS SAMPLED THROUGH 400M IN MIKHAILOVSKAYA RAVINE. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-215. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-335 KAMENSK SUITE (KOMISSAROVA AND KHRAMOV IN KHRAMOV 1971) MOSCOVIAN. SIXTEEN BEDS SAMPLED THROUGH 500M IN MIKHAILOVSKAYA RAVINE. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-216. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-336 BELAKALITVENSU SUITE (KOMISSAROVA AND KHRAMOV IN KHRAMOV 1971) BASHKIRIAN. SEVENTEEN BEDS (2N, 15R) THROUGH 400M IN MIKHAILOVSKAYA RAVINE. SILTSTONES, LIMESTONES AND SANDSTONES. SUPERCEDES 6-217. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-337 NAGOL'CHENSK SUITE (KOMISSAROVA AND KHRAMOV IN KHRAMOV 1971) BASHKIRIAN. THIRTEEN BEDS (2N, 11R) THROUGH 800M IN MIKHAILOVSKAYA RAVINE. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-220. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-338 NAGOL'CHENSK SUITE (TRETJAK IN KHRAMOV 1971) BASHKIRIAN. FOUR BEDS. MIKHAILOVSKAYA RAVINE. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-220. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-339 CHISTYAKOVSK SUITE (KHRAMOV AND KOMISSAROVA IN KHRAMOV 1971) BASHKIRIAN. SEVEN BEDS (5N, 2R) THROUGH 500M IN MIKHAILOVSKAYA RAVINE. LIMESTONES, SILTSTONES AND SANDSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-340 MOSCOVIAN AND BASHKIRIAN OF MIKHAILOVSKAYA RAVINE OF SOUTHERN DONPASS COMBINED (KHRAMOV 1971). AVERAGE OF 7 DETERMINATIONS EACH UNIT WEIGHT 6-251, 334, 335, 336, 337, 338 AND 339. PRESUMABLY THE DATA OF 6-153 ARE INCLUDED IN THIS AVERAGE. FURTHER DATA FROM THE SOUTH DONPASS GIVEN IN KHRAMOV 1973 (6-287) IS NOT INCLUDED IN THIS AVERAGE. PRESUMABLY EQUIVALENT IN PART OF 6-247. ASSIGNED GEOLOGICAL AGE OF ROCK=307.00MY
- 6-341 LISICHANSK SUITE (KOMISSAROVA AND KHRAMOV 1971) MOSCOVIAN. FIFTEEN BEDS (4N, 11R) THROUGH 500M ALONG KALITVA RIVER. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-214. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-342 KAMENSK SUITE (KOMISSAROVA AND KHRAMOV 1971) MOSCOVIAN. SIX BEDS SAMPLED THROUGH 300M. ALONG KALITVA RIVER. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-216. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-343 BELAKALITVENSU SUITE (KOMISSAROVA IN KHRAMOV 1971) BASHKIRIAN. SEVEN BEDS (5R, 2N) THROUGH 300M SAMPLED ALONG KALITVA RIVER. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-217. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-344 SMOLIANINOVSK SUITE (KOMISSAROVA IN KHRAMOV 1971) BASHKIRIAN. SIX BEDS THROUGH 300M ALONG KALITVA RIVER SAMPLED. LIMESTONES, SILTSTONES AND SANDSTONES. SUPERCEDES 6-213. ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY
- 6-345 MOSCOVIAN AND BASHKIRIAN OF KALITVA RIVER OF THE NORTHERN DONPASS COMBINED (KHRAMOV 1971). AVERAGE OF 4 DETERMINATIONS EACH UNIT WEIGHT 6-341, 342, 343 AND 344. PRESUMABLY THE DATA OF 6-152 ARE INCLUDED IN THIS AVERAGE. ASSIGNED GEOLOGICAL AGE OF ROCK=307.00MY



- 6-346 ZILAIR SUITE. FAMENNIAN TO TOURNAISIAN. THIRTEEN OUTCROPS THROUGH 50CM ON SAMARA RIVER. SAMPLES UNIT WEIGHT N=31 (13N,18P). SEE 6-254. ASSIGNED GEOLOGICAL AGE OF ROCK=345.00MY
- 6-347 ZILAIR SUITE. FAMENNIAN TO TOURNAISIAN. FIFTEEN OUTCROPS THROUGH 40CM ON SAMARA RIVER. SAMPLES UNIT WEIGHT N=23. SEE 6-254. ASSIGNED GEOLOGICAL AGE OF ROCK=345.00MY
- 6-348 ZILAIR SUITE. FAMENNIAN TO TOURNAISIAN. SAMPLES UNIT WEIGHT N=36. FIFTEEN OUTCROPS THROUGH 400M ON SAMARA RIVER. SEE 6-254. ASSIGNED GEOLOGICAL AGE OF ROCK=345.00MY
- 6-349 VISEAN OF LENINGRAD AND TIKHVIN AREA COMBINED 2. AVERAGE OF RESULTS FROM TULA, OKA AND SERPUKHOV BEDS 6-43,44,158,159,160,182,183,184,185,250, N=10. ACCORDING TO NALIVKIN (1973) THE VISEAN OF THE RUSSIAN PLATFORM HAS THREE DIVISIONS. THE LOWEST OR YASNOPOLYANIAN INCLUDES THE TULIAN, COAL MEASURES AND BOPROVKIAN. THE MIDDLE OR OKIAN INCLUDES THE MIKMAILOVKIAN AND ALEKSINIAN. THE UPPER OR SERPUKHOVIAN INCLUDES THE STESHEVIAN AND TARUSSIAN. ASSIGNED GEOLOGICAL AGE OF ROCK=331.00MY
- 6-350 CRACOE REEFS OF CRAVEN (TURNER AND TARLING 1975) UPPER VISEAN, ZONE D1. SITES UNIT WEIGHT N=3. CLEANING 200 DEG C. LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=326.50MY
- 6-351 PENDLESIDE LIMESTONE OF THE CRAVEN BASIN (TURNER AND TARLING 1975) UPPER VISEAN, ZONES D1 AND D2. SITES GIVEN UNIT WEIGHT N=6. CLEANING 200 DEG C. ARGILLACEOUS LIMESTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=326.50MY
- 6-352 BOLLANDOCERAS HODDERENSE BEDS, NEAR CLITHEROE (TURNER AND TARLING 1975) MIDDLE VISEAN ZONE S2. SITES UNIT WEIGHT N=4. CLEANING 200 DEG C. LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=330.00MY
- 6-353 SALTHILL REEF-KNOLLS NEAR CLITHEROE (TURNER AND TARLING 1975) LOWER VISEAN, ZONES C2 AND S1. SITES UNIT WEIGHT N=8. CLEANING 200 DEG C. PALE LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=334.50MY
- 6-354 CHATBURN LIMESTONE NEAR CLITHEROE (TURNER AND TARLING 1975) UPPERMOST TOURNAISIAN AND LOWERMOST VISEAN, ZONES C1 AND C2. SITES UNIT WEIGHT N=6. CLEANING 200 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=337.00MY
- 6-355 LIMESTONE OF CRAVEN BASIN COMBINED (TURNER AND TARLING 1975) SPANS UPPERMOST TOURNAISIAN AND MOST OF VISEAN. AVERAGE OF ENTRIES 6-351 GIVING UNIT WEIGHT TO SITES N=24. THE VISEAN GREAT SCAP LIMESTONE FROM THE STABLE ASKRIGG BLOCK TO THE NORTH OF CRAVEN GAVE SCATTERED DIRECTIONS. ASSIGNED GEOLOGICAL AGE OF ROCK=333.50MY
- 6-356 KASHIRA HORIZON COMBINED. MIDDLE OF THE MIDDLE CARBONIFEROUS. AVERAGE OF ENTRIES 6-148, 149 AND 186, N=3. ASSIGNED GEOLOGICAL AGE OF ROCK=307.00MY
- 6-357 VEREYA HORIZON COMBINED. MOSCOVIAN. AVERAGE OF 6-150, 151, 187 AND 222, N=4. ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY
- 6-358 TRAP-SILLS OF ANGARA RIVER COMBINED. CARBONIFEROUS? MEAN OF ENTRIES 6-257, 258, 288 AND 289, N=4. ASSIGNED GEOLOGICAL AGE OF ROCK=312.50MY
- 6-359 ZILAIR SUITE. FAMENNIAN TO TOURNAISIAN. SEE NOTE 5-89 IN ISSUE 2. ASSIGNED GEOLOGICAL AGE OF ROCK=345.00MY
- 7-204 DONBASS RED BEDS. LOWER PERMIAN. SEE NOTE 6-180. (P.88 OF ISSUE 1). PRESUMABLY SUPERCEDED BY 7-235. ASSIGNED GEOLOGICAL AGE OF ROCK=26J.00MY
- 7-209 REOBEDS EGED-PUSZTA MECSEK (KOTASEK, KRS AND JAMBOR 1969) PERMIAN. THERMAL CLEANING 150 DEG C. ROCK FROM TWO OTHER LOCALITIES BELIEVED TO BE REMAGNETIZED DUE TO WEATHERING. ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY
- 7-210 ERUPTIVES KUPAMINSKII RANGE (SHOLPO AND ROSSINOV 1971) MIDDLE CARBONIFEROUS TO LOWER TRIASSIC. MEAN OF 3 RESULTS GIVEN IN ORIGINAL. PROVISIONALLY PLACED IN "A". ASSIGNED GEOLOGICAL AGE OF ROCK=273.50MY
- 7-211 CUTLER FORMATION (GOSE AND HELSLEY 1972) LOWER PERMIAN. SECTION SAMPLED "PROBABLY RANGES FROM MIDDLE WOLFCAMPIAN TO MIDDLE LEONARDIAN". THICKNESS SAMPLED 200M. RESULTS ARRANGED INTO 31 "LEVELS" EACH GIVEN UNIT WEIGHT N=31. THERMAL

