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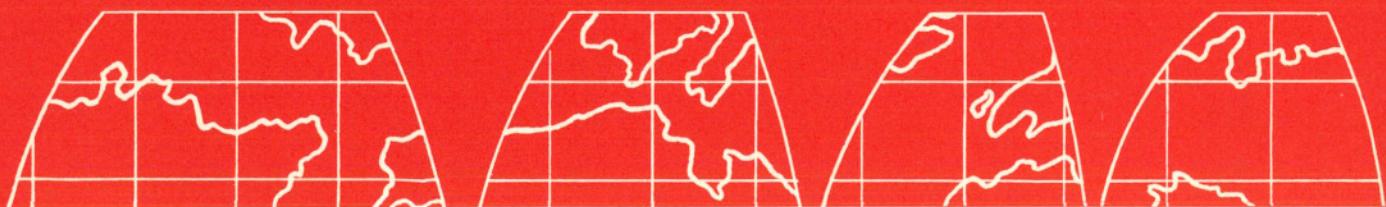
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CATALOGUE OF PALEOMAGNETIC DIRECTIONS AND POLES

FOURTH ISSUE

MESOZOIC RESULTS 1954-1975
AND RESULTS FROM SEAMOUNTS

E. Irving, E. Tanczyk and J. Hastie

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Geomagnetic Series Number 6
Ottawa, Canada 1976

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FOURTH ISSUE

MESOZOIC RESULTS 1954-1975 AND RESULTS FROM SEAMOUNTS

E. Irving, E. Tanczyk and J. Hastie

INTRODUCTION

The paleomagnetic results from Mesozoic rocks and oceanic seamounts are presented, with explanatory notes and bibliography, following the style and numbering system used in the appendix to the book *Paleomagnetism* (Irving, 1964) and in our earlier issues of this catalogue (Hicken *et al.*, 1972; Irving and Hastie, 1975; Irving, Tanczyk and Hastie, 1976). The compilation is essentially complete up to late 1975, and includes the most recent results from the USSR given by Khramov (1975). All the data are listed but the explanatory notes and bibliography of *Paleomagnetism* and of our first issue are not repeated. Anyone having this catalogue, together with copies of our first issue and the appendix to *Paleomagnetism*, has a ready access to all the Mesozoic data, and to the bibliography. All available results from magnetic surveys of seamounts are listed including results from seamounts of Tertiary age. The present catalogue is an advance on earlier listings of Mesozoic data 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. In a future issue the Cenozoic results will be compiled.

LISTING OF DATA

The continental 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 including Greenland, South America, and the USSR. Within each region the results are arranged by geological system, the Triassic first and the Cretaceous last. Within each system the entries are arranged in a consistent geographical order which can be determined by running ones finger down columns 3 and 4; for example the data from USSR 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 digits provide a rough estimate of geological age of the rocks studied as follows: 8 Triassic, 9 Jurassic, 10 Cretaceous. Seamount entries always have the number 13. The remaining digits are accession numbers of no special 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.

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 workers from the USSR of "the intersections of remagnetization great circles") or vector analysis has been used to isolate the 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 $\theta_{63} = 81k^{-\frac{1}{2}}$ degrees approximately. Another useful approximation for the standard deviation is given by $\cos^{-1}(R/N)$ (Wilson, 1959). Since N and k are known (N is usually given in the notes) the standard deviation can be calculated.

COLUMN 12 contains Fisher's circle of confidence (ED) of the mean direction ($P=0.05$). 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 (KP) of site poles and the error(EP) in the mean pole calculated as an average of site poles. This list contains many new averages and these have usually been obtained by the straightforward application of Fisher's statis-

tics. Sometimes this is not possible, and if the difference between the directions averaged is less than about 10° 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 and 1975) 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 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 .

(2) No result is placed in the A category unless the error in the mean direction (column 13) is 20° or less. No result is placed in the A category unless the error in the pole in column 16 is less than 25° , or the mean of the polar errors DM and DP is less than 25° . 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 relegated 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 5 samples as a general demarcation criterion, and by McElhinny (1973) in *Paleomagnetism and Plate Tectonics* who used 8 samples.

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, 1973 or 1975). 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 1. There are a total of 277 starred entries compared with 344 in the Paleozoic (Irving, Tanczyk and Hastie 1976). There are 117 entries with one star and 160 with two. There are 97 starred results from the USSR and 48 from North America. Europe is the third contributor with 39, and Asia without USSR fourth with 26 starred results, followed by Africa and South America with 14 each.

The two-stage filtering system described above is based mainly on statistical criteria. The awarding of two stars must NOT be taken to mean that the magnetization necessarily records the geomagnetic field at the time the rock unit was formed. Indeed many accurately determined secondary magnetizations are awarded stars and are 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 assesses 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. Most notes end with an "assigned geological age" or a "preferred radiometric age". The "assigned geological age" has been obtained by calculation from the Geological Society of London 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 two decimal places in order to maintain numerical consistency with results from

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, and that the quotation of ages to such high accuracy is only a numerical convenience and for practical purposes they should be rounded to 5 or 10 m.y.

Two 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 the 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 $\lambda=1.39 \times 10^{-11} \text{ yr}^{-1}$.

ACKNOWLEDGEMENTS

We would like to express our thanks to Atulesh Nandi for processing the listings, and to Richard Couillard and Ross Henderson for their help in accessing and checking the data.

TABLE 1. DISTRIBUTION OF STARRED RESULTS

	TRIASSIC		JURASSIC		CRETACEOUS		MESOZOIC	
	*	**	*	**	*	**	*	**
Africa	3	5	3	6	-	7	6	18
Antarctica	-	-	-	2	-	1	-	3
Asia	3	-	2	1	9	11	14	12
Australia	1	1	3	-	-	2	4	3
Europe	7	5	3	3	7	14	17	22
North America	3	14	3	5	5	18	11	37
South America	1	5	1	1	2	4	4	10
USSR	26	21	9	9	17	15	52	45
Seamounts	-	-	-	-	-	-	9	10
World	44	51	23	27	40	72	117	160

Listing of Data

TRIASSIC OF AFRICA SOUTH POLES

JURASSIC OF AFRICA SOUTH 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	F	F	LISTS	1	2
9 26	KARROO DOLERITE IN SURFACE OUTCROP	-30.3	28.5	020	033	N	999	172.0	62.0	0	12.0	-76.0	53.0	0	0.0	19.0	14.0	01056	A				
9 27	KARROO DOLERITE FROM MINES S AFRIC	0.0	0.0	000	064	N	63	160.0	60.0	52	9.0	-68.0	102.0	0	0.0	14.0	14.0	01060	A				
9 70	KARROO DOLERITE SOUTH AFRICA	-30.0	30.0	003	006	N	33	15.2-69.1	18	30.2	-64.7	8.1	0	0.0	51.4	43.7	00000	B					
9 66	LIMBURGITE PLUG OF KARROO RHODESIA	-19.6	29.9	001	002	N	100	157.0	50.0	101	5.0	-66.0	94.0	0	0.0	7.0	5.0	08056	B				
9 67	KARROO DOLERITE RHODESIA	-20.0	32.0	004	013	Y	0	330.0-55.0	200	21.0	-59.0	94.0	0	0.0	29.0	21.0	08057	B					
9 68	KARROO DOLERITE UMGENI STH AFRICA	-29.8	31.0	001	003	A	0	26.0-67.0	286	7.0	-62.0	-6.0	0	0.0	12.0	10.0	08058	B					
9 69	KARROO DOLERITE COMBINED	-23.1	31.0	010	067	Y	30	0.0	0.0	0	0.0	-65.4	75.1	16	12.3	0.0	0.0	08059	A **				
9 25	STORMBERG LAVAS SOUTH AFRICA	-29.5	29.0	014	119	N	36	340.0-49.0	9	14.0	-72.0	108.0	0	0.0	19.0	13.0	04005	A *					
9 46	STORMBERG LAVAS SANI NORM LESOTHO	-29.6	29.3	000	033	A	0	329.0-54.0	66	4.0	-64.0	102.0	0	0.0	4.0	3.0	06040	A					
9 48	STORMBERG LAVAS SANI REV LESOTHO	-29.6	29.3	000	013	A	100	162.0	54.0	18	11.0	-74.0	96.0	0	0.0	16.0	11.0	06042	A				
9 47	STORMBERG LAVAS MASERU N LESOTHO	-29.4	27.8	000	021	A	0	330.0-50.0	40	5.0	-64.0	106.0	0	0.0	7.0	5.0	06041	A					
9 49	STORMBERG LAVAS MASERU R LESOTHO	-29.4	27.8	000	007	A	100	178.0	66.0	36	10.0	-71.0	33.0	0	0.0	16.0	13.0	06043	B				
9 50	STORMBERG LAVAS COMBINED LESOTHO	-29.5	28.5	000	074	A	27	338.0-56.0	68	0.0	-71.0	89.0	0	0.0	15.0	15.0	00000	A **					
9 51	KARROO DOLERITE+VOLCANICS COMBINED	-29.7	28.5	000	226	Y	999	0.0	0.0	0	0.0	-69.0	83.0	0	0.0	8.0	8.0	00000	A				
9 24	KARROO BASALT RHODESIA	-18.0	26.0	000	011	N	0	332.0-40.0	19	5.0	-63.0	101.0	0	0.0	6.0	4.0	01055	A *					
9 57	MATEKE HILLS COMPLEXES RHODESIA	-21.8	31.2	006	036	A	100	149.0	59.0	113	6.0	-58.6	79.7	66	8.3	0.0	0.0	08063	A				
9 58	MATEKE HILLS COMPLEXES RHODESIA	-21.8	31.7	007	044	A	86	142.9	55.2	29	11.4	-54.9	90.1	0	0.0	16.2	11.5	00000	A **				
9 60	MARANGUDZI COMPLEX RHODESIA	-22.0	30.7	004	020	A	100	152.0	48.0	78	10.0	-63.7	97.6	67	11.3	0.0	0.0	08062	A				
9 61	MARANGUDZI COMPLEX RHODESIA	-22.0	30.7	005	029	A	80	153.7	46.5	73	9.0	-65.5	101.7	0	0.0	11.5	7.5	00000	A				
9 59	MARANGUDZI COMPLEX RHODESIA	-22.1	30.7	008	068	A	88	159.3	43.6	41	8.7	-70.2	105.1	40	8.5	10.9	6.8	10077	A **				
9 175	HOACHANAS BASALTS SW AFRICA	-24.5	18.0	003	010	A	0	331.0-57.5	62	15.8	-61.9	71.9	0	0.0	23.1	16.9	00000	A *					
9 75	MICRODIORITE DYKE MALAWI	-14.1	34.8	001	004	A	0	63.0	70.0	0	0.0	4.0	67.0	0	0.0	0.0	0.0	10104	B				
9 110	REDBEDS MOZAMBIQUE SEE 10-16																						
9 172	LIBERIAN DIABASE DYKES AND SILLS	6.5	-10.8	025	250	A	24	0.0	0.0	0	0.0	-68.5	62.4	31	5.3	0.0	0.0	00000	A **				
9 92	RED SANDSTONE MOROCCO	32.0	-7.0	005	013	T	0	350.0	42.0	0	24.0	0.0	0.0	0	0.0	0.0	0.0	09045	B				
9 111	DRAA VALLEY SILLS ANTI-ATLAS MOROC	29.5	-6.5	016	096	A	0	339.0	27.5	0	4.5	-65.5	50.5	0	3.5	0.0	0.0	13036	A				
9 112	FOUM ZGUID DYKE ANTI-ATLAS MOROCCO	30.5	-6.5	005	027	A	0	325.0	40.0	316	4.0	-58.0	79.0	0	4.0	0.0	0.0	13035	A				

JURASSIC OF AFRICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD 95	ED 95	POLE LAT	POLE LONG	KP 95	EP	DN	OP	OTHER F F LISTS 1 2
9 113	CENTRAL ATLAS INTRUSIVES MOROCCO	32.0	-6.0	006	035	A	0	318.4	38.5	10	22.0	-53.0	81.5	0	24.0	0.0	0.0	13032 B
9 114	MOROCCAN INTRUSIVES 1 COMBINED	31.0	-6.0	027	158	A	0	333.2	33.1	26	5.6	-62.3	64.5	25	5.6	0.0	0.0	00000 A
9 158	HIGH ATLAS AND N MOROCCO BASIC RX	34.0	-7.0	027	160	A	0	0.0	0.0	17	7.0	-71.0	36.0	0	0.0	8.0	5.0	00000 A
9 157	ANTI-ATLAS BASIC ROCKS MOROCCO	31.0	-7.0	004	010	A	0	0.0	0.0	18	22.0	-72.0	81.0	0	0.0	24.0	14.0	00000 B
9 173	MOROCCAN INTRUSIVES 2 COMBINED	32.0	-6.5	058	328	A	0	0.0	0.0	0	0.0	-64.4	72.3	64	9.6	0.0	0.0	00000 A **

CRETACEOUS OF AFRICA SOUTH 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
10 8	LAVAS AND DYKES MALAGASY	0.0	0.0	010	000	N	0	0.0	0.0	0	6.0	-68.0	12.0	0	0.0	0.0	0.0	01050	B	
10 27	LAVAS UPPER CRETACEOUS MALAGASY	-23.5	44.3	003	011	A	0	44.0	-61.0	0	8.0	-46.0	2.0	0	0.0	11.4	9.4	08047	A	
10 70	MANGOKY-ONILAHY VOLCANICS MALAGASY	-23.0	44.0	009	047	A	0	353.0	-53.0	30	10.0	-74.1	64.7	0	11.0	0.0	0.0	11034	A **	
10 69	ANDROY VOLCANICS MALAGASY	-24.3	46.0	007	036	A	0	345.0	-64.0	116	6.0	-65.1	72.1	0	8.0	0.0	0.0	11033	A **	
10 257	KAOKO LAVAS SOUTH WEST AFRICA	-20.1	14.1	040	118	X	16	315.0	-44.5	53	3.1	-48.3	86.6	0	0.0	3.9	2.5	00000	A **	
10 80	MLANJE SYENITE MALAWI	-16.0	35.6	000	008	A	0	333.0	-54.0	36	9.0	-68.0	82.0	0	12.0	0.0	0.0	09040	B	
10 15	LUPATA ALKALINE VOLCANS MOZAMBIQUE	-16.7	34.2	007	061	A	0	336.0	-54.0	339	3.0	-62.0	79.0	0	0.0	4.0	4.0	07021	A	
10 81	ALKALI ROCKS MALAWI+MOZAMBIQUE	-16.0	35.5	008	069	A	0	334.5	-54.0	66	4.7	-60.5	80.5	0	6.1	0.0	0.0	00000	A **	
10 16	RED SILTSTONE MOZAMBIQUE	-16.2	34.2	001	005	A	0	359.0	-46.0	160	6.0	-79.0	38.0	0	0.0	8.0	5.0	07022	B	
10 32	RED SANDSTONE SONGWE RIV TANZANIA	-9.5	33.0	000	003	N	0	21.0	-54.0	20	11.0	-58.0	2.0	0	0.0	15.0	10.0	08050	B	
10 106	ETHIOPIAN TRAPS SEE 11-159 11-160																			
10 210	NUBIAN SANDSTONE+LAVA NATASH EGYPT	24.5	34.2	009	163	X	0	358.4	-3.8	5	5.6	-66.5	37.9	0	0.0	5.6	2.8	00000	A **	
10 211	NUBIAN SANDSTONE IRON ORES EGYPT	24.1	33.1	005	009	X	88	162.6	-18.3	23	11.0	-75.0	23.2	0	0.0	11.5	6.0	00000	B	
10 97	RED SANDSTONE MOROCCO	33.0	-6.0	005	015	T	0	3.0	36.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	09037	B	
10 254	INFRACENOMANIAN REDBEDS MOROCCO	31.8	-6.9	005	028	T	0	347.0	38.5	117	7.0	-75.0	47.0	0	5.5	0.0	0.0	00000	A **	
10 252	VOLCANICS OF BEN-MELLAL ATLAS MERO	32.2	6.0	011	078	A	73	0.0	0.0	0	0.0	-44.0	71.0	24	10.0	0.0	0.0	00000	A **	

JURASSIC OF ANTARCTICA SOUTH 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 F F LISTS 1 2
9 39	BEACON GROUP SEDIMENTS SEE 6-124																	
9 40	BASEMENT DYKES SEE 2-41																	
9 41	ADMIRALTY GRANITES 2-42																	
9 37	FERRAR DOLERITE SHEETS	-78.0	161.0	005	057	N	0	255.0-76.0	52	3.0	-58.0-142.0	0	0.0	5.0	5.0	02027	A	
9 38	FERRAR DOLERITE SHEETS	-77.4	161.6	046	083	A	0	250.0-68.0	63	3.0	-45.0-141.0	0	0.0	4.0	3.0	06036	A	
9 56	FERRAR DOLERITE SHEETS	-84.0	165.0	009	013	A	0	244.0-75.0	18	11.0	-59.0-139.0	0	0.0	20.0	18.0	00000	A	
9 174	FERRAR DOLERITE SHEETS COMBINED	-80.0	163.0	055	096	A	0	249.8-69.3	34	3.3	-48.6-138.2	0	0.0	5.7	4.8	00000	A **	
9 42	DOLERITE INTRUSIONS THERON MTS	-80.5	-25.0	007	008	N	67	64.0-68.0	0	12.0	-54.0-136.0	0	0.0	20.5	17.5	02026	B	
9 120	DOLERITE DRONNING MAUD LAND	-74.0	-15.0	001	002	0	0	40.0-56.0	0	0.0	-48.0-147.0	0	0.0	0.0	0.0	12083	B	
9 93	DUFEK INTRUSION PENSACOLA MTS	-82.5	-52.0	043	057	N	12	61.5-63.0	15	3.0	-47.5-164.0	0	0.0	5.0	4.0	09063	A	
9 138	DUFEK INTRUSION PENSACOLA MTS	-84.0	-50.0	030	091	A	33	53.0-69.0	12	4.5	-56.5-168.0	0	0.0	7.5	6.5	00000	A **	
9 55	DYKES GRAHAM LAND SCATTERED	-63.0	-60.0	005	018	A	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	07030	B	
9 54	VOLCANICS GRAHAM LAND SCATTERED	-63.0	-60.0	012	043	A	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	07029	B	
9 65	LAVAS ARGENTINE ISLAND GRAHAM LAND	-65.3	-64.3	000	012	T	0	121.0	55.0	20	35.0-44.0	37.0	0	0.0	49.5	37.0	08054	B
9 116	GAMBACORTA FM HAWKES RHYODACITE	-84.0	-56.0	001	004	A	0	115.5-71.6	62	11.7	-53.0-112.5	0	0.0	20.4	17.8	00000	B	

CRETACEOUS OF ANTARCTICA SOUTH 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 F F LISTS 1 2
10 38	ANDEAN INTRUSIVE SUITE	-65.0	-64.0	012	077	N	17	351.0-77.0	253	3.0	-86.0	-2.0	0	0.0	6.0	6.0	07019	A **

TRIASSIC OF SOUTHERN ASIA SOUTH 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 F LISTS	F 1	F 2
8 86	PACKMARHI RED BEDS INDIA	22.4	78.4	003	031	T	100	117.2	48.9	33	4.6	-10.1	130.1	0	0.0	6.1	4.0	11043	A *	
8 96	PARSORA SANDSTONE INDIA	23.4	81.0	003	049	T	0	320.0	-39.0	200	6.0	-30.0	125.0	0	0.0	7.0	4.0	11045	A *	
8 243	PANCHET SERIES INDIA	24.0	84.6	001	013	X	100	110.5	69.0	49	6.0	7.5	120.5	0	0.0	10.0	9.0	00000	A *	
8 84	KAMTHI SANDSTONE INDIA SEE 7-293																			
8 85	MANGLI BEDS INDIA SEE 7-299																			
8 252	PENGERANG RHYOLITES SEE 7-300																			
8 215	SANDSTONE MONGOLIA	49.5	101.7	007	015	T	7	55.9	8.9	3	26.4	25.0	-144.0	0	0.0	26.6	13.4	00000	B	
8 46	DOLERITE WESTERN HILLS CHINA	0.0	0.0	000	005	N	0	63.0	18.0	0	32.0	27.0	-143.0	0	0.0	0.0	0.0	06044	B	
8 240	KONOSE DISTRICT LAVAS JAPAN	0.0	0.0	000	006		0	350.0	3.0	0	0.0	58.0	-30.0	0	0.0	0.0	0.0	00000	B	
8 158	PAL-MESO INTRUSIONS JAPAN SEE 9-22																			
8 91	MESOZOIC INTRUSION JAPAN SEE 10-39																			

JURASSIC OF SOUTHERN ASIA SOUTH 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 F LISTS	F 1	F 2
9 78	BAYBURT VOLCANICS+SEDIMENT TURKEY	40.4	39.9	000	008	A	100	146.5	3.0	51	8.0	-39.0	85.0	0	0.0	8.0	4.0	10071	B	
9 73	KIMMERIDGIAN BASALTS LEBANON	34.0	36.0	006	020	A	100	92.5	10.5	0	3.0	1.0	120.0	0	0.0	3.0	2.0	09044	A	
9 165	KIMMERIDGIAN BASALT LEBANON	33.9	35.6	008	065	A	100	95.0	21.1	28	10.6	2.0	114.0	0	0.0	11.2	5.9	00000	A **	
9 119	GONOWANA DYKES SEE 10-128																			
9 71	RAJMAHAL TRAPS SEE 10-251 ETC																			
9 44	SYLHET TRAPS NORTHEAST INDIA	25.0	91.0	000	025	X	0	322.0	-59.0	0	7.0	-16.0	120.0	0	0.0	11.0	8.0	07031	A *	
9 45	SYLHET TRAPS NORTHEAST INDIA	25.0	91.0	000	011	X	100	243.0	-60.0	0	16.0	36.0	147.0	0	0.0	24.0	18.0	07032	A *	
9 43	DARK RED HEMATITE CHINA	29.0	106.0	000	007	N	0	261.0	34.0	0	54.0	1.0	37.0	0	0.0	0.0	0.0	06034	B	
9 77	JURASSIC RED BEDS CHINA	28.5	104.6	005	000	N	0	36.8	65.6	151	6.3	55.7	150.2	0	0.0	10.2	8.3	10072	B	
9 21	MESOZOIC INTRUSION JAPAN SEE 10-39																			
9 22	LATE PAL-MESO INTRUSION SW JAPAN	35.0	134.0	007	063	N	0	30.0	47.0	15	16.0	63.0	-130.0	0	0.0	21.0	14.0	05013	A	

CRETACEOUS OF SOUTHERN ASIA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	EO 95	POLE LAT	POLE LONG	KP	EP 95	DM	DP	OTHER F LISTS	F 1	F 2
10 53	GUMUSHANE GROUP SEE 11-272	0.0	0.0					0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 54	GUMUSHANE GROUP TURKEY	40.5	39.3 006 031 A	100	153.5	-36.5		35	11.0	-61.0	98.0	0	0.0	13.0	8.0	10056	A	**		
10 55	NIKSAR BASALT TURKEY	40.7	37.0 002 009 A	100	140.0	-36.0		8	0.0	-51.0	116.0	0	0.0	0.0	0.0	10062	B			
10 217	TROODOS MASSIF LAVAS CYPRUS	35.0	33.0 007 000 N	0	276.5	37.8		7	25.2	-17.1	137.3	0	0.0	0.0	0.0	00000	B			
10 218	TROODOS MASSIF INTRUSIVES CYPRUS	35.0	33.0 024 000 N	0	322.0	61.2		14	25.6	-59.7	148.4	0	0.0	39.4	30.1	00000	B			
10 219	TROODOS MASSIF COMBINED CYPRUS	35.0	33.0 031 000 N	0	299.9	56.0		9	23.6	-42.0	143.3	0	0.0	33.8	24.3	00000	B			
10 37	BASALTS TUFFS+LIMESTONES LEBANON	34.0	36.0 005 015 A	0	313.5	9.5		0	5.5	-38.0	102.0	0	0.0	6.0	3.0	09041	A			
10 235	NEOCOMIAN LAVAS LEBANON	33.8	35.5 007 047 A	73	122.3	2.3		39	9.0	25.0	105.0	0	0.0	9.0	4.0	00000	A	**		
10 130	UPPER CRETACEOUS LAVAS ISRAEL	32.5	35.0 002 015 A	0	325.5	-6.2		52	5.4	-41.6	84.2	0	0.0	5.4	2.7	12067	A	*		
10 131	LOWER CRETACEOUS LAVAS ISRAEL	31.0	35.0 003 023 A	0	332.3	8.4		15	8.6	52.8	85.1	0	0.0	8.7	4.4	12071	A	*		
10 132	SATYAVEDU SANDSTONE INDIA	13.5	80.0 001 013 G	0	321.0	-58.0		80	4.0	-26.0	113.0	0	0.0	6.0	5.0	12059	A	*		
10 45	TIRUPATI SANDSTONE INDIA	16.8	81.2 004 065 A	86	153.0	56.0		0	4.0	-28.0	107.0	0	0.0	6.0	4.0	09039	A	*		
10 46	RAJMAHAL TRAPS BIHAR INDIA	25.0	87.9 003 033 N	0	327.0	-64.0		36	4.0	-13.0	111.0	0	0.0	6.0	5.0	01054	A			
10 220	RAJMAHAL TRAPS BIHAR INDIA	24.5	87.5 015 092 A	0	322.0	-64.0	170	3.0	-12.0	114.0	0	0.0	5.0	4.0	08060	A				
10 47	RAJMAHAL TRAPS BIHAR INDIA	25.6	87.7 008 016 A	0	310.0	-67.0	187	4.0	-3.0	118.0	91	6.0	9.0	0.0	12080	A				
10 251	RAJMAHAL TRAPS BIHAR INDIA	25.0	88.0 025 175 X	25	314.5	-64.5	68	3.5	-7.0	117.0	0	0.0	6.0	4.5	00000	A	**			
10 128	GONDWANA DOLERITE DYKES INDIA	23.7	83.0 012 098 A	0	336.0	-45.0		37	6.7	33.4	-69.1	24	9.1	0.0	0.0	12072	A	**		
10 289	RAJMAHENDRI TRAPS INDIA	17.0	81.8 003 050	0	307.0	-47.0		0	4.0	-22.0	132.0	0	0.0	0.0	0.0	08038	A	*		
10 290	RAJMAHENDRI TRAPS INDIA	0.0	0.0 008 034	0	302.0	-42.0		0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B			
10 129	mysore dykes(A) SEE 11-384																			
10 127	DECCAN TRAPS INDIA SEE 11-393 ETC																			
10 221	SEGAMAT KUANTAN MASSAI RX MALAYA	2.6	103.3 000 16 A	56	136.0	-31.0		16	9.4	44.0	35.0	19	8.7	0.0	0.0	00000	A	*		
10 52	CRETACEOUS RED BEDS CHINA	25.0	113.0 007 080 N	0	0.0	0.0		0	0.0	59.4	158.0	54	8.3	0.0	0.0	10059	A	*		
10 65	GNEISS TAROKO GORGE TAIWAN	24.2	121.6 004 015 A	50	2.7	31.8		0	13.0	82.6	-78.8	0	0.0	0.0	0.0	09032	A	**		
10 31	IGNEOUS ROCK SOUTH KOREA	36.0	129.0 005 035 A	0	19.5	53.3		44	9.5	73.9	-138.4	0	0.0	13.2	9.2	08049	A	**		
10 76	SANDSTONE NORTH KOREA	39.0	126.0 008 008 N	0	26.0	67.0		70	4.0	69.0	182.0	0	3.0	0.0	0.0	10055	B			
10 194	MONOMIDAKE FORMATION HONSHU JAPAN	34.3	131.0 002 022 N	0	60.0	56.0		0	0.0	46.0	-162.0	0	0.0	0.0	0.0	00000	A			

CRETACEOUS OF SOUTHERN ASIA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
10 195	SEKIMON GROUP SW HONSHU JAPAN	34.3	131.0	001	008	N	0	74.0	61.0	0	8.0	34.0	-165.0	0	0.0	12.0	10.0	00000	B	
10 196	MAIYA FORMATION SW HONSHU JAPAN	34.2	131.6	003	015	N	0	63.8	72.7	0	6.8	40.0	-175.0	0	0.0	0.0	0.0	00000	A	
10 197	EFUNE FORMATION SW HONSHU JAPAN	34.2	131.6	001	086	N	0	54.5	53.5	0	7.8	50.0	-148.0	0	0.0	11.0	8.0	00000	B	
10 198	SHINONE FORMATION SW HONSHU JAPAN	34.2	131.6	001	008	N	100	118.0	-30.0	0	5.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
10 199	SHIOHAMA FORMATION SW HONSHU JAPA	34.0	131.0	001	007	N	0	88.0	59.0	0	6.1	34.0	-150.0	0	0.0	9.0	7.0	00000	B	
10 200	KITA-HIKOSHIMA FORMATION JAPAN	34.0	131.0	004	016	N	0	45.2	50.3	0	7.2	47.0	-143.0	0	0.0	10.0	6.0	00000	A	
10 201	ZENTEIJI SAN FORMATION JAPAN	34.1	131.4	001	006	N	0	58.6	65.8	0	9.9	46.0	-166.0	0	0.0	16.0	13.0	00000	B	
10 202	AKANA GRANODIORITE SW HONSHU JAPA	35.0	132.9	001	006	N	0	58.9	64.1	0	10.1	46.0	-164.0	0	0.0	16.0	13.0	00000	B	
10 203	SAKUGI ANDESITE SW HONSHU JAPAN	34.7	132.9	002	008	N	0	55.1	46.3	0	18.1	43.0	-141.0	0	0.0	22.0	15.0	00000	B	
10 204	TAKAYAMA ANDESITE SW HONSHU JAPAN	34.8	132.7	001	007	N	0	47.1	66.2	0	8.6	55.0	-170.0	0	0.0	14.0	10.0	00000	B	
10 205	KISA ANDESITE SW HONSHU JAPAN	35.0	133.1	002	012	N	0	80.2	53.0	0	7.4	35.0	-146.0	0	0.0	12.0	10.0	00000	A	
10 206	NARIBA-SUGURI-ISHI GROUP SW JAPAN	34.7	133.7	011	045	N	0	58.0	64.7	0	2.0	44.0	-165.0	0	0.0	3.2	2.6	00000	A	
10 207	AKOH FORMATION SW HONSHU JAPAN	34.8	134.5	010	034	N	100	226.0	-53.2	0	7.1	58.0	-160.0	0	0.0	10.0	7.0	00000	A	
10 208	ARIMA FORMATION SW HONSHU JAPAN	34.8	135.0	003	008	N	0	64.7	54.7	0	11.2	39.0	-155.0	0	0.0	16.0	12.0	00000	B	
10 209	SW HONSHU CRETACEOUS COMBINE JAPAN	34.8	133.0	045	218	N	24	55.4	60.3	0	6.3	48.0	-162.0	0	0.0	9.5	7.5	00000	A **	
10 7	INKSTONE SERIES JAPAN	34.5	131.5	003	060	N	0	58.0	50.0	0	2.0	42.0	-153.0	0	0.0	3.0	2.0	02019	A	
10 116	INKSTONE SERIES AND VOLCANIC JAPAN	34.5	131.5	005	072	N	0	40.4	66.9	88	8.2	57.0	-178.1	0	0.0	13.6	11.2	00000	A	
10 117	INKSTONE SERIES COMBINED JAPAN	34.5	131.5	007	120	N	0	51.6	58.8	40	9.6	49.1	-161.3	0	0.0	13.7	10.0	00000	A **	
10 21	QTZ-DIORITE NOSE DISTRICT JAPAN	35.0	134.5	006	062	N	67	239.0	-61.0	20	15.0	44.0	-166.0	0	19.0	0.0	0.0	08035	A **	
10 89	HOKKAIDO IGNEOUS ROCKS JAPAN	43.3	146.7	004	000	N	50	336.5	82.6	31	16.9	56.3	136.0	0	0.0	32.9	32.2	00000	B	
10 253	ALKALINE COMPLEXES HOKKAIDO JAPAN	43.3	145.6	032	304	X	9	342.6	53.8	160	6.7	73.8	27.9	0	0.0	9.3	6.5	00000	A **	
10 74	KANAI GAURA FORMATION JAPAN	39.0	141.5	003	000	N	0	353.7	-27.0	0	0.0	36.0	-31.0	0	0.0	0.0	0.0	10064	B	
10 149	SHINYAMA IRON ORE HONSHU JAPAN	39.0	141.5	000	017	N	0	0.0	90.0	0	20.0	39.0	141.5	0	0.0	0.0	0.0	00000	B	
10 150	SHINYAMA SECOND COPPER BODY JAPAN	39.0	141.5	000	023	N	0	2.0	45.0	0	0.6	77.5	-46.8	0	0.0	0.0	0.0	00000	A	
10 151	SHINYAMA FOURTH COPPER BODY JAPAN	39.0	141.5	000	015	N	0	327.0	51.0	0	0.7	62.3	46.0	0	0.0	0.0	0.0	00000	A *	
10 152	KAMAISHA GRANODIORITE JAPAN	39.0	141.5	000	018	N	0	327.0	50.0	0	9.0	62.0	45.0	0	0.0	0.0	0.0	00000	A *	
10 153	KAMAISHA QUARTZ-DIORITE JAPAN	39.0	141.5	000	010	N	0	299.0	45.0	0	9.0	38.0	57.0	0	0.0	0.0	0.0	00000	A *	