- GNETIZATION. RED SEDIMENTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY
- 7-212 ELEPHANT CANYON FORMATION (GOSE AND HELSLEY 1972) LOWER PERMIAN (LOWER WOLFECAMPIAN). UNIT WEIGHT TO SAMPLES N=28. SAMPLED 15M THICKNESS. THERMAL CLEANING 250 DEG C. RED SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY
- 7-215 CUTLER FORMATION COMPINED 2. LOWER PERMIAN. AVERAGE OF 7-97, 177 AND 211, N=3. ENTRIES 7-44 AND 45 ARE B DATA AND ARE NOT INCLUDED. ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY
- 7-216 BLACK FOREST PFALZEWALD AND ODERWALD (KONRAD AND NAIRN 1972) GENERALLY REGARDED AS ROTLIEGENDES (OR LOWER PERMIAN). SITES UNIT WEIGHT N=18. SPREAD OVER 100KM. THERMAL (550 DEG C) AND AF (77 TO 150 DE) CLEANING. RED SEDIMENTS, EXTRUSIVES AND INTRUSIVES. ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY
- 7-217 SCHOPFHEIM BASIN REDBEDS (KONRAD AND NAIRN 1972) PERMIAN. THICKNESS 100M. THERMAL CLEANING 500 DEG C. POLE DIFFERS FROM EXPECTED PERMIAN POSITION AND AUTHORS REGARD THIS AS DUE TO FAILURE TO MEAN OUT NON-DIPOLE COMPONENTS. SITES UNIT WEIGHT N=5. RED SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY
- 7-219 DONLAP SUITE MANGYSHLAK PENINSULA (SLAUCITAIS IN KHRAMOV 1971) UPPER PERMIAN TO INDUAN. THICKNESS 550M. STORAGE AND REDEPOSITION TESTS. SEDIMENTS OF KARATAU MOUNTAINS. ASSIGNED GEOLOGICAL AGE OF ROCK=230.00MY
- 7-221 SUKHONA AND NIZHNYUSTINSK SUITES (KHARAMOV AND POGARSKAYA IN KHARAMOV 1971) TATARIAN. SAMPLES UNIT WEIGHT. NUMEROUS LEVELS SAMPLED AT 10 OUTCROPS ALONG SUKHONA RIVER. STORAGE AND AF DEMAGNETIZATION TESTS. RED AND PINK MARLS. SUPERCEDES 7-189. ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY
- 7-222 SEVERODVINA (=NORTH DVINA) SUITE (KHARAMOV AND POGARSKAYA IN KHARAMOV 1971) UPPER TATARIAN. NUMEROUS BEDS AT 15 OUTCROPS ALONG DVINA AND SUKHONA RIVERS. AGGREGATE THICKNESS 300M. THREE SEPARATE DETERMINATIONS AND AVERAGE GIVEN HERE N=3. STORAGE AND AF TESTS. RED TO BROWN CLAYS AND MARLS. EXTENDS AND SUPERCEDES 7-22. ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY
- 7-224 OTPAN SUITE (SLAUCITAIS QUOTED IN KHARAMOV 1971) KAZANIAN. UNIT WEIGHT TO SAMPLES N=16. THICKNESS 200M, 16 BEDS. STORAGE TESTS. RED SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=235.00MY
- 7-225 AMANPULAK SUITE (SLAUCITAIS IN KHARAMOV 1971) TATARIAN. UNIT WEIGHT TO SAMPLES N=55. THICKNESS 300M, 55 BEDS. REDBEDS OF TUARKYR RIDGE. ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY
- 7-226 NERSK SUITE (SLAUCITAIS IN KHARAMOV 1971) TATARIAN. THICKNESS 200M, 16 BEDS, KEL'TER RIVER. STORAGE TESTS. SANDSTONES AND SILTSTONES. SUPERCEDES 7-192. ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY
- 7-227 DRONOVSK SUITE (TRETIAK AND KHARAMOV SUMMARY IN KHARAMOV 1971) KAZANIAN. THIS IS A PROVISIONAL AGE ASSIGNMENT. ITS AGE LIMITS ARE SAKMIFIAN TO LOWER TRIASSIC. FOUR DETERMINATIONS EACH UNIT WEIGHT N=4 FROM 23 BEDS AT 6 OUTCROPS. THICKNESS 100M. DIRECTION ESTIMATED BY INTERSECTION OF REMAGNETIZATION CIRCLES. SUPERCEDES 7-146. ASSIGNED GEOLOGICAL AGE OF ROCK=235.00MY
- 7-228 AMANAK, BOL'SHEKINEL' AND SOKSK SUITES (KHARAMOV IN KHARAMOV 1971) LOWER TATARIAN TO UPPER KAZANIAN. AVERAGE OF 3 DETERMINATIONS, N=3. SIX OUTCROPS AND 44 BEDS SAMPLED NEAR THE BUGURUSLAN RIVER OF THE TRANSVOLGA REGION. THICKNESS 240M. STORAGE TESTS. REDBEDS. SUPERCEDES 7-191. ASSIGNED GEOLOGICAL AGE OF ROCK=231.00MY
- 7-229 LOWER TATARIAN AND UPPER KAZANIAN REDBEDS (MOLOSTOVSKY IN KHARAMOV 1971). THIRTEEN OUTCROPS. AGGREGATE THICKNESS SAMPLED 500M. STORAGE TESTS. SOUTH URALS. ASSIGNED GEOLOGICAL AGE OF ROCK=231.00MY
- 7-230 KAZANIAN REDBEDS (MOLOSTOVSKY IN KHARAMOV 1971) KAZANIAN. SAMPLES UNIT WEIGHT N=68. STORAGE AND REPRECIPITATION EXPERIMENTS. BASHKIRIA. ASSIGNED GEOLOGICAL AGE OF ROCK=235.00MY
- 7-231 LOWER TATARIAN AND UPPER KAZANIAN REDBEDS, RIVER KAMA (KHARAMOV AND KARMANOVA IN KHARAMOV 1971). THIS RESULT IS AN AVERAGE OF 5 DETERMINATIONS EACH GIVEN UNIT WEIGHT N=5. IN EACH DETERMINATION A THICKNESS OF 40 TO 90CM SAMPLED. SAMPLES OBTAINED FROM 13 LOCALITIES. AF DEMAGNETIZATION AND STORAGE TESTS. ASSIGNED GEOLOGICAL AGE OF ROCK=231.00MY