CRETACEOUS OF SOUTHERN ASIA SOUTH 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 F F LISTS 1 2
10 154 AKAGANE ORE IWATE PREFECT JAPAN		39.2	141.2	002	013	Y		0 336.0	67.0	0	8.0	70.0	91.4	0	0.0	0.0	0.0	00000 A
10 155 GRANITE PORPHYRY IWATE JAPAN		39.2	141.2	003	030	Y		0 335.0	66.0	0	4.0	69.8	87.1	0	0.0	0.0	0.0	00000 A
10 156 GABBRO IWATE PREFECTURE JAPAN		39.2	141.2	002	029	Y		0 290.0	63.0	0	5.0	39.2	81.7	0	0.0	0.0	0.0	00000 A
10 157 QTZ-DIORITE IWATE PREFECT JAPAN		39.2	141.2	001	017	Y		0 296.0	66.0	0	6.0	44.2	85.0	0	0.0	0.0	0.0	00000 A
10 158 QTZ-PORPHYRY IWATE PREFECT JAPAN		39.2	141.2	002	015	Y		0 318.0	67.0	0	8.0	58.7	84.8	0	0.0	0.0	0.0	00000 A
10 159 AKAGANE BODIES IWATE COMBINED JAP		39.2	141.2	005	104	A		0 314.3	67.0	84	8.4	56.3	84.6	0	0.0	14.0	11.6	00000 A **
10 41 PAL-MESO INTRUSIONS JAPAN SEE 9-22																		
10 39 MESOZOIC INTRUSIVES NE JAPAN		37.0	140.0	009	087	N		0 332.0	61.0	11	17.0	68.0	73.0	0	0.0	25.0	20.0	05014 A

TRIASSIC OF AUSTRALIA SOUTH 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 F F LISTS 1 2
8 28 NARRABEEN SERIES NEW SOUTH WALES		-33.9	150.9	004	032	T		0 338.0	-62.0	0	7.0	-49.0	160.0	0	0.0	14.0	14.0	07034 A *
8 29 BRISBANE TUFF QUEENSLAND		-27.8	153.0	006	012	A		0 11.0	-74.0	145	6.0	-57.0	143.0	0	0.0	11.0	10.0	07033 A **

JURASSIC OF AUSTRALIA SOUTH 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 F F LISTS 1 2
9 32 NOOSA HEAD INTRUSIVE COMPLEX QLD		-26.4	153.1	004	000	A	25	51.0	-79.0	48	13.0	-36.0	132.0	0	0.0	25.0	24.0	07028 B
9 29 PROSPECT DOLERITE NEW SOUTH WALES		-33.8	150.8	003	010	N	0	359.0	-81.0	28	7.0	-51.0	151.0	0	0.0	13.0	13.0	05021 A *
9 28 MOUNT GIBRALTAR MICROSYENITE NSW		-34.5	150.4	002	010	N	0	27.0	-86.0	9	12.0	-41.0	146.0	0	0.0	24.0	24.0	05020 A *
9 33 GINGENBULLEN DOLERITE NSW		-34.4	150.3	001	008	A	100	191.0	80.0	23	8.0	-53.0	144.0	0	0.0	15.0	15.0	05019 B
9 31 TASMANIAN DOLERITE RED HILL		-43.0	148.0	008	037	N	0	294.0	-75.0	70	7.0	0.0	0.0	0	0.0	0.0	0.0	00000 A
9 30 TASMANIAN DOLERITE GENERAL SURVEY		-42.0	147.0	051	132	N	0	319.0	-84.0	111	3.0	-51.0	160.0	0	0.0	6.0	6.0	07026 A *

CRETACEOUS OF AUSTRALIA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	K0	E0 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER	F F LISTS 1 2
		R																	
10	10 MOUNT DROMEDARY COMPLEX NSW	-36.0	150.0	022	055	X	5	19.0-79.0	47	5.0	-56.0	138.0	0	0.0	9.0	9.0	07023	A **	
10	9 CYGNET ALKALINE COMPLEX TASMANIA	-43.2	147.1	015	045	A	0	314.0-85.0	776	5.0	-50.0	158.0	0	0.0	10.0	10.0	06031	A **	

TRIASSIC OF EUROPE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER	F	F	LISTS	1	2
8 6	KEUPER MARLS ENGLAND	53.0	-2.0	009	043	N	44	33.0	27.0	16	12.0	43.0	131.0	0	0.0	12.0	6.0	01064	A	**			
8 7	KEUPER MARLS MIXED ENGLAND	50.7	-3.2	000	035	Y		30.0	23.0	0	0.0	44.0	134.0	0	0.0	0.0	0.0	00000	A				
8 8	NEW RED SANDSTONE SCOTLAND	55.6	-5.3	000	041	N	100	214.0	-48.0	3	21.0	54.0	118.0	0	0.0	28.4	19.1	01065	b				
8 103	ALCAZAR RED BEDS SPAIN	39.0	-3.0	002	039	A		0 359.5	23.0	0	6.0	63.0	177.5	0	0.0	6.0	3.0	09061	A	*			
8 5	SANDSTONE SPAIN	43.0	-5.0	007	000	N		0 353.0	57.0	0	3.0	82.0	131.0	0	0.0	4.0	3.0	05022	B				
8 102	GARALDA RED BEDS SPAIN	42.9	-1.3	005	095	A		0 350.0	18.0	0	0.0	55.0	-164.0	0	0.0	0.0	0.0	11054	B				
8 95	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				
8 94	ANDESITE HUESCA PROVINCE 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	*			
8 73	PYRENEES SEDIMENTS SPAIN	42.0	1.5	001	004	A		0 340.5	24.0	0	11.0	54.5	-142.0	0	0.0	12.0	6.0	09062	B				
8 110	PYRENEAN VOLCANICS FRANCE SEE 9-85																						
8 262	PYRENEAN VOLCANICS TR-J SEE 9-85																						
8 123	NORMANDY RED BEDS FRANCE	49.4	-1.2	006	051	N	67	17.3	34.0	5	32.1	56.2	148.3	0	0.0	36.7	71.0	00000	B				
8 1	VOSGE SANDSTONE NORMAL FRANCE	49.0	7.0	003	009	N	0	10.0	40.0	9	23.0	62.0	167.0	0	0.0	28.0	17.0	04007	B				
8 2	VOSGE SANDSTONE REVERSED FRANCE	48.0	7.0	007	061	N	100	218.0	9.0	2	11.0	28.0	143.0	0	0.0	12.0	6.0	01063	B				
8 3	VOSGE SANDSTONE REDBEDS COMBINED	48.5	7.0	010	070	N	77	25.0	16.0	0	0.0	44.0	151.0	0	0.0	20.0	12.0	00000	A	*			
8 239	SPILITES OF PELVOUX FRANCE	44.8	6.5	004	000	A	50	333.8	-0.8	12	28.0	39.2	-138.8	0	0.0	28.0	14.0	00000	B				
8 251	MELAPHYRES SKANE SWEDEN SEE 7-295	0.																					
8 4	BUNTER SANDSTONE MIXED W GERMANY	48.3	8.3	005	027	N		17.0	29.0	36	13.0	55.0	159.0	0	0.0	10.0	10.0	04008	A	*			
8 116	LACINIAN VOLCANICS WEST GERMANY	46.4	11.7	002	008	A	0	24.0	14.0	0	0.0	46.0	155.0	0	0.0	0.0	0.0	10091	B				
8 109	SCALVE PORPHYRITE ITALY	45.8	10.2	000	005	A	100	161.5	-21.5	0	6.0	52.0	-139.0	0	0.0	6.0	3.0	11048	B				
8 97	SCHIO CLASTICS SEDIMENTS ITALY	45.0	11.0	000	003	A	0	15.0	47.0	0	0.0	69.0	151.0	0	0.0	0.0	0.0	09048	B				
8 98	SCHIO BASIC DYKES ITALY	45.0	11.0	000	007	A	0	330.0	49.0	0	0.0	62.0	-101.0	0	0.0	0.0	0.0	09055	B				
8 99	SCHIO VOLCANICS+SEDIMENTS ITALY	45.0	11.0	005	043	A	40	330.0	41.0	230	5.0	57.0	-111.0	0	0.0	6.0	4.0	09060	A	**			
8 100	MID-TRIASSIC INTRUSIVES ITALY	46.0	11.0	004	040	Y	0	24.4	40.8	0	0.0	60.0	141.8	0	0.0	0.0	0.0	09056	B				
8 101	IGNEOUS ROCKS ITALY	45.0	11.0	003	020	A	0	333.0	41.9	0	0.0	59.8	-113.7	0	0.0	0.0	0.0	00000	A	*			
8 87	PREDAZZO DYKES ITALY	46.5	11.7	002	009	A	0	336.0	43.0	0	0.0	61.2	-118.3	0	0.0	0.0	0.0	12101	B				
8 88	POFPHYRITES+DYKES+TUFFITES ITALY	46.4	11.8	012	057	A	0	329.0	25.0	0	9.0	48.0	-120.0	0	0.0	10.0	5.0	12100	A	**			

TRIASSIC OF EUROPE 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	F F LISTS 1 2
				R															
8 69	KIELCE SANDSTONE POLAND	51.0	21.0	005	021	N	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	08071	B
8 122	NORTHEAST BOHEMIA REDBEDS CZECHOSL	50.6	16.1	007	085	N	0	359.8	65.1	27	3.0	86.5-161.8		0	0.0	4.8	3.9	00000	A **
8 70	WERFENIAN BEDS CZECHOSLOVAKIA	48.9	19.2	000	021	N	0	6.0	19.0	0	0.0	51.0-170.0		0	0.0	3.0	3.0	08075	A *
8 124	CARPATHIAN SEDIMENTS SEE 7-169																		

JURASSIC OF EUROPE NORTH POLES

CRETACEOUS OF EUROPE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE	POLE	KP	EP	DM	DP	OTHER	F	F
				R						95	95	LAT	LONG	95	95			LISTS	1	2
10 59	LISBON VOLCANICS PORTUGAL	38.8	-9.2	012	039	A	0	346.7	37.2	16	11.2	68.7	-153.0	0	0.0	13.2	7.7	10042	A	
10 60	LISBON VOLCANICS PORTUGAL	38.8	-9.2	005	019	A	0	351.5	42.0	0	10.0	73.5	-160.0	0	0.0	12.3	7.9	10043	A	
10 83	LISBON VOLCANICS PORTUGAL	38.8	-9.2	033	176	A	0	352.0	40.0	66	3.0	72.5	-163.0	0	0.0	3.0	2.0	00000	A	**
10 64	SINTRA GRANITE PORTUGAL	38.8	-9.5	008	025	A	0	359.0	43.5	0	8.0	76.5	174.0	0	0.0	12.0	7.0	11032	A	**
10 1	WEALDEN SEDIMENTS ENGLAND	50.5	1.5	008	019	Y	0	345.0	63.0	260	2.0	79.0	-115.0	0	0.0	3.0	2.0	03025	A	*
10 2	IRON GRIT NEGATIVE ENGLAND	51.0	0.5	000	000	N	0	3.0	68.0	20	6.0	87.0	151.0	0	0.0	10.0	8.0	05015	A	
10 3	IRON GRIT POSITIVE ENGLAND	51.0	0.5	000	000	N	100	185.0	-72.0	10	7.0	86.0	39.0	0	0.0	10.0	11.0	05016	A	
10 4	IRON GRIT COMBINED 1 ENGLAND	51.0	0.5	000	021	N	33	359.0	70.0	0	0.0	87.0	-11.0	0	0.0	0.0	0.0	00000	A	
10 33	WEALDEN IRON GRIT ENGLAND	51.0	0.5	000	020	N	45	2.0	72.0	0	0.0	84.0	11.0	0	0.0	0.0	0.0	08051	A	
10 34	IRON GRIT COMBINED 2 ENGLAND	51.0	0.5	000	041	N	0	0.0	71.0	0	0.0	87.3	38.8	339	6.7	0.0	0.0	00000	A	*
10 77	DOLERITE OF SPITZBERGEN	78.5	15.5	007	037	T	100	25.0	-76.0	22	13.0	53.0	-2.0	0	0.0	25.0	23.0	10067	A	
10 232	DOLERITE OF SPITZBERGEN	78.3	16.2	001	008	A	100	198.5	-64.7	38	8.0	58.0	179.0	0	0.0	18.0	14.0	10069	B	
10 215	DOLERITE OF ISFORDEN SPITZBERGEN	80.0	15.5	000	000	X		0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
10 213	SORLIFJELL BASALTS SPITZBERGEN	79.0	15.0	012	047	X	0	335.0	77.0	110	4.2	75.0	-125.0	0	0.0	7.8	7.4	00000	A	**
10 214	SEIDFJELL BASALTS SPITZBERGEN	79.0	16.0	004	016	X	0	48.0	81.0	45	6.9	77.0	107.0	0	0.0	13.1	13.1	00000	A	*
10 57	BIOCHEMICAL SEDIMENTS ITALY	45.0	11.0	000	004	A	0	356.0	37.0	0	0.0	65.0	-160.0	0	0.0	0.0	0.0	09038	B	
10 233	SCAGLIA ROSSA UMBRIA ITALY	43.5	12.6	005	021	X	60	351.0	52.5	12	23.5	77.5	-131.5	0	0.0	32.0	22.0	00000	B	
10 234	UMBRIA JURO-CRETACEOUS ROCKS ITALY	43.5	12.6	004	019	X	0	290.5	51.5	74	11.0	35.5	-64.5	0	0.0	15.0	10.0	03000	A	*
10 236	SCAGLIA BEDS UMBRIA ITALY	44.0	13.0	027	162	T	34	328.8	33.9	19	6.5	53.9	110.8	0	0.0	7.4	4.5	00000	A	**
10 238	SCAGLIA ROSSA STH DOLOMITES ITALY	45.6	11.5	012	097	T	0	343.0	41.4	34	7.5	64.1	-130.8	0	0.0	8.9	5.8	00000	A	**
10 243	SCAGLIA ROSSA AT GUBBIO UPPER PART	43.4	12.6	006	054	X	66	338.1	37.3	77	7.7	61.3	-120.5	0	0.0	9.2	5.4	00000	A	**
10 244	SCAGLIA ROSSA AT GUBBIO LOWER PART	43.4	12.6	006	054	X	17	286.0	40.0	83	7.4	26.7	-69.8	0	0.0	8.9	5.5	00000	A	**
10 245	SCAGLIA ROSSA AT GUBBIO COMBINED	43.4	12.6	016	151	X	46	311.2	41.6	14	10.1	45.8	-86.4	0	0.0	12.1	7.5	00000	A	
10 246	SCAGLIA ROSSA OTHER SITES ITALY	43.4	12.6	018	162	X	22	322.7	45.3	22	7.5	55.8	-92.9	0	0.0	9.8	6.3	00000	A	
10 247	SCAGLIA ROSSA UMBRIA COMBINE ITALY	43.4	12.6	034	311	X	33	317.2	43.7	17	6.1	51.1	-89.5	0	0.0	7.6	5.0	00000	A	**
10 237	APTIAN LIMESTONES UMBRIA ITALY	44.0	13.0	006	036	T	0	297.9	39.6	60	8.7	35.2	-78.6	0	0.0	10.2	6.8	00000	A	**
10 239	CENOMANIAN LIMESTONES DOLOMITES	45.6	11.5	003	018	T	33	330.5	36.5	70	14.9	54.8	-115.4	0	0.0	17.9	10.4	00000	A	*

CRETACEOUS OF EUROPE NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE LAT	POLE LONG	KP	EP	DM	DP	OTHER F F LISTS 1 2
							R			95				95				
10 240	APULIAN BAUXITES ITALY	41.8	15.8	004	026	T	0	342.4	36.0	46	4.2	63.7	-124.5	0	0.0	4.6	3.0	00000 A
10 241	MATESE MOUNTAINS BAUXITES ITALY	41.4	14.3	005	028	T	20	322.4	28.2	16	7.0	48.2	-103.3	0	0.0	8.0	5.0	00000 A
10 242	BAUXITES OF SOUTH ITALY COMBINED	41.5	15.0	009	054	T	11	329.1	32.2	32	9.2	54.2	-108.0	0	0.3	10.4	5.8	00000 A **
10 184	CAPO PASSERO VOLCANIC SICILY ITALY	36.7	15.1	019	107	A	100	167.0	-22.0	23	7.1	-62.1	43.3	0	5.8	7.5	4.0	00000 A
10 248	CAPO PASSERO DYKES SICILY ITALY	36.7	15.1	008	034	A	100	165.0	-26.0	62	7.0	63.0	131.0	0	0.0	7.6	4.1	00000 A
10 249	CAPO PASSERO DYKES+LAVAS COMBINED	36.7	15.1	027	141	A	100	167.0	-23.0	28	5.3	62.5	136.0	0	0.0	5.6	3.0	00000 A **
10 20	WALDENSTEIN CZECHOSLOVAKIA	46.9	14.9	000	022	A	100	158.0	-85.0	5	15.0	56.0	8.0	0	0.0	38.0	29.0	08034 B
10 26	SANDSTONE CZECHOSLOVAKIA	50.2	14.6	000	012	N	0	358.0	69.0	0	0.0	87.0	-13.0	0	0.0	8.0	4.0	08046 A *
10 88	MINERALIZED VEINS CZECHOSLOVAKIA	50.9	13.4	008	113	A	13	1.6	58.9	8	5.1	78.7	-173.1	0	0.0	7.6	5.7	00000 A **
10 51	MECSEK VOLCANICS HUNGARY	46.1	18.3	011	000	A	37	333.7	46.7	7	18.9	62.5	-104.0	0	0.0	24.0	16.0	12078 A **
10 250	ANDESITES YUGOSLAVIA AND BULGARIA	43.0	24.0	011	048	X	18	3.7	65.3	12	13.5	84.7	52.0	0	0.0	17.8	22.0	00000 A **
10 56	ANDESITE MIXED BULGARIA	42.0	27.0	001	006	A		12.0	38.0	26	13.0	66.0	177.0	0	0.0	15.0	9.0	09035 8

TRIASSIC NORTH AMERICA+GREENLAND 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	F
					R													1	2	
8 45	KAPP BIOT SEDIMENTS GREENLAND	72.0	-23.0	000	044	N	18	358.0	68.0	41	3.0	68.0	160.0	0	0.0	5.0	4.0	04013	A	
8 241	FLEMING FIORD FORMATION GREENLAND	71.7	-23.4	000	030	T	58	0.0	0.0	25	5.4	34.0	103.2	0	0.0	6.4	3.8	00000	A *	
8 255	COAST DYKES GREENLAND SEE 9-163																			
8 256	PINGODAL FORMATION EAST GREENLAND	72.0	-24.0	001	006	A	0	336.0	33.0	0	6.8	34.5	176.0	0	0.0	7.7	4.4	00000	B	
8 257	GIPSDALEN FORMATION EAST GREENLAND	72.0	-23.0	001	005	A	0	1.0	62.0	0	9.8	49.0	158.0	0	0.0	15.0	12.0	00000	B	
8 128	DIABASE ANTICOSTI ISLAND CANADA	49.8	-63.2	002	011	A	0	9.5	56.6	0	0.0	75.7	84.7	0	1.2	0.0	0.0	00000	A *	
8 67	MANICOUGAN STRUCTURE QUEBEC CANAD	51.4	-68.6	006	014	T	0	12.6	39.0	52	10.0	57.0	89.0	0	0.0	11.0	6.0	09051	A	
8 66	MANICOUGAN STRUCTURE QUEBEC CANAD	51.4	-68.6	011	044	A	0	10.5	40.3	0	0.0	60.4	91.4	0	0.0	8.4	5.1	09052	A	
8 135	MANICOUGAN STRUCTURE COMBINED	51.5	-68.6	017	058	X	0	12.1	40.0	58	4.7	59.8	88.8	0	0.0	5.7	3.4	00000	A **	
8 62	DIABASE DYKE NOVA SCOTIA CANADA	44.0	-65.5	002	011	A	0	7.0	41.0	94	5.0	69.0	98.0	0	0.0	6.0	4.0	08068	A	
8 64	NORTH MOUNTAIN BASALT NS CANADA	45.0	-64.0	017	028	A	0	1.1	38.0	0	0.0	66.0	113.0	0	0.0	10.5	6.0	09049	A	
8 63	NORTH MOUNTAIN BASALT NS CANADA	44.9	-65.4	025	040	A	0	3.6	47.3	33	5.0	73.0	104.0	0	0.0	6.5	4.5	10089	A	
8 65	GRAND MANAN ISLAND NS CANADA	44.5	-66.5	004	008	A	0	2.5	55.0	12	16.5	80.5	100.5	0	0.0	24.0	17.0	10030	B	
8 165	NOVA SCOTIAN BASIC ROCKS COMBINED	44.6	-66.4	048	087	A	0	0.0	0.0	0	0.0	72.2	104.8	149	7.4	0.0	0.0	00000	A **	
8 41	NEW OXFORD FORMATION PENN USA	40.0	-77.0	001	013	N	0	334.0	48.0	36	7.0	66.0	174.0	0	0.0	8.0	6.0	01070	A	
8 43	CONNECTICUT VALLEY ROCKS USA	42.0	-73.0	000	012	N	31	12.0	14.0	0	15.0	54.0	86.0	0	0.0	15.0	8.0	01067	A	
8 44	MASSACHUSETTS LAVAS USA	42.0	-72.5	005	016	A	0	10.0	16.0	41	10.0	55.0	88.0	0	0.0	11.0	6.0	05035	A **	
8 111	CONNECTICUT VALLEY ROCKS USA	41.5	-75.0	050	313	A	0	8.0	33.0	31	11.0	65.0	87.0	0	0.0	12.0	7.0	10088	A **	
8 42	NEWARK GROUP NEW JERSEY USA	40.5	-74.9	029	078	Y	0	359.0	25.0	49	4.0	63.0	108.0	0	0.0	4.0	3.0	05034	A **	
8 68	NEWARK DIABASE PENNSYLVANIA USA	40.0	-76.5	020	095	A	0	359.5	23.0	102	3.0	62.0	105.0	0	0.0	3.0	2.0	08069	A	
8 213	NEWARK DIABASE PENNSYLVANIA USA	40.1	-76.4	078	450	A	0	0.2	25.4	352	4.9	63.5	103.0	839	3.2	0.0	0.0	00000	A **	
8 112	APPALACHIAN DYKES SOUTH-EAST USA	38.4	-78.0	074	121	A	0	0.0	0.0	0	0.0	66.0	145.0	0	3.0	0.0	0.0	09047	A **	
8 113	EASTERN USA RED SEDIMENTS	40.0	-72.0	050	387	N	8	0.0	0.0	0	0.0	68.0	91.0	0	6.0	0.0	0.0	09050	A	
8 30	CHUGWATER FORMATION WYOMING USA	43.0-107.5	010	098	N	74	334.0	17.0	51	5.0	48.0	112.0	0	0.0	5.0	5.0	03054	A *		
8 114	CHUGWATER FORMATION WYOMING USA	43.0-108.5	000	190	N	61	331.1	39.0	0	0.0	58.0	129.6	0	0.0	0.0	0.0	09053	A		
8 166	CHUGWATER FORMATION COMBINED USA	43.0-108.0	000	000		0	0.0	0.0	0	0.0	53.3	119.8	0	0.0	0.0	0.0	00000			
8 32	SPRINGDALE SANDSTONE UTAH USA	37.0-113.0	001	008	N	0	338.0	16.0	0	0.0	55.0	107.0	0	0.0	0.0	0.0	01069	B		

TRIASSIC NORTH AMERICA+GREENLAND 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	F	F	LISTS	1	2
8 33	CHINLE SHINARUMP MIXED ARIZONA USA	36.0-111.0	000 017 N	0	355.0	43.0		27	7.0	79.0	90.0	0	0.0	8.0	5.0	00000	A						
8 34	CHINLE FORMATION LAS VEGAS USA	35.0-105.0	000 006 N	0	33.0	47.0		12	16.0	61.0	-10.0	0	0.0	21.0	14.0	00000	B						
8 35	CHINLE FORMATION COLORADO USA	39.0-109.0	000 006 N	0	356.0	66.0		25	5.0	81.0-125.0		0	0.0	9.0	7.0	03036	B						
8 36	CHINLE FORMATION COLORADO USA	39.0-109.0	000 007 N	0	34.0	60.0		14	7.0	64.0	-35.0	0	0.0	11.0	8.0	03035	B						
8 37	CHINLE ROMEROVIL MIXED NEW MEXICO	35.0-105.0	001 016 N		16.0	9.0		14	9.0	56.0	47.0	0	0.0	9.0	4.0	00000	A						
8 38	CHINLE FORMATION MOAB UTAH USA	39.0-109.0	000 014 N	100	156.0	-7.0		0	0.0	49.0	109.0	0	0.0	0.0	0.0	03034	B						
8 39	CHINLE FORMATION MOAB UTAH USA	39.0-109.0	000 010 N	0	160.0-10.0			0	0.0	50.0	114.0	0	0.0	0.0	0.0	03033	B						
8 40	CHINLE FORMATION COMBINED USA	37.7-107.7	000 040 N	0	0.0	0.0		0	0.0	55.0	93.0	0	35.0	0.0	0.0	00000	B						
8 253	KAYENTA FORMATION UTAH USA	37.0-111.5	004 039 N	0	4.0	50.0		36	14.0	63.0	39.0	0	0.0	0.0	0.0	00000	A						
8 209	UPPER KAYENTA FORMATION UTAH USA	38.5-109.6	001 015 T	0	352.7	15.9		33	6.8	58.9	84.5	0	0.0	3.6	7.0	00000	A						
8 210	MIDDLE KAYENTA FORMATION UTAH USA	38.5-109.6	001 011 T	0	345.8	19.2		20	10.5	58.7	98.1	0	0.0	5.7	11.0	00000	A						
8 211	LOWER KAYENTA FORMATION UTAH USA	38.5-109.6	001 052 T	0	4.8	39.8		4	11.7	73.6	54.5	0	0.0	0.0	0.0	00000	A						
8 212	KAYENTA FORMATION COMBINED USA	38.5-109.6	003 078 T	0	353.7	25.1		28	23.9	64.1	84.5	0	0.0	25.7	13.8	00000	B						
8 263	KAYENTA FORMATION USA	39.0-110.0	001 013	0	351.0	19.0		51	9.8	61.2	82.5	0	0.0	10.4	5.3	00000	A						
8 237	KAYENTA FORMATION MOAB UTAH USA	38.5-109.6	007 105 T	57	358.0	20.3		81	6.8	61.9	74.4	0	0.0	7.1	3.7	00000	A	**					
8 31	MOENKOPPI FORMATION UTAH USA	38.5-110.5	008 092 N	50	338.0	19.0		21	13.0	57.0	107.0	0	0.0	10.0	10.0	03044	A						
8 72	MOENKOPPI HOSKINNIN UTAH USA	36.9-110.3	081 018 T	100	150.0-16.0			23	7.0	50.0	121.0	0	0.0	7.0	4.0	11058	A						
8 120	MOENKOPPI FORMATION UTAH USA	38.6-108.9	000 318 Z	58	346.0	17.0		85	5.0	57.0	89.0	0	0.0	5.0	3.0	11059	A	**					
8 236	MOENKOPPI FORMATION COLORADO USA	38.6-108.9	022 326 T	50	342.0	14.5		102	3.1	54.8	103.3	0	0.0	3.2	1.6	00000	A	**					
8 242	MOENKOPPI FM BOFECORE COLORADO USA	38.5-108.9	000 312 T	66	344.3	16.9		369	6.4	57.0	100.4	0	0.0	6.7	3.4	00000	A	**					
8 89	UPPER MAROON FORMATION SEE 7-148																						
8 90	FOUNTAIN AND LYCKENS FM SEE 7-149																						
8 132	GUICHON BATHOLITH BC CANADA	50.5-121.0	015 058 A	13	20.4	50.6		12	11.3	65.6	12.9	0	0.0	14.0	9.4	13039	A	**					
8 168	KARMUTSEN 1A BRITISH COLUMBIA CAN	49.5-125.4	007 023 A	0	1.3	60.5		14	14.0	81.7	48.0	0	0.0	21.3	16.2	00000	A						
8 170	KARMUTSEN 3A BRITISH COLUMBIA CAN	49.7-125.6	008 024 A	0	337.0	77.0		12	17.0	70.3-154.8		0	0.0	31.0	28.0	00000	A	**					
8 169	KARMUTSEN ?B BRITISH COLUMBIA CAN	49.5-125.4	005 014 A	0	10.4-45.6			5	22.0	12.8	45.4	0	0.0	28.6	18.2	00000	B						
8 171	KARMUTSEN 4B BRITISH COLUMBIA CAN	49.7-125.6	003 009 X	0	354.0-35.0			0	19.0	21.0	61.0	0	0.0	20.0	14.0	00000	B						

TRIASSIC NORTH AMERICA+GREENLAND 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 F F LISTS 1 2
8 261	KARMUTSEN GROUP "B" COMBINED	49.7	-125.6	008	023	X	0	358.4	-33.7	11	17.8	21.0	56.1	0	0.0	20.3	11.5	00000 A **

JURASSIC NORTH AMERICA+GREENLAND NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT LONG	B R	N T	REV	DECL	INCL	KD 95	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER F LISTS	F 1	F 2
9 162	COAST PARALLEL DYKES W GREENLAND	62.0 -50.0	008	051	A	63	0.0	0.0	0	0.0	54.0 169.0	0	5.9	0.0	0.0	00000	A	
9 163	COAST PARALLEL DYKES COMBINED GNLD	62.0 -50.0	023	000	A	60	0.0	0.0	0	0.0	56.0 168.0	0	6.0	0.0	0.0	00000	A **	
9 103	DIABASE ANTICOSTI ISLAND SEE 8-128																	
9 72	WHITE MOUNTAIN SERIE NEW HAMPSHIRE	44.0 -71.0	012	130	A	50	358.5	59.0	110	4.0	85.5 126.5	64	5.5	6.0	4.5	08061	A **	
9 91	APPALACHIAN DYKES SEE 8-112																	
9 176	UPPER MORRISON FORMATION COLORADO	38.1-108.2	068	068	T	82	150.3-42.4	549	5.3	61.4 142.2	0	0.0	6.5	4.0	00000	A **		
9 177	LOWER MORRISON FORMATION COLORADO	38.1-108.2	032	032	T	69	152.3-54.2	663	3.6	67.5 161.8	0	0.0	5.0	3.5	00000	A **		
9 35	CARMEL FORMATION UTAH USA	39.0-109.0	000	009	N	0	349.0	63.0	10	9.0	80.0-160.0	0	0.0	14.0	11.0	03026	B	
9 135	CARMEL FORMATION UTAH USA	38.6-110.7	001	042	T	0	357.7	48.7	10	7.4	80.9 82.0	0	9.8	6.7	0.0	00000	A *	
9 169	CARMEL FORMATION USA	39.0-110.0	001	012		0	18.9	64.2	13	11.5	75.5 -52.8	0	0.0	18.0	15.0	00000	A	
9 170	NAVAJO SANDSTONE NORMAL UTAH USA	39.0-110.0	001	176	T	0	1.8	54.3	114	3.1	87.2 36.0	0	0.0	4.4	3.2	00000	A *	
9 171	NAVAJO SANDSTONE REVERSED UTAH USA	39.0-110.0	001	020		108	162.2	9.6	2	40.5	43.0 94.1	0	0.0	0.0	0.0	00000	B	
9 136	ENTRADA FORMATION UTAH USA	38.5-110.8	002	070	N	0	10.3	60.2	0	0.0	81.7 -43.4	0	0.0	0.0	0.0	00000	B	
9 137	SUMMERTIME FORMATION UTAH USA	39.9-110.1	001	040	T	70	354.1	37.0	10	7.5	70.1 86.3	0	0.0	8.7	5.5	00000	A *	
9 168	KAYENTA FORMATION US SEE 8-210 ETC																	
9 34	KAYENTA FORMATION USA SEE 8-237ETC																	
9 63	GAUDELOUPE COMPLEX USA SEE 10-29																	
9 64	BUCKS BATHOLITH USA SEE 10-30																	
9 90	FRANCISCAN FORMATION USA SEE 10-78																	
9 80	FRANCISCAN ULTRABASICS SEE 10-66																	
9 104	ISLAND INTRUSIVE BC CANADA	49.6-125.5	017	065	A	6	1.9	73.9	32	6.0	79.0-120.0	0	0.0	11.0	10.0	00000	A **	
9 154	TOPLEY INTRUSIONS ENDAKO BC CANADA	54.0-125.0	013	050	A	15	332.5	63.3	18	9.1	70.0 128.6	0	0.0	14.4	11.4	00000	A **	
9 167	TULAMEEN COMPLEX BC CANADA	49.5-120.9	010	046	A	60	140.8-45.9		7	22.0	46.0 119.0	0	0.0	20.0	11.0	00000	B	
9 96	ANDESITIC DYKES CANADA SEE 10-86																	
9 94	GABBROS BRITISH COLUMBIA SEE 10-84																	
9 95	GABBRO DYKES BC CANADA SEE 10-85																	
9 156	ALASKA JURASSIC ROCKS USA	60.0-153.0	014	186	A	0	0.0	0.0	0	0.0	50.0 -65.0	9	14.9	0.0	0.0	13033	A **	