- 7-232 UFIMIAN REDBEDS (KHRAMOV AND MOLOSTOVSKY IN KHRAMOV 1971) UPPER PERMIAN. THREE DETERMINATIONS EACH UNIT WEIGHT. A TOTAL OF 92 BEDS FROM 9 LOCALITIES SAMPLED THROUGH 212M THICKNESS, STORAGE TESTS. SUPERCEDES 7-36.  
ASSIGNED GEOLOGICAL AGE OF ROCK=238.00MY
- 7-233 LOWER UFIMIAN REDBEDS (KHRAMOV IN KHRAMOV 1971) UPPER PERMIAN. THICKNESS 20M, 6 BEDS, 1 LOCALITY. STORAGE TESTS. SUPERCEDES 7-35.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY
- 7-234 LOWER PETCHORIAN SUB-SUITE (SLAUCITAIS IN KHRAMOV 1971) KAZANIAN. NINE BEDS THROUGH 70M THICKNESS. ALONG RIVER SYNVA, PETCHORA REGION. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY
- 7-235 CARBONATE-SALIFEROUS SUITES (TRETIK AND KHRAMOV SUMMARY IN KHRAMOV 1971) UPPER ASSELIAN STAGE, LOWER PERMIAN. FOUR DETERMINATIONS, EACH UNIT WEIGHT N=4, 52 BEDS. STATISTICS BASED ON INTERSECTIONS OF REMAGNETIZATION CIRCLES. RED CLAYS AND SILTSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=273.00MY
- 7-236 DONBASS CUPRIFEROUS SANDSTONE SERIES COMBINED (KHRAMOV AND TRETIK IN KHRAMOV 1971) LOWER PERMIAN ASSELIAN STAGE. COMBINATION OF NINE RESULTS FROM THE SOUTHERN AND NORTHERN PARTS OF DONBASS LISTED IN KHRAMOV (1971) GIVING EACH UNIT WEIGHT N=9. SAMPLES SPAN MUCH OF ENTIRE THICKNESS OF 1000M. NORMAL SAMPLES CONFINED TO 15M. NUMEROUS LEVELS SAMPLED. SOME OF DATA IN 7-204 IS INCLUDED, AND THIS ENTRY AND 7-235 PRESUMABLY SUPERCEDE 7-204. SEE 7-308 AND 309.  
ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY
- 7-237 KIIMA SUITE DAHEZKAZGAN DEPRESSION (RUSSINOV AND SHOLPO QUOTED IN KHRAMOV 1971) LOWER PERMIAN. SAMPLES UNIT WEIGHT N=55. FOUR OUTCROPS, 27 BEDS. REDBEDS OF EAST KAZAKHSTAN.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY
- 7-238 TATARIAN UNDIFFERENTIATED (FAUSTOV IN KHRAMOV 1971). SAMPLED THROUGH 120M OVER 65KM. SELECTIVE AF CLEANING UP TO 500 OF UNSUCCESSFUL. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY
- 7-239 LOWER TATARIAN SUBSTAGE (FAUSTOV IN KHRAMOV 1971). UNIT WEIGHT TO SAMPLES N=19. ABOUT 130M THICKNESS SAMPLED. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=228.50MY
- 7-240 KAZANIAN STAGE (FAUSTOV IN KHRAMOV 1971). SAMPLES FROM 125M THICKNESS OVER 40KM. SELECTIVE AF DEMAGNETIZATION TO 200 OF UNSUCCESSFUL. REDBEDS AND MARINE BEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=235.00MY
- 7-241 LOWER TATARIAN (WITH SOME KAZANIAN) COMBINED 1. N=8. AVERAGE OF 7-26, 27, 28, 193, 228, 229, 231, 239. 228 AND 229 CONTAIN SOME KAZANIAN SAMPLES. REDBEDS OF KAMA AND VIATKA REGIONS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=233.50MY
- 7-242 UPPER TATARIAN COMBINED 1. N=7. AVERAGE OF 7-22, 23, 24, 186, 187, 188, 222. KAMA AND VIATKA REGIONS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY
- 7-243 UPPER KAZANIAN SUBSTAGE (BORONIN AND BURCV IN KHRAMOV 1971). FOUR OUTCROPS ALONG KAMA RIVER, 73 BEDS. UNIT WEIGHT TO SAMPLES N=175. THICKNESS 70M, SAMPLED OVER 70KM. REDBEDS, GREY LIMESTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY
- 7-244 UPPER KAZANIAN SUBSTAGE (BORONIN AND BURCV IN KHRAMOV 1971). SAMPLES UNIT WEIGHT N=626. SAMPLED 260 BEDS THROUGH 100M THICKNESS OVER 150KM. REDBEDS AND GREY LIMESTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY
- 7-245 LOWER KAZANIAN SUBSTAGE (BORONIN AND BURCV IN KHRAMOV 1971). SAMPLES UNIT WEIGHT N=27. ELEVEN BEDS AT 3 LOCALITIES SAMPLED THROUGH 70M THICKNESS. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=237.50MY
- 7-246 KAZANIAN STAGE COMBINED 2. AVERAGE OF 7-32, 33, 156, 224, 230, 240, 243, 244 AND 245, N=9. REDBEDS. SUPERCEDES 7-34. ENTRY 7-234 WHICH IS FROM A MORE NORTHERLY LOCALITY, GIVES DIVERGENT DIRECTIONS AND IS B DATA. IT IS THEREFORE NOT INCLUDED.  
ASSIGNED GEOLOGICAL AGE OF ROCK=235.00MY
- 7-247 UPPER UFIMIAN SUBSTAGE 4 (BORONIN AND BURCV IN KHRAMOV 1971) UPPER PERMIAN. SAMPLES UNIT WEIGHT N=70. SAMPLED THROUGH 70M THICKNESS AT 2 LOCALITIES. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=239.00MY
- 7-248 KLINTAIGA SUITE (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) LOWER PERMIAN. SAMPLES UNIT WEIGHT N=37. SAMPLES FROM 4 BEDS THROUGH 15M THICKNESS. TUFFITES AND CARBONACEOUS TUFFITES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY

7-249 UFIMIAN STAGE COMBINED 2. UPPER FERMIAN. AVERAGE OF 7-35, 232, 233 AND 247, N=4. PERCEDES OF VIATKA AND KAMA REGION. SUPERCEDES 7-37.  
ASSIGNED GEOLOGICAL AGE OF ROCK=239.00MY

7-250 TATARIAN UNDIFFERENTIATED COMBINED. AVERAGE OF POLES IN 7-30, 157, 221, 225, 238 AND 264, N=6. THIS IS AN INFORMAL GROUPING OF RESULTS FROM THE TATARIAN THAT HAVE OTHERWISE NOT BEEN COMBINED IN THIS LIST.  
ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY

7-252 OTHER LOWER PERMIAN OF DONBASS COMBINED. AVERAGE OF 7-38, 139 AND 140, N=3. THIS IS AN ARBITRARY COMBINATION OF LOWER PERMIAN RESULTS FROM DONBASS THAT OTHERWISE HAVE NOT BEEN GROUPED TOGETHER IN THIS LIST. RED SEDIMENTS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY

7-253 MAUCHLINE COMBINED. PERMIAN. AVERAGE OF 7-16 AND 17. RED SEDIMENTS AND LAVAS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY

7-255 UPPER TATARIAN REDBEDS (BUROV AND BORONIN IN KHRAMOV 1973). UNIT WEIGHT TO SPECIMENS N=17. SEVEN LEVELS FROM VIATKA HORIZON, 6M THICKNESS. AF CLEANING 400 OE. VIATKA HORIZON IS THE BOUNDARY OF THE TATARIAN WITH THE LOWER TRIASSIC.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-256 LOWER TATARIAN REDBEDS (BUPOV, BORONIN AND KHRAMOV SUMMARY RESULT IN KHRAMOV 1973). SAMPLES UNIT WEIGHT N=30. MEAN OF 2 DETERMINATIONS. (A) NIZHNEUSTINSK SUITE, 1 EXPOSURE, 18M THICKNESS, 19 BEDS, 19 SAMPLES, 238, -42, AF DEMAGNETIZATION 400 OE. CLAY, MARL AND SANDSTONE. (B) 1 EXPOSURE, 80M THICKNESS, 11 BEDS, 11 SAMPLES, 211, -42. CINNAMON-RED CLAY. (A) AND (B) NEAR PECHISHCHA VILLAGE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=228.50MY

7-257 UPPER TATARIAN REDBEDS (SUMMARY RESULT IN KHRAMOV 1973). SAMPLES UNIT WEIGHT N=140. THICKNESS 220M, 105 BEDS, 105 SAMPLES OVER 1KM, 31N, 74R. AF CLEANING 400 OE. SUPERCEDES 7-23.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-258 UPPER TATARIAN REDBEDS (KHRAMOV IN KHRAMOV 1971) SAMPLES UNIT WEIGHT N=20. THICKNESS 110M, SPREAD OVER 5KM, 3 OUTCROPS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-259 UPPER TATARIAN REDBEDS (KHRAMOV IN KHRAMOV 1971) SAMPLES UNIT WEIGHT N=35. THICKNESS 230M, SPREAD

OVER 80KM, 3 OUTCROPS. ADDITIONAL RESULTS OF BUROV AND BORONIN OBTAINED FROM A FURTHER 3 EXPOSURES OF RED CLAY AND ALEUROLITE. SUPERCEDES 7-187.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-261 UPPER TATARIAN REDBEDS (SUMMARY DETERMINATION IN KHRAMOV 1973). ENTRY 7-261 IS 7-258 WITH 2 DETERMINATIONS ADDED (A AND B BFLOW) BY BURCV AND BORONIN FROM THE SAME EXPOSURE NEAR TETYUSHA. SAMPLES UNIT WEIGHT N=155. AF CLEANING 300-400 OE. RED CLAYS AND MARLS. (A) NORTHERN DVINSK (=SEVERODVINA) HORIZON, 80M THICKNESS, 111 BEDS, 111 SAMPLES, 50N 61E, 049, +44. (B) UPZHUMSKII HORIZON, 50M THICKNESS, 24 SAMPLES, 13N 11R, 036, +48. PRESUMABLY UPDATES AND SUPERCEDES 7-758  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-262 UPPER TATARIAN (KHRAMOV 1973) ZONE 4 OF EFREMOV. AVERAGE OF 2 RESULTS (A AND B) THAT ARE SAME AS ENTRIES 7-5A AND 7-5B IN KHRAMOV 1971. (A) ONE EXPOSURE, 17 SAMPLES, 221, -51. (B) THREE EXPOSURES NEAR BUGURUSLAN, 15 SAMPLES, 49, +46. SAMPLES UNIT WEIGHT N=32. REPLACES 7-62.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-263 UPPER TATARIAN (SUMMARY RESULT IN KHRAMOV 1973) ZONE 4 OF EFREMOV. AVERAGE OF 4 DETERMINATIONS (A AND B) EACH UNIT WEIGHT. RED CLAY AND ALEUROLITE. (A) TWO EXPOSURES, 17 SAMPLES, 31, +50. (B) THREE EXPOSURES, SAMARA RIVER, 45 SAMPLES, 243, -43. (C) ONE EXPOSURE, POGOMKA RIVER, 10 SAMPLES, 37, +42. (D) ONE EXPOSURE, PEREZNYAKI RIVER, 10 SAMPLES, 49, +52.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-264 LOWER AND UPPER TATARIAN REDBEDS (KHRAMOV WITH ADDITION (C) LISTED IN KHRAMOV 1973). FOUR DETERMINATIONS, EACH UNIT WEIGHT. SUPERCEDES 7-62 AND 7-228. (A) AMANAK AND BIG KINEL SUITES, BUGURUSLAN, 4 EXPOSURES EXTENDING 50KM ALONG BIG KINEL RIVER, 120M THICKNESS, 20 BEDS, 20 SAMPLES, 228, -37. (B) BIG KINEL AND SOKSK SUITES, 1 EXPOSURE, METROVKA, 80M THICKNESS, 15 BEDS, 15 SAMPLES, 226, -40. (C) ONE EXPOSURE, BUGUL'MA, THICKNESS 30M, 3 BEDS, 25 SAMPLES, INTERSECTIONS OF REMAGNETIZATION CIRCLES USED, 221, -40. (D) BIG KINEL AND SOKSK SUITES AND UPPER KAZAN SUBSTAGE, 1 EXPOSURE, TATAJSKAYA DYM'SKAYA, 40M THICKNESS, 9 BEDS, 9 SAMPLES, 227, -43.  
ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY

7-265 UFIMIAN SEDIMENTS (KARYANOVA IN KHRAMOV 1973). SAMPLES UNIT WEIGHT N=48. SIX OUTCROPS, 48 BEDS, 130M THICKNESS ALONG TULVA RIVER AND AT PAL'NIK. SOME SAMPLES CLEANED 200-300 OE. ALEUROLITE AND

ARGILLITE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=239.00MY

7-266 UFIMIAN REDBEDS (KAFMANOVA SUMMARY IN KHRAMOV 1973). FIVE DETERMINATIONS EACH UNIT WEIGHT. AL-  
EUROLITE AND ARGILLITE OF THE SHESHMINSKII AND  
SOLIKAMSKII (THE OLDER) HORIZONS. (A) 9 EXPOSURES  
YAIRA RIVER, 52M THICKNESS, 130 SAMPLES, 222,-28  
(B) 5 EXPOSURES, KAMA RIVER, 109 SAMPLES, 230,-42  
(C) 5 EXPOSURES, YAIRA RIVER, 170 SAMPLES,  
238,-38. (D) 5 EXPOSURES, KAMA RIVER, 25M THICK-  
NESS, 97 SAMPLES, 225,-21. (E) 5 EXPOSURES, KAMA  
RIVER, 60M THICKNESS, 82 SAMPLES, 233,-22.  
ASSIGNED GEOLOGICAL AGE OF ROCK=238.00MY

7-267 NORILSK BASALT AND SEDIMENTS (LIND IN KHRAMOV  
1973) UPPER PERMIAN. MEAN OF 2 DETERMINATIONS.  
SAMPLES UNIT WEIGHT. (A) IVAKINSK SUITE, LAMA  
LAKE, 1 BASALT FLOW, 11 SAMPLES, 240,-72. (B)  
KAIKPKANSK SUITE, LISTUYANKA RIVER, 20M THICK-  
NESS, 56 SAMPLES, 261,-75.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-268 KOLCHUGINSK SUITE (KIRILLOV AND APARIN IN KHRA-  
MOV 1973) UPPER PERMIAN. MEAN OF 5 DETERMINATI-  
ONS N=6. MOST SAMPLES CLEANED IN FIELDS UP TO  
600 OE. GREY ALEUROLITE, ARGILLITE AND SANDSTONE  
SUPERCEDES 7-145. (A) TAILUGANSK FORMATION, 47  
SAMPLES (12N 35R) FROM 6 BORE CORES, 520M THICK-  
NESS, 137,+30. (B) LENIN FORMATION, 52 SAMPLES  
(19N 33R) FROM 6 BORE CORES, 450M THICKNESS,  
133,+47. (C) USKATSK FORMATION, 24 SAMPLES (ALL  
R) FROM 6 BORE CORES, 750M THICKNESS, 315,-43.  
(D) KAZANKOVO-MARKINSK FORMATION, 59 SAMPLES  
(ALL R) FROM 3 BORE CORES, 360M THICKNESS, 318,  
-32. (E) KUZNETSK FORMATION, 8 SAMPLES (ALL N)  
FROM 3 BORE CORES, 100M THICKNESS, 136,+61. (F)  
KUZNETSK FORMATION, 3 EXPOSURES, 14 SAMPLES (ALL  
R) FROM AGGREGATE THICKNESS OF OVER 1000M, 270,  
-74.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-269 BALAKHONSK SUITE (KIRILLOV AND APARIN IN KHRA-  
MOV 1973) LOWER PERMIAN. MEAN OF 5 DETERMINATI-  
ONS N=5. MOST SAMPLES CLEANED IN FIELDS OF LESS  
THAN 600 OE. DISCARDED 90 PERCENT OF SAMPLES OF  
VERY LARGE COLLECTIONS BECAUSE OF WEAK MAGNETIZ-  
ATION AND "REMAGNETIZATION". GREY ALEUROLITE, AR-  
GILLITE AND SANDSTONE, SUPERCEDES 7-100 AND PRE-  
SUMABLY ALSO 7-145. (A) USYATSK FORMATION, 16 SAM-  
PLES (24 SPECIMENS) (8N 16R) FROM 5 BORE CORES,  
132,+48. (B) KEMEROVSK FORMATION, 22 SAMPLES (ALL  
N) FROM 4 BORE CORES, 210M THICKNESS, 121,+60.  
(C) ISHANOVSK FORMATION, 14 SAMPLES (ALL R) FROM  
6 BORE CORES, 360M THICKNESS, 298,-78. (D) ISHAN-  
OVSK AND INTERMEDIATE FORMATIONS, 2 EXPOSURES,  
AGGREGATE THICKNESS 270M, 15 SAMPLES (ALL N),

080,+63. (E) INTERMEDIATE FORMATION, 3 BORE CORES,  
250M THICKNESS, 14 SAMPLES (8N 9R), 142,+49.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY

7-270 KHIVACH SUITE NE SIBERIA (PECHERSKII IN KHRAMOV  
1973). CONTAINS TATARIAN FAUNA. ONE EXPOSURE, 58M  
THICKNESS. SAMPLES UNIT WEIGHT N=12. AF CLEANING  
400 OE. ALEUFOLITES. SUPERCEDES 7-170.  
ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY

7-272 ALLEVARD SANDSTONE (WESTPHAL 1973) PERMIAN. TWO  
SITES IN ISEKE VALLEY, EACH UNIT WEIGHT.  
ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY

7-273 GUIL VOLCANICS (WESTPHAL 1973) PERMIAN. SAMPLES  
UNIT WEIGHT N=39. FIVE SITES IN UPPER AND LOWER  
FLOWS. TECTONIC CORRECTION MADE TO DIRECTIONS.  
PRESUMABLY CAN BE CONSIDERED TO SUPERCEDE 7-101.  
ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY

7-274 NIDECK VOLCANICS (WESTPHAL 1972) UPPER CARBONIF-  
EROUS TO LOWER PERMIAN. RESULTS FROM 3 FLOWS IN  
THE LOWER PART OF THE SEQUENCE N=3.  
ASSIGNED GEOLOGICAL AGE OF ROCK=237.50MY

7-275 NIDECK-DONON VOLCANICS COMBINED. UPPER CARBONIF-  
EROUS TO LOWER PERMIAN. AVERAGE OF ENTRIES 6-54  
AND 274. UNIT WEIGHT TO EACH OF 12 FLOWS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=237.50MY

7-276 LAVAS OF CINCO VILLAS AND LA RHUNE MASSIFS (VAN  
DER VOO AND BOESSENKOOL 1973) BETWEEN STEPHANIAN  
AND BUNTSANDSTEIN (PERMIAN). UNIT WEIGHT TO 17  
SITES. SAMPLES OVER 20KM. MAGNETIZATION IS PRE-  
FOLDING.  
ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY

7-278 PAGANZO GROUP (THOMPSON 1972). THE PAGANZO GROUP  
RANGES IN AGE FROM CARBONIFEROUS TO TRIASSIC AND  
CONSISTS OF 3 FORMATIONS. LAGARES (LOWER) IS  
CARBONIFEROUS, LA COLINA (MIDDLE) IS UPPER CAR-  
BONIFEROUS TO PERMIAN, AND AMANA (UPPER) IS PER-  
MO-TRIASSIC. ENTRY 7-278 IS CLEANED AT 350 DEG C  
AND GIVES RESULTS FROM AMANA.  
ASSIGNED GEOLOGICAL AGE OF ROCK=236.00MY

7-279 PAGANZO GROUP AMANA FORMATION. PERMO-TRIASSIC.  
CLEANED AT 350 DEG C. SEE 7-278.  
ASSIGNED GEOLOGICAL AGE OF ROCK=236.00MY

7-287 PAGANZO GROUP AMANA FORMATION COMBINED. PERMO-  
TRIASSIC. AVERAGE OF 7-278 AND 279. AN ARBITRARY

POLAR ERROR OF 10 DEG IS ASSIGNED. REDBEDS. SEE 7-278, 8-244, 245 AND 246. PRESUMABLY SUPERCEDES 7-116 AND 7-199.  
ASSIGNED GEOLOGICAL AGE OF ROCK=236.00MY

7-288 UPPER TATARIAN COMBINED 2. AVERAGE OF POLES IN 7-255, 257, 258, 259, 261, 262, 263 AND 367 N=8. THESE ENTRIES APPEAR TO SUPERCEDE MUCH OF EARLIER WORK ON THE UPPER TATARIAN, WHICH WAS SUMMARIZED IN 7-242. SUPERCEDES 7-242. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-289 LOWER TATARIAN COMBINED 2. AVERAGE OF POLES IN 7-26, 27, 28, 190, 191, 239 AND 256 (2 POLES). LOWER TATARIAN ONLY. REDBEDS. COMPARE 7-241.  
ASSIGNED GEOLOGICAL AGE OF ROCK=228.50MY

7-290 UFIMIAN STAGE COMBINED 3. UPPER PERMIAN. AVERAGE OF 7-35, 232, 233, 247, 265 AND 266, N=6. VIATKA AND KARNA RIVER REGIONS. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=238.00MY