CRETACEOUS NORTH AMERICA+GREENLAND NTH 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
10 189	JAMAICAN IGNIMBRITES	18.1	-77.3	002	027	A	100	128.3-38.6		0	0.0	41.5-154.1		0	0.0	0.0	0.0	00000	B	
10 190	BENBOW INLIER LAVAS JAMAICA	18.2	-77.0	002	025	A	0	316.0	51.0	0	0.0	60.0-159.0		0	0.0	0.0	0.0	00000	B	
10 191	JAMAICAN CRETACEOUS COMBINED	18.2	-77.2	012	000	A			0.0	0.0	0	0.0	44.9-146.6		0	0.0	13.0	8.7	00000	A **
10 42	CRETACEOUS DYKES GROUP A JAMAICA	18.1	-77.1	011	055	A	36	341.9	17.1	6	19.8	70.1	167.7	0	0.0	20.5	10.0	00000	A **	
10 43	CRETACEOUS DYKES GROUP B JAMAICA	18.1	-77.1	004	022	A	75	102.0	0.9	13	26.7	11.6	189.1	0	0.0	26.7	13.4	00000	B	
10 12	MOUNT MEGANTIC QUEBEC CANADA	45.5	-71.0	001	012	A	100	157.0-52.0		44	7.0	69.0	172.0	0	0.0	10.0	7.0	05018	A	
10 11	MONTEREGIAN HILLS QUEBEC CANADA	45.5	-73.0	008	049	N	80	0.0	0.0	0	0.0	65.0-157.0		0	0.0	0.0	0.0	05017	A	
10 72	MONTEREGIAN HILLS QUEBEC CANADA	45.3	-72.8	032	147	A	81	155.5-59.2		0	2.4	71.3-178.5		0	0.0	3.0	2.0	11036	A **	
10 35	MOUNT ASCUTNEY GABBRO VERMONT USA	43.4	-72.5	002	024	A	100	150.0-54.0		0	0.0	64.0-173.0	335	14.0	22.0	18.0	08052	A *		
10 79	APPALACHIAN DYKES SEE 8-112																			
10 73	ARKANSAS ALKALIC ROCKS USA	34.5	-92.8	019	047	A	0	329.6	54.3	0	8.9	65.1-173.3		0	0.0	12.5	8.8	11037	A **	
10 71	MESAVERDE GROUP UTAH USA	41.0-109.0	045	000	Z		0	327.0	69.0	4	13.0	65.0-162.0		0	0.0	22.1	18.7	11035	A **	
10 17	ISACHEN DIABASE NWT CANADA	78.7-103.7	010	020	A	0	284.0	80.0	20	8.0	69.0-180.0		0	0.0	14.0	14.0	07025	A **		
10 13	DAKOTA SANDSTONE USA	34.0-110.0	000	003	N	100	164.0-62.0		0	0.0	75.0-160.0		0	0.0	11.0	9.0	01049	B		
10 48	SAPPINGTON BASIC DYKE MONTANA USA	45.8-111.7	001	013	A	100	57.0	81.0	120	4.0	53.0	-87.0		0	0.0	7.0	7.0	09033	A *	
10 49	ELKHORN MOUNTAINS VOLCANICS MONTAN	46.0-112.0	000	000	A	43	334.0	68.0	160	14.0	69.9-171.5		0	0.0	24.0	20.0	09036	B		
10 222	ELKHORN MOUNTAINS VOLCANICS MONTAN	46.0-112.0	013	000	A	3	329.0	69.5	60	5.0	69.0-171.0		0	0.0	10.0	7.0	00000	A **		
10 50	VOLCANICS+SEDIMENTS MONTANA USA	46.0-112.0	010	000	A	0	0.0	0.0	0	0.0	71.0-156.0		0	0.0	8.0	6.0	00000	A **		
10 90	BOULDER BATHOLITH MONTANA USA	46.0-112.5	000	015		0	340.0	64.0	70	4.0	76.0	164.0	0	0.0	0.0	0.0	00000	A		
10 188	BOULDER BATHOLITH MONTANA USA	46.0-112.5	027	300	A	23	0.8	76.0	17	7.0	72.7-111.0		0	0.0	12.8	11.8	00000	A **		
10 216	NIOBRARIA FORMATION WYOMING ETC USA	42.0-105.0	003	046	A	0	325.5	62.7	999	3.7	64.5	174.0	392	6.2	0.0	0.0	00000	A *		
10 291	JOHNNY LYON GRANODIORITE SEE 1-531																			
10 161	SOUTHERN CALIFORNIA BATHOLITH USA	33.5-117.0	018	110	A	0	3.0	49.5	49	5.0	85.5	22.5	0	0.0	6.8	4.5	00000	A **		
10 28	SIERRA NEVADA PLUTON CALIFORNIA	38.0-120.0	014	080	Y	0	0.0	0.0	0	0.0	68.8-164.8	18	9.6	0.0	0.0	08048	A **			
10 29	GAUDELUPÉ COMPLEX SIERRA NEVADA	37.5-120.0	004	056	A	25	297.3	57.0	23	19.8	42.6	170.7	13	27.0	0.0	0.0	09042	B		
10 30	BUCKS BATHOLITH SIERRA NEVADA USA	39.9-121.3	009	116	A	45	317.1	71.3	90	5.5	57.6-165.2	44	7.9	9.6	8.4	09043	A **			
10 256	BUCK AND GAUDELUPÉ INTRUS COMBINED	38.7-120.7	013	142	A	39	0.0	0.0	0	0.0	53.7	174.1	20	9.5	0.0	0.0	00000	A		

CRETACEOUS NORTH AMERICA+GREENLAND NTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE	POLE	KP	EP	DM	DP	OTHER	F	F
				R						95	LAT	LONG	95						LISTS	1
10 66	FRANCISCAN PERIDOTITE CALIFORN USA	37.4-121.5	006 041 A	0	44.5	59.3	302	3.9	55.6 -49.9	0	0.0	5.8	4.3	11038	A	**				
10 67	FRANCISCAN DUNITE CALIFORNIA USA	37.4-121.5	005 018 A	0	350.0	74.6	144	6.4	65.6-132.0	0	0.0	11.6	10.5	11039	A	**				
10 68	FRANCISCAN FORMATION DIVERGENT USA	37.4-121.5	005 017 A	0	89.9	10.8	9	26.6	3.4 -35.8	0	0.0	27.0	13.7	11040	B					
10 78	FRANCISCAN FORMATION CALIFORNIA US	38.0-122.5	025 127 N	0	74.0	44.0	13	8.4	29.0 -44.0	0	0.0	18.5	6.6	10068	A	**				
10 118	STEVENS PASS GRANITE WASHING USA	48.6-121.0	084 037 A	0	356.5	48.7	73	10.8	67.9 71.1	48	13.5	0.0	0.0	00000	A	*				
10 84	GABBRO INTRUSIVE BC CANADA	52.5-127.5	004 000 A	0	1.0	55.0	26	22.0	73.0 50.0	0	0.0	31.0	22.0	00000	B					
10 85	GABBRO DYKE BRITISH COLUMBIA	52.5-127.5	002 000 A	0	303.0	67.0	0	21.0	55.0 160.0	0	0.0	34.0	26.0	00000	B					
10 183	HOWE SOUND PLUTONS BC CANADA	48.8-123.2	017 068 A	0	350.8	65.2	18	7.9	63.4-129.2	0	0.0	13.0	10.0	00000	A	**				
10 86	ANDESITIC DYKES BC CANADA	52.5-127.5	011 000 A	9	37.7	74.1	18	11.0	68.2 -72.2	0	0.0	20.0	18.0	00000	A	**				
10 87	GRANODIORITE BC CANADA	52.5-127.5	002 000 A	0	22.8	66.8	0	8.7	75.4 -34.5	0	0.0	14.3	11.8	00000	B					
10 212	ECSTALL PLUTON BRITISH COLUMBIA	54.2-130.0	007 035 A	86	37.1	68.0	32	9.4	68.0 -47.0	0	0.0	16.0	13.0	00000	A	**				

TRIASSIC OF SOUTH AMERICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER F LISTS	F 1	F 2
8 51	LA QUINTA FORMATION VENEZUELA	8.0	-71.0	008	018	N	100	254.0-41.0		0	24.0	-18.0	177.0	0	0.0	29.0	18.0	06048	B	
8 105	LA QUINTA FORMATION VENEZUELA	9.0	-71.0	005	038	N	0	347.0	16.0	0	24.0	-65.0	76.0	0	24.0	0.0	0.0	11051	B	
8 107	LA QUINTA FORMATION VENEZUELA	9.0	-72.0	004	050	T	70	32.9	12.7	15	25.0	-57.0	-160.0	0	0.0	25.4	13.0	12094	B	
8 163	LA QUINTA FORMATION VENEZUELA	8.2	-72.0	002	018	T	0	357.0	22.0	2	28.0	-85.6	65.7	0	0.0	29.4	16.2	12095	B	
8 108	LA QUINTA FORMATION COMBINED VENEZ	9.0	-72.0	005	052	X	68	28.9	6.5	11	24.2	-68.7	-152.3	0	0.0	24.0	12.2	00000	B	
8 173	MINOR DYKE SUITE GUYANA	6.0	-61.0	004	029	A	0	16.5	21.0	36	16.0	-73.0	-169.0	53	13.0	0.0	0.0	00000	A	
8 172	PERMO-TRIASSIC DOLERITE SURINAM	4.0	-55.0	018	090	X	0	358.0	-7.0	24	3.0	-82.0	-40.0	0	0.0	3.0	1.5	00000	A	
8 177	PERMO-TRIASSIC DOLERITE CCMBINED	5.0	-57.0	014	119	A	0	3.1	1.2	14	10.9	-84.6	-92.2	0	0.0	10.9	5.5	00000	A **	
8 50	GIRON FORMATION COLOMBIA	6.5	-74.5	000	027	N	0	3.0	26.0	0	17.0	-82.0	130.0	0	0.0	18.0	10.0	06047	A	
8 104	GIRON FORMATION COLOMBIA	8.0	-74.0	006	028	T	0	13.0	10.0	0	16.0	-76.8	-153.0	0	16.0	0.0	0.0	11050	A **	
8 164	GIRON FORMATION COLOMBIA	7.0	-73.0	007	011	T	0	9.0	-7.0	2	30.0	-77.0	-106.0	0	0.0	0.0	0.0	12102	B	
8 78	MOTUCA FORMATION MIXED BRAZIL	-7.0	-43.0	004	007	T		1.0	4.0	0	11.0	-85.0	147.0	0	10.0	0.0	0.0	11055	B	
8 161	MOTUCA FORMATION BRAZIL	-7.0	-43.0	004	007	T	80	3.0-27.0		0	0.0	-81.0	-64.0	0	0.0	0.0	0.0	12105	b	
8 92	TACUAREMBO SANDSTONE URUGUAY	-29.0	-57.0	008	024	Y	0	354.0-43.0		24	3.0	-83.0	68.0	0	0.0	3.0	2.0	01062	A **	
8 48	RIO BLANCO FORMATION ARGENTINA	0.0	0.0	000	000	N	0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
8 83	BOTACATO SANDSTONE ARGENTINA	-23.0	-49.0	003	009	N	0	353.0-31.0		0	43.0	-78.0	-81.0	0	58.0	0.0	0.0	11042	B	
8 79	SALTA PROVINCE RED BEDS ARGENTINA	-24.0	-64.0	000	007	N	0	203.0	38.0	0	26.0	-70.0	-146.0	0	21.0	0.0	0.0	11053	B	
8 49	LA RIOJA RED BEDS ARGENTINA	-24.0	-65.0	000	004	N	100	198.0	56.0	0	16.0	-70.0	-112.0	0	0.0	23.0	16.0	06045	B	
8 106	MIRANDA FORMATION ARGENTINA	-29.0	-67.0	000	010	N	0	11.0-42.0		0	22.0	-78.0	-129.0	0	22.0	0.0	0.0	11052	B	
8 77	SANTA MARIA FORMATION ARGENTINA	-30.0	-53.0	000	004	N	0	352.0-29.0		0	14.0	-75.0	96.0	0	15.0	0.0	0.0	11047	B	
8 82	PARAMILLOS FORMATION ARGENTINA	-32.5	-69.1	005	030	A	20	10.0-65.0		0	13.0	-74.0	-94.0	0	14.0	18.0	11.0	11046	A **	
8 47	LAS CABRAS FORMATION ARGENTINA	-33.0	-69.0	000	011	N	0	2.0-27.0		0	26.0	-71.0	116.0	0	0.0	0.0	0.0	06046	B	
8 80	CHOIYOILITENSE FORMATION ARGENTIN	-33.0	-68.0	015	041	A	25	2.0-62.0		33	4.0	-61.0	-78.0	0	6.0	7.0	5.0	11056	A **	
8 81	MENDOZA PROVINCE LAVAS ARGENTINA	-33.0	-68.0	008	091	A	0	11.0-68.0		0	8.0	-80.0	-132.0	0	10.0	11.0	9.0	11049	A *	
8 76	AMANA BEDS UPPER PAGANZO SEE 7-287																			

JURASSIC OF SOUTH AMERICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
9	77 LA QUINTA FORMATION SEE 8-108 ETC																			
9	74 BOTACATO SANDSTONE SEE 8-63																			
9	52 KIMMERIDGIAN SEDIMENTS ARGENTINA	-39.0	-71.0	000	007	N	0	4.0-57.0	0	23.0	-86.0	172.0	0	0.0	33.0	24.0	06033	B		
9	84 CHON AIKE FORMATION ARGENTINA	-48.0	-66.0	000	066	A	5	353.0-63.0	14	5.0	-84.0	56.0	0	0.0	7.0	6.0	11041	A *		
9	115 CHON AIKE FORMATION ARGENTINA	-44.8	-65.6	017	041	A	47	15.0-63.0	0	0.0	-82.0	-129.0	11	12.0	0.0	0.0	12034	A **		

CRETACEOUS OF SOUTH AMERICA SOUTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
10	108 APTRAXA FORMATION COLOMBIA	5.5	-73.4	001	008	N	100	179.0	12.0	39	5.0	-80.0	-72.0	64	4.0	0.0	0.0	12074	B	
10	109 YEGUERA FORMATION VENEZUELA	9.0	-68.1	002	022	N	55	12.5	1.0	0	0.0	-74.9	-124.4	8	0.0	0.0	0.0	12061	B	
10	160 LA TETA LAVA AND DIORITE COLOMBIA	11.8	-71.9	009	049	A	0	260.1	4.2	9	18.0	-9.2	-157.8	0	0.0	18.0	9.0	00000	A **	
10	107 SEDIMENT AND IGNEOUS ROCKS PERU	0.0	0.0	004	011	N	25	0.0	0.0	0	0.0	-63.0	30.0	12	6.0	0.0	0.0	00000	A *	
10	193 POCOS DE CALDAS COMPLEX BRAZIL	-21.9	-46.6	006	036	A	100	190.0	40.6	39	10.8	-80.7	-127.2	0	0.0	13.1	7.9	00000	A **	
10	114 SERRA GERAL FM MIXED URUGUAY	-29.0	-57.0	008	024	Y		354.0-43.0	24	3.0	-83.0	68.0	0	0.0	3.0	2.0	01062	A *		
10	110 SERRA GERAL FORMATION BRAZIL	-26.0	-53.0	030	080	A	50	347.0-38.0	22	6.0	-78.0	54.0	0	6.0	0.0	0.0	06035	A **		
10	19 HUITRINIAN SEDIMENTS ARGENTINA	-39.0	-71.0	000	013	N	0	341.0-38.0	0	14.0	-66.0	62.0	0	0.0	13.0	13.0	06032	A		
10	182 CERRO COLORADO FORMATION ARGENTINA	-34.0	-64.0	007	075	X	100	163.1	53.9	25	12.4	-81.0	14.0	0	13.0	17.3	12.1	00000	A **	

TRIASSIC OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
8 10	SEREBRYANSK SUITE DONBASS AREA	48.0	38.0	000	026	N	0	39.0	57.0	0	4.0	60.0	135.0	0	0.0	6.0	4.0	05023	A	
8 144	SEREBRYANSK SUITE DONBASS AREA	48.0	38.0	000	053	N	0	41.0	42.0	0	11.0	49.0	152.0	0	0.0	14.0	8.0	KS092	A	
8 130	SEREBRYANSK SUITE DONBASS AREA	0.0	0.0	000	035	N	100	216.0	-56.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	A	
8 186	SEREBRYANSK SUITE DONBASS AREA	48.0	38.0	000	004	N	0	36.0	48.0	140	4.0	55.0	154.0	0	0.0	5.0	3.0	S0608	B	
8 187	SEREBRYANSK SUITES COMBINED	48.0	38.0	004	080	N	25	38.1	50.8	125	8.3	56.8	143.8	0	0.0	11.1	7.5	00000	A **	
8 56	SEDIMENTS DONBASS AREA	49.0	38.0	000	007	Y	57	42.0	46.0	13	18.0	51.0	146.0	0	0.0	22.0	14.0	08077	B	
8 202	DONLAP SUITE SEE 7-219																			
8 11	BASKUNCHAK STAGE URALS	48.0	47.0	000	052	N	0	42.0	56.0	0	0.0	57.0	142.0	0	0.0	6.0	4.0	05024	A	
8 194	BASKUNCHAK STAGE URALS	52.5	54.5	003	043	N	50	30.0	52.0	4	16.0	61.0	174.0	0	0.0	22.0	15.0	S0616	A	
8 207	BASKUNCHAK STAGE COMBINED URALS	50.2	50.7	000	095	0	0	0.0	0.0	0	0.0	60.0	157.1	47	0.0	14.0	10.0	00000	A *	
8 149	VARIEGATED SUITE URALS	48.0	47.0	000	048	N	0	49.0	55.0	0	5.0	52.0	150.0	0	0.0	7.0	5.0	KS106	A	
8 148	VARIEGATED SUITE URALS	48.5	52.0	000	017	N	0	46.0	42.0	0	10.0	48.0	153.0	0	0.0	13.0	8.0	KS105	A	
8 188	VARIEGATED SUITE URALS	48.0	47.0	001	024	N	0	42.0	50.0	100	4.0	54.0	149.0	0	0.0	6.0	4.0	S0609	A	
8 189	VARIEGATED SUITE URALS COMBINED	48.0	46.0	003	089	N	0	45.4	46.4	106	1.2	51.3	150.8	594	5.1	0.0	0.0	S0609	A **	
8 12	VETLUGA STAGE TANANYK SUITE MIXED	49.0	52.0	000	014	N	0	45.0	46.0	0	0.0	49.0	158.0	0	0.0	9.0	5.0	05025	A	
8 141	VETLUGA STAGE TANANYK SUITE URALS	52.5	51.0	000	004		0	51.0	43.0	0	19.0	43.0	155.0	0	0.0	24.0	15.0	KS108	B	
8 193	VETLUGA STAGE TANANYK SUITE URALS	52.5	51.0	001	004	N	0	57.0	46.0	24	20.0	41.0	149.0	0	0.0	26.0	16.0	S0613	B	
8 9	VETLUGA STAGE KIROV AREA	59.0	50.0	000	009	N	100	222.0	-19.0	0	0.0	31.0	180.0	0	0.0	0.0	0.0	02032	B	
8 155	VETLUGA STAGE KIROV AREA	59.0	51.0	000	010	N	100	218.0	-45.0	9	15.0	50.0	174.0	0	0.0	19.0	12.0	S0612	A	
8 190	VETLUGA STAGE GORKY AREA	58.0	46.0	013	180	Y	76	217.0	-48.0	6	10.0	52.0	167.0	0	0.0	13.0	9.0	S0610	A	
8 191	VETLUGA STAGE DERMAGORSK SUITE	61.5	46.5	002	180	N	100	235.0	-26.0	9	12.0	27.0	162.0	0	0.0	13.0	7.0	S0611	A	
8 195	VETLUGA STAGE BLUMENTHAL SUITE	52.0	55.0	005	083	N	74	48.0	49.0	6	11.0	49.0	159.0	0	0.0	15.0	10.0	S0616	A	
8 13	VETLUGA STAGE BUZULUK SUITE	53.0	52.0	000	009	N	100	220.0	-51.0	0	13.0	54.0	164.0	0	0.0	17.0	10.0	05026	B	
8 139	VETLUGA STAGE BUZULUK SUITE	52.5	55.0	000	019		0	55.0	50.0	0	4.0	45.0	152.0	0	0.0	5.0	3.0	KS110	A	
8 140	VETLUGA STAGE BUZULUK SUITE MIXED	52.5	51.0	000	010	N		41.0	47.0	0	15.0	51.0	164.0	0	0.0	19.0	12.0	KS109	A	
8 192	BUZULUK SUITE BUZULUK AREA	52.5	51.0	004	010	N	60	49.0	45.0	9	17.0	45.0	157.0	0	0.0	21.0	14.0	S0613	A	
8 204	VETLUGA STAGE COMBINED 1	0.0	0.0	000	000	0	0	0.0	0.0	0	0.0	46.0	159.9	71	6.1	0.0	0.0	00000	A	

TRIASSIC OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE LAT	POLE LONG	KP	EP	DM	DP	OTHER F F LISTS 1 2
8 221	VETLUGA STAGE INOUAN STAGE REDBED	57.0	45.0	046	054	A	66	41.0	51.0	31	4.0	53.0	158.0	0	0.0	5.0	3.0	S0643 A
8 222	VETLUGA STAGE 190+221 COMBINED	57.5	45.5	000	000	Y	75	38.0	49.0	7	4.0	52.0	164.0	0	0.0	5.0	3.0	S0643 A
8 224	VETLUGA STAGE REDBED VIATKA RIVER	59.0	51.0	008	008	A	50	37.0	49.0	33	10.0	52.0	174.0	0	0.0	13.0	9.0	S0645 B
8 225	VETLUGA STAGE REDBED VIATKA RIVER	59.0	51.0	004	005	N	100	223.0	-49.0	100	8.0	49.0	168.0	0	0.0	10.0	7.0	S0645 B
8 226	VETLUGA STAGE 224+225 COMBINED	59.0	51.0	012	013	Y	78	40.0	49.0	48	6.0	51.0	170.0	0	0.0	8.0	5.0	S0645 A
8 227	VETLUGA+BASKUNCHAK STAGES REDBEDS	53.0	52.0	031	031	A	28	40.0	47.0	42	4.0	52.0	165.0	0	0.0	5.0	3.0	S0646 A
8 228	VETLUGA+BASKUNCHAK STAGES 13+227	53.0	52.0	036	036	Y	39	40.0	47.0	46	4.0	52.0	165.0	0	0.0	5.0	3.0	S0646 A
8 248	VETLUGA STAGE COMBINED 2	57.0	58.0	084	534			0.0	0.0	0	0.0	46.7	162.7	66	6.4	0.0	0.0	00000 A **
8 145	YUSHATYR SUITE ORENBURG AREA	52.5	55.0	000	018		0	77.0	54.0	0	9.0	35.0	158.0	0	0.0	13.0	9.0	KS089 A
8 181	YUSHATYR+BUKOBAY SUITES URALS	52.2	55.0	003	029	N	0	59.0	51.0	13	6.0	44.0	146.0	0	0.0	8.0	5.0	S0602 A *
8 142	DONGUZ SUITE DONGUZ RIVER	52.5	55.0	000	042		0	47.0	70.0	0	5.0	62.0	125.0	0	0.0	9.0	7.0	KS107 A *
8 203	UPPER PETCHORA AND BYZOV SUITES	65.5	58.0	000	024	Y	54	73.0	44.0	5	16.0	31.0	148.0	0	0.0	20.0	12.0	S0631 A *
8 223	OLENEK STAGE REDBEDS FEDOROVKA R	60.0	50.0	008	008	A	0	40.0	57.0	77	6.0	57.0	162.0	0	0.0	9.0	7.0	S0644 B
8 146	TUFFACEOUS SUITE CENTRAL URAL MTS	57.8	62.0	000	711		67	62.9	60.1	182	9.2	47.6	147.0	0	0.0	13.9	10.5	KS093 A
8 185	TUFFACEOUS SUITE CENTRAL URAL MTS	57.7	62.6	024	949	N	60	59.5	57.8	37	12.7	47.6	152.9	0	0.0	18.7	13.7	S0605 A **
8 125	TRIASSIC ROCKS CENTRAL URAL MTS	56.0	63.0	019	000	X	68	66.0	59.0	0	9.0	44.0	142.0	0	0.0	14.0	11.0	10093 A **
8 174	EARLY HEMATITE ORE KURAMINSKII RA	41.0	71.0	004	000	N	100	153.6	-40.9	93	9.6	61.8	-49.4	0	0.0	11.6	7.1	13037 A *
8 175	LATE HEMATITE ORE KURAMINSKII RA	41.0	71.0	004	000	N	100	173.5	-45.3	136	7.9	74.8	-86.3	0	0.0	10.1	6.4	13038 A *
8 176	ERUPTIVE KURAMINSKII RANGE	41.0	71.0	003	000	N	100	137.5	-40.4	64	0.0	50.3	-32.6	0	0.0	0.0	0.0	00000 B
8 129	TRACHY-BASALTS KAZAKHSTAN	0.0	0.0	000	070	N	100	264.0	11.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000 B
8 156	BASALTS FROM KAZAKHSTAN AREA	48.0	80.0	000	021	N	100	280.0	-59.0	0	8.0	25.0	135.0	0	0.0	12.0	9.0	KS113 A *
8 267	NIZHENEMALTSEVSK SUITE KUZBASS	54.2	87.3	001	022	N	100	229.0	-70.0	54	4.0	62.0	157.0	0	0.0	6.0	5.0	S0654 A *
8 134	BASIC IGNEOUS ROCKS KULIUMBE RIVER	68.0	88.0	000	050	N	0	290.0	-56.0	0	7.0	26.0	146.0	0	0.0	10.0	7.0	KS120 A *
8 15	SIBERIAN TRAPS MIXED	0.0	0.0	000	000	N		67.0	84.0	0	3.0	61.0	117.0	0	0.0	6.0	6.0	05027 A
8 16	SIBERIAN TRAPS	66.0	88.0	006	050	N	0	90.0	71.0	0	4.0	48.0	148.0	0	0.0	10.0	8.0	03031 A
8 17	SIBERIAN TRAPS	67.0	88.8	004	026	N	0	62.0	76.0	0	9.0	65.0	156.0	0	0.0	16.0	15.0	03032 A
8 18	SIBERIAN TRAPS MIXED	67.0	92.0	000	092	N		92.0	80.0	0	12.0	60.0	133.0	0	0.0	23.0	23.0	05028 A

TRIASSIC 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 LISTS	F 1	F 2
8 19	SIBERIAN TRAPS	63.0	114.0	000	000	N	0	179.0	87.0	0	13.0	59.0	114.0	0	0.0	25.0	25.0	05029	A	
8 152	SIBERIAN TRAPS VILYUI RIVER	64.0	112.0	008	114	N	0	86.0	83.0	0	2.0	61.0	142.0	0	0.0	4.0	4.0	KS115	A	
8 153	SIBERIAN TRAPS VILYUI RIVER	64.0	112.0	000	011	N	0	90.0	75.0	0	7.0	52.0	162.0	0	0.0	13.0	12.0	KS116	A	
8 154	SIBERIAN TRAPS VILYUI RIVER	63.0	112.0	000	025	N	0	103.0	80.0	0	5.0	54.0	145.0	0	0.0	10.0	9.0	KS117	A	
8 200	SIBERIAN DOLERITE+GABBRO COMBINED	68.0	115.0	061	447	A	40	113.8	76.6	116	6.3	49.6	152.4	74	7.8	11.6	10.8	S0623	A **	
8 183	SIBERIAN TRAPS COMBINED	63.0	109.0	050	687	A	12	66.4	82.5	175	4.2	63.5	135.0	56	7.5	8.2	8.0	S0632	A **	
8 231	SIBERIAN TRAPS KULIUMBE RIVER	68.0	89.0	030	043	N	64	95.0	62.0	7	6.0	38.0	157.0	0	0.0	10.0	8.0	S0649	A *	
8 229	NORILSK PLATEAU SIX BASALT SUITES	69.0	88.0	006	390	N	0	113.0	74.0	125	6.0	47.0	131.0	0	0.0	11.0	10.0	S0647	A *	
8 230	NORILSK PLATEAU INTRUSIVE TRAPS	69.1	88.0	011	370	N	62	94.0	72.0	40	7.0	50.0	146.0	0	0.0	13.0	11.0	S0648	A *	
8 232	SIBERIAN TRAPS ANGARA+CHUNA RIVERS	58.5	99.0	036	412	N	80	106.0	80.0	10	3.0	49.0	128.0	0	0.0	6.0	5.0	S0650	A *	
8 234	BASALTS ANABARO-UDZHINSKII REGION	72.0	114.0	004	018	A	100	300.0	-71.0	34	6.0	44.0	157.0	0	0.0	10.0	9.0	S0652	A **	
8 233	BASIC TUFFS VILYUI REGION	63.5	111.5	000	026	A	100	269.0	-56.0	45	4.0	25.0	168.0	0	0.0	6.0	4.0	S0651	A *	
8 22	DOLERITE SIBERIAN PLATFORM	71.0	101.0	000	031	N	100	286.0	-59.0	0	5.0	32.0	163.0	0	0.0	8.0	6.0	05030	A	
8 23	DOLERITE SIBERIAN PLATFORM	71.0	101.0	000	034	N	0	117.0	64.0	0	4.0	35.0	150.0	0	0.0	6.0	5.0	05031	A	
8 24	DYKES SIBERIAN PLATFORM	71.0	101.0	000	025	N	100	303.0	-64.0	0	5.0	34.0	146.0	0	0.0	8.0	6.0	05032	A	
8 205	SIBERIAN PLATFORM DIABASE COMBINED	71.0	101.0	000	090	N	0	0.0	0.0	0	0.0	33.9	153.1	114	11.6	0.0	0.0	00000	A **	
8 151	KHONNAMAKIT SUITE TUNGUS BASIN	68.0	91.0	000	036	N	100	62.0	71.8	0	6.0	43.0	153.0	0	0.0	11.0	9.0	KS103	A *	
8 197	BASALTS TUNGUS BASIN	68.5	91.5	050	111	A	0	105.0	68.0	800	3.0	42.0	146.0	0	4.0	0.0	0.0	S0619	A **	
8 198	BASALTS AND DOLERITE TUNGUS BASIN	69.5	97.5	043	119	A	0	96.0	71.0	999	1.0	48.0	155.0	0	5.0	0.0	0.0	S0620	A **	
8 150	AYAN SUITE TUNGUS BASIN	70.0	96.0	000	120	N	100	102.0	75.0	0	6.0	53.0	146.0	0	0.0	11.0	10.0	KS100	A *	
8 268	NERAKARSK AND OTHER SUITES TUNGUS	67.5	91.0	014	025	A	0	102.0	65.0	30	5.0	39.0	149.0	0	0.0	8.0	8.0	S0655	A	
8 269	KHONNA-MAKITSK SUITE TUNGUS SYNECL	68.0	93.5	007	014	A	0	111.0	68.0	44	7.0	40.0	144.0	0	0.0	11.0	11.0	S0655	A	
8 270	KHONNA-MAKITSK AND OTHER SUITES	68.0	92.0	011	022	A	0	111.0	70.0	42	5.0	42.0	140.0	0	0.0	9.0	9.0	S0655	A	
8 271	BASALTS OF TUNGUS SYNECLISE COMB 2	67.8	92.1	032	061	A	0	108.0	68.0	666	5.0	40.0	144.0	0	0.0	8.0	7.0	S0655	A	
8 272	KHONNA-MAKITSK AND OTHER SUITES	69.0	91.0	006	023	X	0	100.0	68.0	25	7.0	43.0	150.0	0	0.0	12.0	10.0	S0656	A	
8 273	MOKULAEVSK AND OTHER SUITES TUNGUS	69.5	91.0	012	027	X	0	100.0	69.0	34	8.0	45.0	149.0	0	0.0	13.0	11.0	S0656	A	
8 274	BAKED CONTACT NEAR TUNGUS LAVA	69.5	91.0	001	025	X	0	112.0	79.0	760	1.0	57.0	128.0	0	0.0	2.0	2.0	S0656	A	