7-291 PAS DE CALAIS BORE CORES ORVILLE AND SARTON (MORFE-RIOT AND POCHE 1970). INCLINATION RANGE -33 TO +32 DEG. MEAN QUOTED. UPPER PART PREDOMINANTLY REVERSED AND ASSIGNED ON THIS BASIS TO PERMIAN. LOWER LEVELS PREDOMINANTLY NORMAL AND ASSIGNED TO UPPER CARBONIFEROUS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY

7-293 KAMTHI SANDSTONE (KLOOTWIJK 1975) LATE PERMIAN TO EARLY TRIASSIC. RESULT BASED ON SAMPLES FROM 22 SITES FROM 3 LOCALITIES. CLEANING AT ABOUT 600 DEG C TO REMOVE REMAGNETIZATION EFFECTS. PARTIAL OR COMPLETE REMAGNETIZATION OCCURRED AT TIME OF HEATING DURING EXTRUSION OF DECCAN TRAPS. THIS PRESUMABLY SUPERCEDES ENTRIES 7-118, 119 AND 121.  
ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY

7-294 UPPERMOST PERMIAN AND LOWERMOST TRIASSIC OF INDIA COMBINED. AVERAGE OF POLES FROM PANCHET (17N, 120E), MANGLI (7N, 124E) AND KAMTHI (4N, 129E) BEDS GIVEN BY KLOOTWIJK (1975). THESE BEDS LIE AT PALEOZOIC-MESOZOIC BOUNDARY. THEY ARE DIFFICULT TO SEPARATE AND MAY BE APPROXIMATELY THE SAME AGE. FOR PROPOSED ORDERING OF LATE PALEOZOIC TO EARLY TRIASSIC OF INDIA SEE WENSINK (1975).  
ASSIGNED GEOLOGICAL AGE OF ROCK=225.00MY

7-295 MELAPHYRE DYKES (RYLUND 1974). DIRECTIONS INDICATE PERMIAN OR TRIASSIC AGE. RESULT BASED ON 9 DYKES, EACH UNIT WEIGHT (N=9), COLLECTED OVER

40KM. DIRECTIONS DIFFER FROM 7-296 INDICATING THAT THEY ARE DIFFERENT IN AGE FROM QUARTZ DIO-RITES OF SKANE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=236.00MY

7-297 SPECKLED SANDSTONE (WENSINK 1975) LATEST CARBONIFEROUS OR LOWER PERMIAN (LATTER PREFERRED BY WENSINK). PART OF NILAWAN SERIES. UNDERLAIN BY CONULARIA AND TAI CHIR BEDS (6-9E). SITES UNIT WEIGHT N=9. NINE SITES FROM 3 LOCALITIES SPACED OVER 30KM. CLEANING F30 TO 600 DEG C. REC-BROWN SEDIMENTS. SALT RANGES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=237.50MY

7-299 MANGLI BEDS (WENSINK 1969) LOWER TRIASSIC. SAMPLES GIVEN UNIT WEIGHT (N=23). THERMAL CLEANING IN 550 TO 660 DEG C. REDBEDS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

7-300 PENERANG RHYOLITES (MCELHINNY, HAILE AND CRAWFORD 1974). NEAR PALEOZOIC-MESOZOIC BOUNDARY. PRELIMINARY RB-SR ISOCRON 239 (ERROR 23)MY (DECAY CONST.=1.39). SAMPLES UNIT WEIGHT N=10. CLEANING 300 DE.  
ASSIGNED GEOLOGICAL AGE OF ROCK=225.00MY  
PREFERRED RADIOMETRIC AGE OF ROCK=238.00MY

7-301 SEMPAN CONGLOMERATE AND RHYOLITE (MCELHINNY, HAILE AND CRAWFORD 1974) EARLY PERMIAN. AGE BASED ON PRELIMINARY RB-SR STUDIES. SAMPLES UNIT WEIGHT N=14. CLEANING 300 OF.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY

7-305 SEVERODVINA (=NORTH DVINA) SUITE OF SOUTH URALS (MOLOSTOVSKY IN KHRAMOV 1971) UPPER TATARIAN. SPECIMENS UNIT WEIGHT N=260 (96N 164R). SAMPLED AT 5 LOCALITIES THROUGH 22CM THICKNESS. SILTSTONES AND RED CLAYS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-306 SARMINSK SUITE OF SOUTH URALS (SLAUCITAIS IN KHRAMOV 1971) UPPER TATARIAN. SPECIMENS UNIT WEIGHT N=2. SIX BEDS SPACED THROUGH 70M. RED BEDS FROM TOP OF SARMINSK SUITE SAMPLED AT ONE LOCALITY ALONG DONGUZ RIVER.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-307 SEVERODVINA (=NORTH DVINA) AND SARMINSK SUITES OF SOUTH URALS (AVERAGE LISTED IN KHRAMOV 1971 OF 6-305 AND 306) UPPER TATARIAN. SPECIMENS UNIT WEIGHT N=272.  
ASSIGNED GEOLOGICAL AGE OF ROCK=226.00MY

7-308 CUPRIFEROUS SANDSTONE SERIES SOUTHERN DONBASS (KHRAMOV IN KHRAMOV 1971) ASSELIAN STAGE. AVERAGE OF 5 DETERMINATIONS EACH GIVEN UNIT WEIGHT N=5. BASED ON SAMPLES FROM ABOUT 50 BEDS. RED CLAYS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY

7-309 CUPRIFEROUS SANDSTONE SERIES NORTHERN DONBASS (KHRAMOV AND TRETJAK IN KHRAMOV 1971) ASSELIAN STAGE. AVERAGE OF 4 DETERMINATIONS EACH UNIT WEIGHT N=4, 71 BEDS. RED CLAYS.  
ASSIGNED GEOLOGICAL AGE OF ROCK=275.00MY

7-310 TATARIAN AND UPPER KAZANIAN COMBINED. THIS IS AN AVERAGE OF THE 2 RESULTS FROM THE KAMA RIVER AND THE SOUTH URALS, ENTRIES 7-229 AND 231. AN ARBITRARY POLAR ERROR OF 5 DEG IS GIVEN.  
ASSIGNED GEOLOGICAL AGE OF ROCK=239.00MY

7-311 PERMIAN REDBEDS OF KAZAKHSTAN COMBINED. AVERAGE OF ENTRIES 7-172, 173, 174 AND 237.  
ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY

7-312 KOLCHUGINSK SUITE COMBINED. UPPER PERMIAN. THE ILYINSK FORMATION (7-143) IS PART OF THE KOLCHUGINSK AND IN THIS ENTRY IT HAS BEEN COMBINED WITH THE 6 OTHER VALUES LISTED IN 7-258 GIVING EACH UNIT WEIGHT N=7.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-314 SOUTH URAL UNDIFFERENTIATED SEDIMENTS (DANUKALOV IN KHRAMOV 1971) UPPER SILURIAN TO PERMIAN. RADIO-METRIC AGE ON ALBITOPHYRE 268 TO 241 AND ON PORPHYRIES 332MY. AVERAGE RADIO-METRIC AGE 280MY. FIFTEEN GROUPS OF OUTCROPS GIVEN UNIT WEIGHT N=15. SAMPLES FROM BAIMAK, BURUBAI, IRENDYK, ULUTAI AND KARAMALYTASH SUITES. THE LAST 3 ARE DEVONIAN. SELECTIVE AF AND THERMAL DEMAGNETIZATION. PREFERRED RADIO-METRIC AGE OF ROCK=280.00MY

7-315 PYRENEAN ROCKS COMBINED. PERMO-TRIASSIC. AVERAGE OF ENTRIES 7-55, 21 AND 79 GIVING EACH UNIT WEIGHT N=3.  
ASSIGNED GEOLOGICAL AGE OF ROCK=236.00MY

7-316 EXETER TRAPS (CORNWELL 1967) LOWER PERMIAN. AVERAGE OF RESULTS FROM LAVAS CORRECTED FOR DIP FROM THE LARGER COLLECTION REPORTED IN 7-87.  
ASSIGNED GEOLOGICAL AGE OF ROCK=260.00MY

7-317 GARDENA SANDSTONES COMBINED. PERMIAN. AVERAGE OF ENTRIES 7-82, 83 AND 133 (N=3). ENTRY 7-84 IS DIVERGENT AND IS NOT INCLUDED.  
ASSIGNED GEOLOGICAL AGE OF ROCK=252.50MY

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**Appendix to Issue Three**

**In the following appendix data are compiled from the recent list of A.N. Khramov (Paleomagnetic directions and pole positions, data from the USSR, Acad. Sci. USSR, Soviet Geophys. Comm., Issue 3, Moscow 1975, World data centre B, pp. 1-43).**

## APPENDIX. PALEOZOIC OF THE U.S.S.R.

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	OP	OTHER LIST	F 1	F 2
2 170	TELPOSSK AND OTHER SUITES NTH URAL	67.0	65.0	13	39	W	43	46.0	6.0	14	11.0	19.0-165.0		00	0.0	16.0	8.0	S1234	A	*
2 171	MANYINSK AND OTHER VENDIAN ROCKS	67.0	65.0	8	27	W	77	159.0	4.0	27	11.0	-19.0	67.0	00	0.0	11.0	6.0	S1235	A	*
2 172	MANYINSK AND OTHER VENDIAN ROCKS	67.0	65.0	21	69	W	74	125.0	0.0	22	9.0	-12.0	124.0	00	0.0	16.0	8.0	S1236	A	*
2 173	MANYINSK AND OTHER VENDIAN ROCKS	67.0	65.0	16	48	W	56	108.0	0.0	65	3.0	-6.0	139.0	00	0.0	9.0	4.0	S1237	A	*
2 174	MANYINSK AND OTHER VENDIAN ROCKS	67.0	65.0	28	87	W	69	90.0	0.0	11	11.0	0.0	155.0	00	0.0	14.0	7.0	S1238	A	*
2 175	NYAROVEISK+KOKPELSK SUITES VENDIAN	67.0	65.0	18	54	W	61	150.0-16.0		36	18.0	-28.0	98.0	00	0.0	15.0	8.0	S1239	A	*
2 176	NYAROVEISK+KOKPELSK SUITES VENDIAN	67.6	65.0	8	24	W	63	186.0	18.0	17	14.0	-14.0	58.0	00	0.0	14.0	8.0	S1240	A	*
3 122	UST-KUTSK SUITE	58.2	108.9	11	11	W	100	323.0	20.0	62	4.0	-34.0	155.0	00	0.0	4.0	2.0	S1120	A	
3 123	UST-KUTSK SUITE MIRONOVO AREA	58.4	109.8	14	14	W	40	166.0-23.0		11	8.0	-42.0	128.0	00	0.0	9.0	5.0	S1120	A	
3 124	UST-KUTSK SUITE CHECHUI RIVER	58.2	109.6	9	9	W	66	153.0-20.0		19	8.0	-38.0	144.0	00	0.0	9.0	5.0	S1120	B	
3 125	UST-KUTSK SUITE MANDRA RIVER	58.5	110.0	16	23	N	48	171.0-19.0		30	6.0	-41.0	122.0	00	0.0	6.0	3.0	S1120	A	
3 126	UST-KUTSK SUITE COMBINED 2 LENA RI	58.3	109.6	50	50	W	61	158.0-21.0		50	13.0	-40.0	138.0	00	0.0	13.0	7.0	S1120	A	**
4 83	NORTHERN TIMAN RED SEDIMENTS	68.0	48.0	3	23	T	84	46.0	7.0	19	6.0	19.0	178.0	00	0.0	6.0	3.0	S1014	A	**
5 195	NORTH CAUCASUS BASALT PORPHYRITES	43.5	42.0	000	032	X	0	55.0-41.0		20	7.0	6.0	172.0	00	0.0	8.0	5.0	S0937	A	*
5 196	SOUTH URALS SANDSTONES	51.6	58.7	026	026	N	100	242.0-20.0		8	8.0	26.0	166.0	00	0.0	8.0	4.0	S0938	A	
5 197	SOUTH URALS SANDSTONES AND SHALES	51.6	58.7	025	035	N	100	243.0-23.0		7	10.0	26.0	163.0	00	0.0	11.0	6.0	S0938	A	
5 198	SOUTH URALS SEDIMENTS COMBINED	51.6	58.7	008	061	N	100	243.0-22.0		8	7.0	26.0	163.0	00	0.0	7.0	4.0	S0938	A	*
5 199	GRUBORUCHEISK+RASSOKHINSK SUITES	66.0	48.0	003	039	W	0	83.0	6.0	21	4.0	7.0	143.0	00	0.0	4.0	2.0	S0939	A	*
5 200	OIDANOVSK KOKHAISK+TUBINSK SUITES	53.0	90.0	036	036	W	50	114.0	7.0	4	14.0	-11.0	158.0	00	0.0	14.0	7.0	S0940	A	**
5 201	OIDANOVSK SUITE MINUSINSK BASIN	56.0	93.0	013	013	N	30	149.0	-6.0	9	13.0	-31.0	130.0	00	0.0	13.0	6.0	S0941	A	*
5 202	YGYATYN SERIES KUCHUGUNUR SUITE	62.6	115.6	4	18	A	0	227.0	80.0	42	5.0	46.0	93.0	00	0.0	10.0	9.0	S0942	A	*
5 203	YGYATYN SERIES MARKHINSK AREA	63.7	116.5	4	66	A	66	173.0	58.0	13	5.0	13.0	122.0	00	0.0	8.0	6.0	S0943	A	*
5 193	YGYATYN SERIES SEE 6-370																			
5 194	YGYATYN DOLERITES SEE 6-371 8-276																			
5 204	BEYSK AND OTHER SUITES MINUSINSK	53.0	90.0	13	13	X	54	131.0	14.0	5	17.0	-16.0	142.0	00	0.0	17.0	9.0	S0944	A	**
5 205	UPPER CHILANSK SUITE MINUSINSK	53.0	90.0	10	10	T	60	141.0	20.0	5	20.0	-18.0	131.0	00	0.0	21.0	11.0	S0945	A	**
5 206	MATARAKSK SUITE MINUSINSK BASIN	56.0	93.0	21	21	W	87	143.0	5.0	4	14.0	-24.0	133.0	00	0.0	14.0	7.0	S0946	A	**

## APPENDIX. PALEOZOIC OF THE U.S.S.R.

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER LISTS	F 1	F 2
5 207	MATARAKSK+ABAKANSK SUITES MINUSA	56.0	93.0	4	5	W	75	145.0	-6.0	37	7.0	-30.0	135.0	00	0.0	7.0	3.0	S0947	B	
6 360	ALMAZ SUITE DONBASS	48.0	38.0	006	006	N	100	223.0	-2.0	22	11.0	31.0	166.0	00	0.0	11.0	6.0	S0851	B	
6 361	KAMENSK SUITE DONBASS	48.0	38.0	016	016	N	100	228.0	22.0	9	8.0	17.0	168.0	00	0.0	9.0	5.0	S0851	A	
6 362	ALMAZ AND KAMENSK SUITES DONBASS	48.0	38.0	005	016	A	100	225.0-36.0		6	12.0	44.0	150.0	00	0.0	13.0	7.0	S0851	A	
6 363	MOSCOW STAGE OF SOUTH DONBASS COMB	48.0	38.0	027	038	Y	100	226.0	3.0	6	8.0	30.0	163.0	00	0.0	8.0	4.0	S0851	A	**
6 364	BELOKALITVENSK SUITE DONBASS	48.0	38.0	017	017	N	88	39.0	-7.0	7	10.0	29.0	173.0	00	0.0	10.0	5.0	S0852	A	
6 365	NAGOLCHENSK SUITE D	48.0	38.0	013	013	N	85	49.0-17.0		8	11.0	19.0	166.0	00	0.0	11.0	6.0	S0852	A	
6 366	NAGOLCHENSK SUITE D	48.0	38.0	004	009	N	100	210.0	14.0	10	5.0	29.0-177.0		00	0.0	13.0	7.0	S0852	B	
6 367	CHISTYAKOVSK SUITE D	48.0	38.0	007	007	N	29	34.0	-5.0	9	15.0	32.0	177.0	00	0.0	15.0	7.0	S0852	B	
6 368	SUITE CT5 D	48.0	38.0	009	009	N	56	41.0-13.0		21	8.0	24.0	173.0	00	0.0	8.0	4.0	S0852	B	
6 369	BASHKIRIAN OF SOUTH DONBASS COMBIN	48.0	38.0	055	055	N	58	39.0-11.0		75	8.0	26.0	164.0	00	0.0	8.0	4.0	S0852	A	**
6 370	YGYATYN SERIES BASALTS YGYATTA R	63.5	115.6	002	020	A	0	205.0	45.0	22	7.0	3.0	93.0	00	0.0	9.0	6.0	S0853	A	*
6 371	YGYATYN DOLERITE (OLDER) YGYATTA R	63.9	115.3	002	017	A	0	192.0	73.0	19	8.0	33.0	108.0	00	0.0	14.0	13.0	S0854	A	*
6 372	YGYATYN SERIES XREF IN DEVON 5-203																			
7 318	YGYATYN DOLERITES SEE 8-276 8-277																			
7 320	MORKOKA RIVER DOLERITES SEE 8-278																			
7 322	MARKHINSK TRAPS SEE 8-282 ETC																			
7 323	OLENEK DOLERITES SEE 8-283 8-284																			
7 325	KOLCHUGINSK AND USKATSK SUITES ETC	54.8	86.4	000	087	A	37	78.0	68.0	28	3.0	45.0	147.0	00	0.0	5.0	4.0	S0745	A	**
7 326	LOWER OMOLONSK SUITE KHIVACH RIVER	63.0	160.0	001	028	X	100	252.0-70.0		11	9.0	55.0-130.0		00	0.0	16.0	13.0	S0746	A	
7 327	UPPER OMOLONSK+KHIVACH SUITES ETC	63.0	160.0	001	021	X	0	149.0	78.0	8	12.0	42.0	176.0	00	0.0	23.0	21.0	S0746	A	
7 328	KHIVACH SUITE OMOLONSK MASSIF	63.0	159.1	001	012	A	0	39.0	52.0	31	8.0	52.0	-78.0	00	0.0	11.0	7.0	S0746	A	
7 329	OMOLONSK MASSIF SEDIMENTS COMBINED	63.0	159.7	003	061	X	33	71.0	73.0	8	7.0	57.0-136.0		00	0.0	12.0	11.0	S0746	A	*