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OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP	DM	DP	OTHER F F LISTS 1 2
8 275	BASALTS+BAKED ROCKS TUNGUS COMB 3	69.3	91.0	018	075	X	0	102.0	72.0	166	9.0	48.0	143.0	0	0.0	16.0	14.0	S0656 A
8 285	BASALTS OF TUNGUS COMBINED 4	69.0	91.5	051	136	X	0	0.0	0.0	0	0.8	44.5	144.1	89	7.1	8.8	0.0	00000 A **
8 254	MAYMECHA-KOTUY ULTRABASIC ROCKS	72.0	102.0	000	388	N	100	295.0-68.0		0	5.0	40.0	150.0	0	0.0	8.0	7.0	03055 A
8 143	MAYMECHA-KOTUY BASIC+ULTRABASIC	71.0	101.5	080	747		85	102.0	63.8	61	8.6	38.8	163.2	0	0.0	13.7	10.9	KS096 A
8 199	MAYMECHA BASIC+ULTRABASIC ROCKS	71.0	101.5	098	437	A	53	102.0	69.0	234	4.0	45.0	157.0	0	6.0	0.0	0.0	S0621 A **
8 136	TUFFOGENIC SUITE TUNGUNSKA RIVER	63.0	107.0	000	079	N	0	120.0	83.0	0	10.0	52.0	125.0	0	0.0	20.0	20.0	KS119 A
8 137	TUFFOGENIC SUITE TUNGUNSKA RIVER	59.0	103.0	000	065	N	0	136.0	85.0	0	4.0	53.0	115.0	0	0.0	8.0	8.0	KS118 A
8 206	TUFFOGENIC SUITE COMBINED	61.0	105.0	000	144	N	0	0.0	0.0	0	0.0	52.5	120.0	0	0.0	14.0	14.0	00000 A *
8 21	RED SANDSTONE TAIMYR PENINSULA	75.0	108.0	000	029	N	0	130.0	68.0	0	6.0	48.0	147.0	0	0.0	10.0	8.0	05033 A
8 180	PETROPAVLOVSK SUITE SEE 9-130																	
8 147	RED SANDSTONE TAIMYR PENINSULA	75.0	108.0	000	022	N	100	287.0-65.0		0	5.0	41.0	168.0	0	0.0	8.0	6.0	KS104 A *
8 57	INDIAN+OLENEKIAN SANOSTONE TAIMYR	76.0	111.0	004	160	A	0	161.0	39.0	0	0.0	9.0	129.0	0	0.0	10.0	6.0	08076 A *
8 58	ANISIAN+LADINIAN SANOSTONE TAIMYR	76.0	111.0	002	098	A	100	168.0	18.0	0	0.0	-4.0	123.0	0	0.0	8.0	4.0	08070 A *
8 276	YGYATYN DOLERITES(YOUNGER) YAKUTSK	64.1	114.7	020	250	A	90	114.0	60.0	50	7.0	52.0	144.0	0	0.0	14.0	14.0	S0657 A **
8 277	YGYATYN DOLERITES(YOUNGER) YAKUTSK	63.7	115.4	016	196	A	100	292.0-84.0		57	7.0	58.0	137.0	0	0.0	14.0	14.0	S0658 A **
8 278	MARKOKA RIVER DOLERITES YAKUTSK	65.2	111.2	010	135	A	57	135.0	73.0	71	8.0	39.0	139.0	0	0.0	14.0	13.0	S0659 A **
8 279	MARKOKA RIVER DOLERITES YAKUTSK	65.6	110.5	011	132	A	0	83.0	79.0	100	8.0	61.0	157.0	0	0.0	15.0	14.0	S0660 A **
8 280	MARKHINSK DOLERITES YAKUTSK	66.0	111.4	000	000	A	0	136.0	76.0	300	4.0	44.0	161.0	0	0.0	7.0	7.0	S0661 A
8 281	MARKHINSK DOLERITES YAKUTSK	66.1	111.4	000	000	A	100	261.0-71.0		87	6.0	52.0	147.0	0	0.0	10.0	9.0	S0661 A
8 282	MARKHINSK TRAPS COMBINED YAKUTSK	66.1	111.6	015	298	A	53	102.0	75.0	56	5.0	51.0	158.0	0	0.0	10.0	9.0	S0661 A **
8 283	OLENEK DOLERITES OLENEK RIVER	70.4	120.7	003	069	A	0	148.0	72.0	200	9.0	39.0	143.0	0	0.0	15.0	13.0	S0662 A *
8 284	OLENEK DOLERITES OLENEK RIVER	70.3	119.5	001	024	A	0	195.0	68.0	23	6.0	62.0	109.0	0	0.0	10.0	8.0	S0663 A *
8 235	BASIC FRAGMENTAL TUFFS LENA REGION	70.0	123.5	008	048	A	0	146.0	78.0	39	4.0	49.0	143.0	0	0.0	8.0	7.0	S0653 A **
8 157	BEGIDZHAN SUITE VERKHOLAN AREA	64.0	130.0	000	021		0	151.0	78.0	0	15.0	32.0	151.0	0	0.0	3.0	2.0	KS088 A
8 184	BEGIDZHAN SUITE VERKHOLAN AREA	64.0	130.0	032	032	N	0	146.0	72.0	29	13.0	35.0	144.0	0	0.0	22.0	19.0	S0604 A *
8 138	LOWER KELTER SUITE VERKHOLAN AREA	64.0	130.0	008	015	N	0	152.0	81.0	0	10.0	49.0	141.0	0	0.0	19.0	18.0	KS114 A
8 201	TAGANDZHA+KELTER SUITES VERKHOLAN	65.5	128.0	082	083	N	0	108.0	84.0	22	15.0	60.0	151.0	0	0.0	29.0	29.0	S0629 A **

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OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE	POLE	KP	EP	DM	DP	OTHER	F	F
				R						95		LAT	LONG	95				LISTS	1	2
8 117	LIANGCHI RIVER SEDIMENTS	43.0	132.0	000	000	A	0	56.0	70.0	0	10.0	53.0	184.0	0	0.0	17.0	15.0	18092	B	
8 220	OMOLONSK MASSIF TRIASSIC SEDIMENTS	63.0	159.0	001	035	Y	14	57.0	66.0	5	12.0	56.0	-112.0	0	0.0	20.0	16.0	S0642	A *	
8 127	UPPER TRIASSIC NORTHEAST SIBERIA	64.1	159.2	000	135	A	29	52.8	74.4	14	18.8	66.0	232.0	0	0.0	0.0	0.0	12097	A	
8 219	OMOLONSK MASSIF NORIAN SEDIMENTS	63.0	159.0	001	012	Y	22	61.0	70.0	18	10.0	58.0	-125.0	0	0.0	18.0	15.0	S0641	A *	
8 218	OMOLONSK MASSIF UP TRIAS SEDIMENTS	65.0	159.0	113	113	Y	24	23.0	68.0	3	9.0	72.0	-72.0	0	0.0	15.0	12.0	S0640	A **	
8 126	KHIVACH SUITE SEE 7-170 ETC																			

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OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
9 107	CRIMEA IGNEOUS ROCK	45.0	35.0	000	190	A	0	30.8	54.1	37	15.3	64.4	138.1	0	0.0	21.5	15.1	KS082	A *	
9 129	CRIMEA POLYMICT SANDSTONE	45.0	34.5	002	018	T	0	349.0	48.0	22	8.0	72.0	-113.0	0	0.0	10.0	7.0	S0511	A *	
9 122	CLAYS OF THE DONBASS KIMMERIDGIAN	48.0	38.0	002	020	T	0	9.0	60.0	86	3.0	81.0	169.0	0	0.0	5.0	3.0	S0501	A *	
9 125	GREY CLAYS OF DONBASS BATHONIAN	48.0	38.0	002	034	T	35	40.0	64.0	137	2.0	63.0	117.0	0	0.0	3.0	2.0	S0504	A *	
9 127	CLAYS+SANDSTONE DONBASS TOARCIAN	48.0	38.0	002	003	T	100	195.0	-74.0	270	2.0	75.0	68.0	0	0.0	4.0	4.0	S0506	B	
9 16	ARMENIAN PORPHYRITES	0.0	0.0	000	000	N	0	43.0	71.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
9 17	ARMENIAN PORPHYRITES	0.0	0.0	000	000	N	0	43.0	53.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
9 18	ARMENIAN PORPHYRITES	0.0	0.0	000	000	N	0	61.0	58.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000	B	
9 19	ARMENIAN PORPHYRITES COMBINED	40.0	45.0	000	000	N	0	50.0	61.0	58	0.0	53.0	115.0	0	0.0	0.0	0.0	00000	B	
9 140	ARMENIAN PORPHYRITES UPPER JURASSI	40.5	45.5	006	050	N	18	2.0	40.0	4	12.0	72.0	-139.0	0	0.0	18.0	15.0	S0513	A **	
9 141	LT CAUCASUS KIMMERIDGIAN VOL-SED	40.0	46.5	020	030	A	0	342.0	45.0	11	8.0	70.0	-79.0	0	0.0	10.0	7.0	S0514	A	
9 142	LITTLE CAUCASUS CALLOVIAN VOL-SED	40.5	45.5	015	021	A	100	162.0	-38.0	18	8.0	65.0	-91.0	0	0.0	9.0	5.0	S0514	A	
9 143	LITTLE CAUCASUS UP JURA COMBINED	40.2	46.0	035	051	A	41	342.0	42.0	13	6.0	68.0	-86.0	0	0.0	7.0	4.0	S0514	A **	
9 146	LITTLE CAUCASUS BATHONIAN-BAJOCIAN	40.5	45.5	000	054	N	23	20.0	47.0	6	11.0	69.0	166.0	0	0.0	12.0	8.0	S0517	A	
9 147	LITTLE CAUCASUS BATHONIAN	40.5	46.0	086	228	A	29	0.0	42.0	10	4.0	72.0	226.0	0	0.0	3.0	2.0	S0517	A	
9 148	LITTLE CAUCASUS UPPER BAJOCIAN	40.5	46.0	014	014	A	0	18.0	46.0	9	14.0	70.0	170.0	0	0.0	17.0	11.0	S0517	A	
9 149	LITTLE CAUCASUS LOWER BAJOCIAN	40.5	45.5	070	134	A	9	30.0	42.0	8	5.0	60.0	161.0	0	0.0	6.0	4.0	S0517	A	
9 150	LITTLE CAUCASUS MID-JURA COMBINED	40.5	45.7	170	430	Y	18	17.0	45.0	75	11.0	70.0	177.0	0	0.0	14.0	9.0	S0517	A **	
9 185	ARMENIAN PORPHYRITE ETC SEE 10-279																			
9 178	ARMENIAN TUFFACEOUS ROCKS	39.0	46.0	037	045	X	36	23.0	54.0	9	7.0	72.0	144.0	0	0.0	10.0	7.0	S0521	A **	
9 179	ARMENIAN PORPHYRITES+SANDSTONE ETC	41.0	45.0	020	030	A	0	26.0	54.0	16	7.0	68.0	144.0	0	0.0	10.0	7.0	S0522	A **	
9 180	ARMENIAN PORPHYRITES	39.0	46.0	041	081	A	22	16.0	53.0	9	5.0	76.0	153.0	0	0.0	7.0	5.0	S0523	A **	
9 181	ARMENIAN PORPHYRITE+KERATOPHYRE	41.0	45.0	000	031	A	25	14.0	49.0	11	8.0	75.0	175.0	0	0.0	11.0	7.0	S0524	A	
9 182	ARMENIAN PORPHYRITE AND SANDSTONE	41.0	45.2	000	045	A	0	30.0	54.0	29	4.0	66.0	142.0	0	0.0	5.0	4.0	S0524	A	
9 183	ARMENIAN SANDSTONES AND CLAYS	41.0	45.5	015	030	A	0	31.0	45.0	16	6.0	61.0	154.0	0	0.0	8.0	5.0	S0524	A	
9 184	ARMENIAN VOLCANIC+SEDIMENT COMBINE	41.0	45.2	000	106	A	11	21.0	49.0	75	11.0	70.0	162.0	0	0.0	14.0	10.0	S0524	A **	
9 20	TURKMENIAN SEDIMENTS	39.5	54.5	000	010	N	0	32.0	40.0	0	0.0	59.0	165.0	0	0.0	0.0	0.0	02022	B	

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OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	E0 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
		R																		
9 126	CHALOI BEDS GRANITE BALKHAN TURKMENIA	40.0	54.0	001	215	T	0	2.0	44.0	9	3.0	76.0	-135.0	0	0.0	4.0	2.0	S0505	A *	
9 123	CLAY+SILTSTONE+SANDSTONES TURKMENI	41.0	56.0	002	033	T	0	19.0	66.0	16	2.0	74.0	109.0	0	0.0	4.0	3.0	S0502	A *	
9 121	ILEK SUITE SIBERIA SEE 10-138																			
9 117	KURAMINSKII ORES SEE 8-174 AND 175																			
9 151	CONGLOMERATE SERIES KUZNETSK BASIN	54.0	88.0	001	020	A	25	19.0	48.0	6	15.0	61.0	-129.0	0	0.0	20.0	13.0	S0518	A *	
9 124	VOLGIAN STAGE SEDIMENTS KHATANGA	70.5	98.0	001	040	A	0	138.0	80.0	29	3.0	54.0	123.0	0	0.0	6.0	6.0	S0503	A *	
9 108	PETROPAVLOVSK SUITE DZHIDA RIVER	51.0	105.0	008	053	N	0	13.0	75.0	0	6.0	77.0	132.0	0	0.0	11.0	10.0	KS086	A	
9 130	PETROPAVLOVSK SUITE DZHIDA RIVER	50.5	105.0	043	043	T	58	63.0	76.0	12	7.0	55.0	147.0	0	0.0	12.0	11.0	S0512	A **	
9 62	SEDIMENTS TAIMYR PENINSULA	76.0	111.0	000	000	A	100	123.0	49.0	0	0.0	22.0	162.0	0	0.0	10.0	7.0	08055	B	
9 109	LIASSIC SEDIMENT VERKOYANSK AREA	66.0	125.0	000	036		0	309.0	69.0	0	3.0	62.0	45.0	0	0.0	6.0	5.0	KS087	A	
9 128	LIASSIC SEDIMENT WEST VERKOYANSK	63.7	132.0	012	065	N	0	347.9	71.9	25	18.6	80.7	9.7	11	29.5	32.7	28.8	S0507	B	
9 152	YANO-KOLYMSK UP JURASSIC SEDIMENTS	62.0	156.0	008	044	N	22	232.0	77.0	3	12.0	42.0	130.0	0	0.0	23.0	21.0	S0519	A	
9 98	NORTHEAST SIBERIAN SEDIMENTARY RX	64.6	158.8	000	095	A	25	14.9	75.2	25	18.9	82.9	-97.3	0	0.0	0.0	0.0	12091	A	
9 153	OMOLONSK MASSIF JURASSIC SEDIMENTS	64.5	158.5	120	120	Y	26	6.0	61.0	3	8.0	80.0	168.0	0	0.0	15.0	15.0	S0520	A **	
9 99	NORTHEAST SIBERIAN BASALTS	66.8	163.3	002	016	A	44	71.5	78.1	0	0.0	63.6	-140.9	0	0.0	0.0	0.0	12081	B	
9 100	VOLCANIC NECK+CONTACT NE SIBERIA	63.0	159.3	000	012	A	0	298.0	77.0	11	0.0	64.0	103.0	0	0.0	0.0	0.0	12088	B	
9 101	INTRUSIVE SYENITE NORTHEAST SIBERI	65.2	166.0	000	007	N	0	293.0	81.0	7	0.0	67.0	124.0	0	0.0	0.0	0.0	12084	B	
9 144	OMOLONSK MASSIF VOLCANIC NECK	63.0	159.5	001	012	A	0	298.0	77.0	12	2.0	64.0	103.0	0	0.0	3.0	3.0	S0515	A *	
9 145	UMKUVEEMSK DEPRESSION SYENITE	65.0	166.0	001	007	N	0	293.0	81.0	7	9.0	67.0	124.0	0	0.0	17.0	17.0	S0516	B	