- 2-170 TELPOSSK, NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS (GERNIK IN KHRAMOV 1975) CAMBRIAN TO EARLY ORDOVICIAN. UNIT WEIGHT TO OUTCROPS N=13. THICKNESS 50M OVER 300KM. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS. SANDSTONES, ALEUROLITES, TUFFS, TUFFACEOUS LAVAS, TUFFACEOUS SHALES, GREEN ORTHOSHALES AND BASIC EFFUSIVES OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=525.50MY
- 2-171 MANYINSK, NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS (GERNIK IN KHRAMOV 1975) VENDIAN (CAMBRIAN). UNIT WEIGHT TO OUTCROPS N=8. THICKNESS 250M AND SPREAD 300KM. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS. GREEN ORTHOSHALES, TUFFS, TUFFACEOUS LAVAS, TUFFACEOUS SHALES, PARASHALES, ALEUROLITES AND SANDSTONES OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 2-172 MANYINSK, NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS (GERNIK IN KHRAMOV 1975) VENDIAN (CAMBRIAN). UNIT WEIGHT TO OUTCROPS N=21. STUDIED UP TO 50M THICKNESS OVER 300KM. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS. ORTHOSHALES, PARASHALES, METAMORPHOSED EFFUSIVES, TUFFS, TUFFACEOUS LAVAS, TUFFACEOUS SHALES, ALEUROLITES AND SANDSTONES OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 2-173 MANYINSK, NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS (GERNIK IN KHRAMOV 1975) VENDIAN (CAMBRIAN). UNIT WEIGHT TO OUTCROPS N=16. STUDIED UP TO 200M THICKNESS OVER 300KM. CLEANING IN 300 OE AND 400 DEG C DOES NOT CHANGE DIRECTIONS. ORTHOSHALES, PARASHALES AND METAMORPHOSED EFFUSIVES OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 2-174 MANYINSK, NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS (GERNIK IN KHRAMOV 1975) VENDIAN (CAMBRIAN). UNIT WEIGHT TO OUTCROPS N=28. STUDIED UP TO 200M THICKNESS OVER 300KM. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS. ALBITOPHYRES, GREEN ORTHOSHALES, PARASHALES, ALEUROLITES AND SANDSTONES OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 2-175 NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS. (GERNIK IN KHRAMOV 1975) VENDIAN (CAMBRIAN). UNIT WEIGHT TO OUTCROPS N=18. THICKNESS 140M, 300 KM SPREAD. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS. ORTHOSHALES, PARASHALES, TUFFACEOUS SHALES, TUFFS AND TUFFACEOUS LAVAS OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 2-176 NYAROVEISK AND KOKPELSK SUITES, ARCTIC URALS. (GERNIK IN KHRAMOV 1975) VENDIAN (CAMBRIAN). UNIT WEIGHT TO OUTCROPS N=8. SPREAD 300KM. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS. GREEN ORTHOSHALES AND METAMORPHOSED EFFUSIVES OF KHARAMATOLOUSK DEPRESSION.  
ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 3-122 UPPER UST-KUTSK SUITE (RODIONOV IN KHRAMOV 1975) UST-KUTSKIAN (LOWER ORDOVICIAN). SPECIMENS UNIT WEIGHT N=22. THICKNESS 48M, 11 BEDS. CLEANING IN 600 OE AND 100 DEG C DOES NOT CHANGE DIRECTIONS. SANDSTONES, LIMESTONES AND BROWN MARLS OF PETROPAVLOVSK AREA.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3-123 UPPER UST-KUTSK SUITE (RODIONOV IN KHRAMOV 1975) UST-KUTSKIAN (LOWER ORDOVICIAN). SPECIMENS UNIT WEIGHT N=30. THICKNESS 42M, 14 BEDS. CLEANING AT 300 AND 600 OE, AND 100 DEG C DOES NOT CHANGE DIRECTIONS. LIMESTONES AND SANDSTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3-124 UPPER AND LOWER UST-KUTSK SUITE (RODIONOV IN KHRAMOV 1975) UST-KUTSKIAN (LOWER ORDOVICIAN). SPECIMENS UNIT WEIGHT N=18. THICKNESS 116M, 9 BEDS. CLEANING IN 300 AND 600 OE, AND 100 DEG C DOES NOT CHANGE DIRECTIONS. SANDSTONES, RED CLAYS AND LIMESTONES.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3-125 UST-KUTSK SUITE (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1975) UST-KUTSKIAN (LOWER ORDOVICIAN). SAMPLES UNIT WEIGHT N=23. THICKNESS 160M, 16 BEDS. RED AND BROWNISH-RED SANDSTONES AND ALEUROLITES, RED AND MULTICOLOURED DOLOMITES. MOUTH OF MANDRA RIVER.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 3-126 UST-KUTSK SUITE COMBINED, LENA RIVER (KHRAMOV 1975) UST-KUTSKIAN AGE (LOWER ORDOVICIAN), BY MARINE FAUNA. AVERAGE OF 3-122, 123, 124 AND 125 EACH GIVEN UNIT WEIGHT N=4. FOUR OUTCROPS. SUPERCEDES 3-85.  
ASSIGNED GEOLOGICAL AGE OF ROCK=490.50MY
- 4- 83 NORTH TIMAN SEDIMENTS (GONCHAROV IN KHRAMOV 1975) LATE SILURIAN (FOSSIL EVIDENCE). SPECIMENS UNIT WEIGHT N=36. THICKNESS 15.5M, 23 SAMPLES. THREE OUTCROPS OVER 15KM ON VELIKAYA RIVER. CLEANING IN 300 OE AND 700 DEG C DOES NOT CHANGE DIRECTIONS.

- ANING 200 DEG C. RED AND MULTICOLOURED SANDSTONES, ALEUROLITES, ARGILLITES AND DOLOMITES. ASSIGNED GEOLOGICAL AGE OF ROCK=399.50MY
- 5-195 NORTH CAUCASIAN BASALTIC PORPHYRITES (SHEVLYAGIN IN KHRAMOV 1975) MIDDLE TO LATE DEVONIAN (AGE CONDITIONAL). SAMPLES UNIT WEIGHT N=32. THICKNESS 300M ALONG DAUT RIVER. AF (200-400 OE) AND SELECTIVE THERMAL (400 DEG C) CLEANING. ASSIGNED GEOLOGICAL AGE OF ROCK=357.50MY
- 5-196 SOUTH URAL SANDSTONES (DANUKALOV IN KHRAMOV 1975) FAMENNIAN. SAMPLES UNIT WEIGHT N=26. THICKNESS 600M, 26 BEDS, 52 SPECIMENS. ASSIGNED GEOLOGICAL AGE OF ROCK=349.00MY
- 5-197 SOUTH URAL SANDSTONES AND SILICEOUS SHALES (DANUKALOV IN KHRAMOV 1975) FRASNIAN. SAMPLES UNIT WEIGHT N=35. THICKNESS 1000M, 35 BEDS, 70 SPECIMENS. ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY
- 5-198 SOUTH URAL SEDIMENTS COMBINED (KHRAMOV 1975) LATE DEVONIAN (BY BRACHIOPODS). AVERAGE OF 5-196 AND 197. SAMPLES UNIT WEIGHT N=61. EIGHT OUTCROPS 3KM APART ALONG KOLPACHKA RIVER. SANDSTONES AND SILICEOUS SHALES. SUPERCEDES 5-155. ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY
- 5-199 GRUBORUCHEISK AND RASSOKHINSK SUITES OF NORTH TIMAN (GONCHAROV IN KHRAMOV 1975) FRASNIAN (FOSSIL EVIDENCE). SPECIMENS UNIT WEIGHT N=61. THICKNESS 130M, 3 OUTCROPS OVER 5KM ALONG PESHA RIVER. SELECTIVE CLEANING IN 200-600 DEG C AND 600-800 OE. MULTICOLOURED AND RED SANDSTONES, ALEUROLITES AND ARGILLITES. ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY
- 5-200 OIDANOVSK, KOKHAISK AND LOWER TUBINSK SUITES OF MINUSINSK BASIN (RODIONOV AND KOMISSAROVA IN KHRAMOV 1975) FRASNIAN (FOSSIL EVIDENCE). SAMPLES UNIT WEIGHT N=36. THICKNESS 1000M, 36 BEDS, 72 SPECIMENS. ONE OUTCROP ALONG TIOYA RIVER. SELECTIVE CLEANING IN 600 OE AND 650 DEG C. RED-BEDS, ALEUROLITES AND ARGILLITES. ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY
- 5-201 OIDANOVSK SUITE OF MINUSINSK BASIN (RODIONOV AND KOMISSAROVA IN KHRAMOV 1975) FRASNIAN (AGE CONDITIONAL). SAMPLES UNIT WEIGHT N=13. THICKNESS 400M, 13 BEDS, 20 SPECIMENS (14N, 6R) FROM 1 OUTCROP ALONG YENISEI RIVER. CLEANING 300 OE AND 500 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=356.00MY
- 5-202 YGYATYN SERIES, KUCHUGUNUR SUITE OF THE LOWER VILYUI REGION (KAMYSHEVA IN KHRAMOV 1975) UPPER DEVONIAN. SAMPLES UNIT WEIGHT N=18. FOUR OUTCROPS 20-40KM APART ON VILYUI RIVER. CLEANING 105 OE. BASALTS. SUPERCEDES 6-255. ASSIGNED GEOLOGICAL AGE OF ROCK=352.00MY
- 5-203 YGYATYN SERIES, MARKHINSK AREA (KAMYSHEVA IN KHRAMOV 1975) MIDDLE TO LATE DEVONIAN. K-AR AGE ON SILL DOLERITE 352MY. SAMPLES UNIT WEIGHT N=66. FOUR OUTCROPS OVER AREA OF 30X40 SQ KM ALONG MARKHA RIVER. ONE SILL, 5 FLOWS. CLEANING 80 OE. BASALTS, GABBROIC DOLEMITES AND DOLEMITES. SUPERCEDES 8-255. ASSIGNED GEOLOGICAL AGE OF ROCK=357.50MY  
PREFERRED RADIOMETRIC AGE OF ROCK=352.00MY
- 5-204 BEYSK, ASKIZSK, ABAKANSK, TASHTYPSK, IMEYSK, ILEMOROVSK AND TOLOCHKOVSK SUITES OF MINUSINSK BASIN (RODIONOV AND KOMISSAROVA IN KHRAMOV 1975) EARLY AND MIDDLE DEVONIAN (FOSSIL EVIDENCE). SAMPLES UNIT WEIGHT N=13. THICKNESS 4400M, 13 BEDS AND 22 SPECIMENS. TWO OUTCROPS ON TASHTYP AND TIOYA RIVERS. THERMAL AND AF (400 OE) CLEANING. RED AND GREY SANDSTONES, ALEUROLITES, MARLS AND LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=377.00MY
- 5-205 UPPER CHILANSK SUITE OF MINUSINSK BASIN (RODIONOV AND KOMISSAROVA IN KHRAMOV 1975) EARLY DEVONIAN (FROM STRATIGRAPHY). SAMPLES UNIT WEIGHT N=10. THICKNESS 500M, 10 BEDS, 1 OUTCROP ON TASHTYP RIVER. PORPHYRITES. ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY
- 5-206 UPPER MATARAKSK SUITE OF MINUSINSK BASIN (RODIONOV AND KOMISSAROVA IN KHRAMOV 1975) EARLY DEVONIAN (AGE CONDITIONAL). SAMPLES UNIT WEIGHT N=21. THICKNESS 1000M, 21 BEDS, 47 SPECIMENS (7N, 10R). CLEANING 300 OE AND 500 DEG C DOES NOT CHANGE DIRECTIONS. ONE OUTCROP ON YENISEI RIVER. BASALTS, DOLEMITES AND ANDESITES. ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY
- 5-207 UPPER MATARAKSK AND LOWER ABAKANSK SUITES OF MINUSINSK BASIN (RODIONOV AND KOMISSAROVA IN KHRAMOV 1975) EARLY DEVONIAN. SPECIMENS UNIT WEIGHT N=12. THICKNESS 300M, 4 BEDS, 5 SAMPLES. ONE OUTCROP ON YENISEI RIVER. CLEANING IN 300 OE AND 500 DEG C DOES NOT CHANGE DIRECTIONS. RED AND GREY SANDSTONES, ALEUROLITES AND ARGILLITES. ASSIGNED GEOLOGICAL AGE OF ROCK=382.50MY
- 6-360 ALMAZ SUITE, MIKHAILOVSKAYA PAVINE (KOMISSAROVA AND KHRAMOV IN KHRAMOV 1975) MOSCOVIAN. SPECIM-



ENS UNIT WEIGHT N=20. THICKNESS 400M, 6 BEDS, 6 SAMPLES. LIMESTONES, ALEUROLITES AND SANDSTONES. IDENTICAL TO 6-334.

ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY

6-361 KAMENSK SUITE, MIKHAILOVSKAYA RAVINE (KOMISSAROVA AND KHARAMOV IN KHARAMOV 1975) MOSCOVIAN. SPECIMENS UNIT WEIGHT N=36. THICKNESS 500M, 16 BEDS. LIMESTONES, ALEUROLITES AND SANDSTONES. IDENTICAL TO 10-335.

ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY

6-362 ALMAZ AND KAMENSK SUITES, DONBASS (SHEVLYAGIN IN KHARAMOV 1975) MOSCOVIAN. SAMPLES UNIT WEIGHT N=16, FROM 5 MINES. CLEANING 25-1500 OE. ALEUROLITES, ARGILLITES AND SIDERITIZED CONCRETIONS. IDENTICAL TO 6-287.

ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY

6-363 MOSCOVIAN STAGE COMBINED, DONBASS (KHARAMOV 1975) MOSCOVIAN (MIDDLE CARBONIFEROUS) BY MARINE FOSSILS. SAMPLES UNIT WEIGHT N=72. ENTRIES 6-369 AND 363 ARE BREAKDOWN OF 6-340 WITH THE ADDITION OF 6-368.

ASSIGNED GEOLOGICAL AGE OF ROCK=302.00MY

6-364 BELOKALITVENSK SUITE, MIKHAILOVSKAYA RAVINE (KOMISSAROVA AND KHARAMOV IN KHARAMOV 1975) BASHKIRIAN. SPECIMENS UNIT WEIGHT N=35. THICKNESS 400M, 17 BEDS. LIMESTONES, ALEUROLITES AND SANDSTONES. IDENTICAL TO 6-336.

ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY

6-365 NAGOL'CHENSK SUITE, MIKHAILOVSKAYA RAVINE (KOMISSAROVA AND KHARAMOV IN KHARAMOV 1975) BASHKIRIAN. SPECIMENS UNIT WEIGHT N=26. THICKNESS 800M, 13 BEDS, 13 SAMPLES. LIMESTONES, ALEUROLITES AND SANDSTONES. IDENTICAL TO 6-337.

ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY

6-366 NAGOL'CHENSK SUITE (TRETIK IN KHARAMOV 1975) BASHKIRIAN. SAMPLES UNIT WEIGHT N=9. FOUR BEDS. IDENTICAL TO 6-338.

ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY

6-367 CHISTYAKOVSK SUITE, MIKHAILOVSKAYA RAVINE (KOMISSAROVA AND KHARAMOV IN KHARAMOV 1975) BASHKIRIAN. SPECIMENS UNIT WEIGHT N=13. THICKNESS 500M, 7 BEDS, 7 SAMPLES. LIMESTONES, ALEUROLITES AND SANDSTONES. IDENTICAL TO 6-339.

ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY

6-368 SUITE C(T)5, MIKHAILOVSKAYA RAVINE (KOMISSAROVA

AND KHARAMOV IN KHARAMOV 1975) LOWER BASHKIRIAN STAGE. SPECIMENS UNIT WEIGHT N=18. THICKNESS 150 M, 9 BEDS, 9 SAMPLES. GREY SHALES.

ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY

6-369 BASHKIRIAN STAGE COMBINED, DONBASS (KHARAMOV 1975) BASHKIRIAN (MIDDLE CARBONIFEROUS) BY MARINE FAUNA. AVERAGE OF 6-364, 365, 366, 367 AND 368, EACH GIVEN UNIT WEIGHT N=5. OUTCROPS ALONG MIKHAILOVSKAYA RAVINE. ENTRIES 6-369 AND 363 ARE BREAKDOWN OF 6-340 WITH THE ADDITION OF 6-368.

ASSIGNED GEOLOGICAL AGE OF ROCK=317.00MY

6-370 YGYATYN SERIES (KAMYSHEVA IN KHARAMOV 1975) LATE DEVONIAN TO EARLY CARBONIFEROUS. SAMPLES UNIT WEIGHT N=20. TWO OUTCROPS ALONG YGYATTA RIVER. CLEANING 80 OE. BASALTS.

ASSIGNED GEOLOGICAL AGE OF ROCK=340.50MY

6-371 OLDER YGYATYN DOLERITES (KAMYSHEVA IN KHARAMOV 1975) LATE DEVONIAN TO EARLY CARBONIFEROUS. K-AR AGE OF 367 (ERROR 9) MY. SAMPLES UNIT WEIGHT N=17. TWO OUTCROPS 1KM APART ALONG YGYATTA RIVER. CLEANING 80 OE.

ASSIGNED GEOLOGICAL AGE OF ROCK=340.50MY  
PREFERRED RADIOMETRIC AGE OF ROCK=367.00MY

7-325 KOLCHUGINSK SERIES, GRAMOTEINSK, LENIN AND USK-ATSK SUITES, KUZBASS (ZOTKEVITCH IN KHARAMOV 1975) LATE PERMIAN. SAMPLES UNIT WEIGHT N=87. ONE DRILL CORE, SAMPLES SPAN 660M. CLEANING 400 OE. SANDSTONES AND ALEUROLITES.

ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-326 LOWER OMOLONSK SUITE, OMOLONSK MASSIF (KIRILLOV IN KHARAMOV 1975) LATE PERMIAN. SAMPLES UNIT WEIGHT N=28. ONE OUTCROP, 1M THICKNESS NEAR KHIVACH RIVER. CLEANING 600 OE AND 600 DEG C. LIMESTONE.

ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-327 UPPER OMOLONSK, CHIZHIGINSK AND KHIVACH SUITES, OMOLONSK MASSIF (KIRILLOV IN KHARAMOV 1975) LATE PERMIAN. SAMPLES UNIT WEIGHT N=21. ONE OUTCROP, 1M THICKNESS NEAR KHIVACH RIVER. CLEANING 600 OE AND 600 DEG C. LIMESTONES, SANDSTONES, ALEUROLITES AND ARGILLITES.

ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-328 KHIVACH SUITE, OMOLONSK MASSIF (PECHERSKII IN KHARAMOV 1975) LATE PERMIAN. SAMPLES UNIT WEIGHT N=12. ONE OUTCROP, 58M THICKNESS NEAR KHIVACH RIVER. CLEANING 400 OE. ALEUROLITES.

ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY

7-329 SEDIMENTS OF OMOLONSK MASSIF COMBINED (KHRAMOV  
1975) LATE PERMIAN (FOSSIL EVIDENCE). AVERAGE OF  
7-326, 327 AND 328. SAMPLES UNIT WEIGHT N=61.  
SUPERCEDES 7-170, 270 AND 330.  
ASSIGNED GEOLOGICAL AGE OF ROCK=232.50MY