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OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
10 143	GLAUCONITIC SANDSTONE OF CRIMEA	45.0	34.0	001	013	A	0	328.0	60.0	600	2.0	66.0	-56.0	0	0.0	3.0	2.0	S0413	A *	
10 135	APTIAN SEDIMENTS OF CRIMEA	45.0	35.0	003	037	T	0	354.0	70.0	116	2.0	80.0	21.0	0	0.0	3.0	3.0	S0404	A *	
10 145	GREY-GREEN CLAY OF THE CRIMEA	45.0	35.0	003	021	T	0	359.0	48.0	15	9.0	74.0	-140.0	0	0.0	11.0	6.0	S0415	A *	
10 144	ALBIAN-APTIAN CLAYS OF THE CRIMEA	45.0	35.0	013	296	T	0	2.0	51.0	80	9.0	77.0	-153.0	0	0.0	12.0	8.0	S0414	A **	
10 14	VOLCANICS SARKINETI GEORGIA	41.0	45.0	000	010	N	0	13.0	54.0	0	22.0	78.0	165.0	0	0.0	31.0	22.0	07020	B	
10 133	TUFF AND DACITE SARKINETI GEORGIA	41.3	44.5	001	005	N	0	13.0	54.0	50	22.0	78.0	165.0	0	0.0	38.0	21.0	S0401	B	
10 162	ARMENIAN PORPHYRITES TUFFACEOUS SS	41.0	45.0	006	078	N	0	10.0	49.0	9	5.0	77.0	-175.0	0	0.0	11.0	8.0	S0417	A *	
10 163	LITTLE CAUCASUS VOLCANIC ROCKS	40.5	46.0	072	075	A	17	35.0	37.0	12	5.0	55.0	160.0	0	0.0	6.0	3.0	S0418	A **	
10 178	ARMENIAN PORPHYRITES	40.0	46.0	004	012	N	0	22.0	41.0	13	17.0	66.0	169.0	0	0.0	20.0	12.0	S0427	A *	
10 258	LITTLE CAUCASUS PORPHYRITES ETC	40.0	45.5	021	046	Y	28	16.0	57.0	12	7.0	77.0	144.0	0	0.0	10.0	7.0	S0430	A	
10 259	LITTLE CAUCASUS VOLCANIC SEDIMENTS	40.5	46.5	010	013	Y	100	210.0	-21.0	12	18.0	50.0	177.0	0	0.0	19.0	10.0	S0430	A	
10 260	LITTLE CAUCASUS ANDESITES+BASALTS	40.5	46.5	047	047	Y	0	35.0	42.0	15	5.0	56.0	158.0	0	0.0	7.0	4.0	S0430	A	
10 261	LITTLE CAUCASUS TUFFS+PORPHYRITES	40.0	45.5	015	015	Y	0	42.0	35.0	12	12.0	48.0	155.0	0	0.0	13.0	8.0	S0430	A	
10 262	LITTLE CAUCASUS UP CRET COMBINED	40.3	45.7	100	121	Y	11	30.0	45.0	11	4.0	62.0	154.0	0	0.0	5.0	3.0	S0430	A **	
10 271	ARMENIAN SANDSTONES AND LIMESTONES	39.0	46.0	025	063	Y	0	17.0	57.0	62	2.0	76.0	136.0	0	0.0	3.0	2.0	S0434	A **	
10 272	LITTLE CAUCASUS LST+TUFFACEOUS RX	40.0	45.5	000	026	N	0	40.0	50.0	8	10.0	57.0	139.0	0	0.0	13.0	9.0	S0435	A	
10 273	LITTLE CAUCASUS LST AND SANDSTONES	40.0	45.5	000	010	N	0	12.0	41.0	29	9.0	71.0	-168.0	0	0.0	11.0	7.0	S0435	A	
10 274	LITTLE CAUCASUS TUFFACEOUS SANDSTN	40.0	45.5	000	012	T	0	64.0	62.0	7	14.0	43.0	111.0	0	0.0	21.0	17.0	S0435	A	
10 275	LITTLE CAUCASUS TUFFACEOUS SANDSTN	40.0	45.5	000	021	T	0	0.0	38.0	29	6.0	71.0	-134.0	0	0.0	7.0	4.0	S0435	A	
10 276	LITTLE CAUCASUS LST+TUFFACEOUS RX	40.0	45.5	000	085	N	0	57.0	63.0	31	3.0	49.0	109.0	0	0.0	4.0	3.0	S0435	A	
10 277	LITTLE CAUCASUS LR CRET COMBINED	40.0	45.5	000	156	Z	0	39.0	53.0	11	4.0	58.0	134.0	0	0.0	5.0	3.0	S0435	A **	
10 279	ARMENIAN PORPHYRITES AND BRECCIAS	39.0	46.0	041	118	A	0	25.0	53.0	12	4.0	70.0	141.0	0	0.0	5.0	4.0	S0437	A **	
10 263	CAUCASIAN MARLS AND LIMESTONES	41.0	49.0	000	028	N	0	313.0	63.0	10	6.0	56.0	-19.0	0	0.0	9.0	7.0	S0431	A	
10 264	CAUCASIAN MARLS AND LIMESTONES	41.0	49.0	000	024	N	0	20.0	74.0	9	9.0	67.0	75.0	0	0.0	16.0	15.0	S0431	A	
10 265	CAUCASIAN MARLS AND LIMESTONES	41.0	49.0	000	010	N	0	10.0	47.0	3	16.0	75.0	-188.0	0	0.0	36.0	23.0	S0431	A	
10 266	CAUCASIAN MARLS AND LIMESTONES	41.0	49.0	000	032	N	0	24.0	60.0	3	13.0	73.0	129.0	0	0.0	20.0	15.0	S0431	A	
10 267	CAUCASIAN MARLS AND LIMESTONES	41.0	49.0	000	021	N	0	353.0	27.0	4	13.0	62.0	-116.0	0	0.0	14.0	8.0	S0431	A	

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OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F 1	F 2
10 268	CAUCASIAN MARLS+LIMESTONE COMBINED	41.0	49.0	000	115	N	0	355.0	59.0	4	5.0	86.0	-66.0	0	0.0	7.0	5.0	S0431	A	**
10 105	YUNUS-DAGH SUITE AZERBAIDZHAN	40.0	49.0	002	023	N	0	16.0	11.0	13	9.0	52.0	-158.0	0	0.0	9.0	4.0	KS072	A	*
10 278	RED BAUXITES CENTRAL URALS	56.5	62.0	001	021	A	0	51.0	68.0	15	8.0	60.0	141.0	0	0.0	13.0	10.0	S0436	A	*
10 5	LOWER ALBIAN SEDIMENT TURKMENIA	39.5	54.5	000	000	N	0	28.0	38.0	0	0.0	62.0	169.0	0	0.0	0.0	0.0	02021	B	
10 6	UPPER ALBIAN SEDIMENT TURKMENIA	39.5	55.0	000	000	N	0	32.0	42.0	0	0.0	60.0	165.0	0	0.0	0.0	0.0	02020	B	
10 100	APTIAN SED GREAT BALKHAN TURKMENIA	39.0	55.0	011	022	N	0	30.0	40.0	0	8.0	60.0	167.0	0	0.0	9.0	6.0	KS076	A	*
10 134	SANDSTONES AND MARLS TURKMENIA	40.0	54.0	001	007	T	0	5.0	65.0	17	13.0	82.0	85.0	0	0.0	21.0	17.0	S0403	B	
10 36	HISSAR RANGES RED SEDIMENT	38.0	67.0	010	000	N	40	17.0	55.0	110	5.0	76.0	162.0	0	5.0	0.0	0.0	08053	A	
10 98	HISSAR RANGES RED SEDIMENT	38.0	67.0	004	421	N	80	0.0	0.0	0	0.0	76.0	169.0	168	7.1	0.0	0.0	KS079	A	
10 223	HISSAR RANGES ALBIAN SEDIMENTS	38.0	67.0	002	16	Y	100	203.0	-59.0	17	14.0	72.0	142.0	0	0.0	21.0	16.0	S0406	A	
10 224	HISSAR RA BARREMIAN TO APTIAN SEDS	38.0	67.0	004	124	Y	0	23.0	46.0	12	5.0	68.0	-178.0	0	0.0	6.0	4.0	S0406	A	
10 225	HISSAR RANGES HAUTERIVIAN SEDIMENT	38.0	67.0	004	133	Y	8	11.0	53.0	12	5.0	81.0	177.0	0	0.0	7.0	5.0	S0406	A	
10 226	HISSAR RANGES VALANGINIAN SEDIMENT	38.0	67.0	003	148	Y	0	12.0	58.0	9	7.0	81.0	145.0	0	0.0	10.0	8.0	S0406	A	
10 227	HISSAR RA LR CRETACEOUS COMBINED	38.0	67.0	013	421	Y	4	17.0	54.0	150	8.0	75.0	169.0	0	0.0	10.0	7.0	S0406	A	**
10 99	TAOZHIK DEPRESSION SEDIMENT	38.0	68.0	000	250	N	0	352.0	56.0	0	3.0	83.0	-45.0	0	0.0	5.0	4.0	KS078	A	
10 136	ALBIAN-VALAGINIAN REOBEDS TADZIK	38.0	68.0	007	350	N	2	353.0	54.0	950	2.0	83.0	-56.0	0	0.0	3.0	2.0	S0407	A	*
10 137	BASALT DYKE OBIGERM AREA TADZIK	38.7	69.3	001	014	W	0	51.0	47.0	200	3.0	44.0	157.0	0	0.0	4.0	3.0	S0408	A	*
10 62	FERGHANA YALOVACH SUITE ETC REDBED	41.0	73.0	000	013	N	15	18.0	32.0	5	20.0	62.0	-168.0	0	0.0	22.5	10.3	10053	A	
10 63	UPPER CHANGETS SUITE FERGHANA	41.0	73.0	000	052	N	0	342.0	56.0	35	3.0	75.0	-28.0	0	0.0	4.3	3.1	10054	A	
10 101	FERGHANA RANGE RED SEDIMENT	41.0	73.0	000	062	N	0	25.0	53.0	0	7.0	69.0	176.0	0	0.0	10.0	7.0	KS074	A	
10 102	FERGHANA RANGE RED SEDIMENT	41.0	73.0	000	056	N	0	31.0	54.0	0	8.0	65.0	176.0	0	0.0	11.0	8.0	KS074	A	
10 103	FERGHANA RANGE RED SEDIMENT	41.0	73.0	000	041	N	0	29.0	49.0	0	14.0	65.0	178.0	0	0.0	19.0	12.0	KS074	A	
10 104	FERGHANA RANGE RED SEDIMENT	41.0	73.0	000	050	N	0	29.0	49.0	0	9.0	65.0	178.0	0	0.0	12.0	8.0	KS074	A	
10 148	FERGHANA UPPER CRET REDBEDS COMB 1	41.0	73.0	060	274	N	0	0.0	0.0	0	0.0	71.3	-175.8	26	13.4	0.0	0.0	00000	A	
10 122	BASALTS NORTHERN FERGHANA	41.0	71.0	000	000	0	100	198.0	-53.0	0	0.0	73.9	-177.3	0	0.0	0.0	0.0	00000	B	
10 164	KUGARTSK+PALVANTASHSK SUITES FERGH	41.0	73.0	000	062	N	0	25.0	53.0	33	7.0	69.0	176.0	0	0.0	10.0	7.0	S0419	A	
10 165	AGAARALSK+YALOVACH SUITE FERGHANA	41.0	73.0	013	013	N	31	18.0	32.0	5	20.0	61.0	-145.0	0	0.0	23.0	10.0	S0419	A	

CRETACEOUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	E0 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER F LISTS	F 1	F 2
10 166	YALOVACH SUITE REDBEDS FERGHANA	41.0	73.0	000	056	A	0	31.0	54.0	24	8.0	65.0	168.0	0	0.0	11.0	8.0	S0419	A	
10 168	KUVASAISK SUITE REDBEDS FERGHANA	41.0	73.0	000	041	A	0	29.0	49.0	14	14.0	65.0	178.0	0	0.0	19.0	12.0	S0419	A	
10 167	UPPER CHANGETS SUITE FERGHANA	41.0	73.0	041	052	N	0	342.0	56.0	35	3.0	75.0	-28.0	0	0.0	4.0	3.0	S0419	A	
10 228	MID+LOWER CHANGETS SUITE FERGHANA	41.0	73.0	002	042	Y	0	29.0	49.0	30	9.0	65.0	178.0	0	0.0	12.0	6.0	S0429	A	
10 229	LOWER CHANGETS SUITE FERGHANA	41.0	73.0	002	019	Y	0	346.0	55.0	32	6.0	78.0	-37.0	0	0.0	9.0	6.0	S0429	A	
10 230	LOWER CRETACEOUS REDBEDS FERGHANA	41.0	73.5	002	053	Y	9	344.0	58.0	20	4.0	78.0	-22.0	0	0.0	6.0	5.0	S0429	A	
10 169	RED-BEDS FERGHANA MIXED	41.0	43.0	035	068	A	0	336.0	53.0	29	3.0	70.0	-30.0	0	0.0	4.0	3.0	S0419	A	
10 170	FERGHANA UPPER CRET REDBEDS COMB 2	41.0	73.0	000	292	Y	5	12.0	52.0	22	15.0	78.0	-162.0	0	0.0	20.0	14.0	S0419	A **	
10 231	MID+LOWER CHANGETS SUITE COMBINED	41.0	73.0	006	115	Y	4	3.0	56.0	15	4.0	86.0	-132.0	0	0.0	5.0	4.0	S0429	A	
10 25	ILEK AND SIMONOV FORMATIONS	56.0	92.0	000	093	A	0	330.0	72.0	0	0.0	74.0	18.0	0	0.0	18.0	16.2	08045	A	
10 138	ILEK SUITE CHULYM-YENISEI BASIN	56.5	89.5	003	101	W	0	30.0	77.0	30	6.0	74.0	135.0	0	0.0	6.0	6.0	S0409	A **	
10 123	KURAMINSKII ORES SEE 8-174 AND 175																			
10 139	HAUTERIVIAN SEDIMENTS KHATANGA	70.5	98.0	001	031	T	0	46.0	78.0	77	3.0	73.0	178.0	0	0.0	5.0	4.0	S0410	A *	
10 141	BASALT AND DOLERITE TRANS-BAIKALIA	50.5	107.5	003	046	W	0	29.0	72.0	32	4.0	73.0	158.0	0	0.0	7.0	6.0	S0411	A *	
10 142	VALANGINIAN SEDIMENT ANABAR BAY	75.0	114.0	001	080	A	10	63.0	78.0	22	3.0	63.0	174.0	0	0.0	6.0	5.0	S0412	A *	
10 171	POPIGAI BASIN ANDESITES AND TUFFS	71.0	111.0	012	019	Y	0	76.0	79.0	33	6.0	66.0	170.0	0	0.0	12.0	11.0	S0420	A **	
10 146	BASALT FLOW FROM TRANSBAIKALIA	52.0	117.0	001	010	N	0	11.0	54.0	39	8.0	70.0	-100.0	0	0.0	11.0	8.0	S0416	A *	
10 75	SUCHAN SUITE CAPE FIRSOV	43.0	132.0	000	025		0	25.0	81.0	0	11.0	58.0	146.0	0	0.0	21.0	21.0	10065	B	
10 269	PRIMORYE DYKES AND CONTACTS	44.0	135.0	006	404	W	33	64.0	70.0	71	8.0	49.0	-173.0	0	0.0	14.0	12.0	S0432	A **	
10 95	SAKHALIN SEDIMENT TOMARI AREA	47.3	142.3	000	000	A	0	338.0	68.0	0	0.0	75.0	78.0	0	0.0	0.0	0.0	00000	B	
10 270	SAKHALIN SEDIMENTARY ROCKS	47.3	142.4	006	127	A	12	23.0	60.0	5	6.0	73.0	-114.0	0	0.0	9.0	7.0	S0433	A **	
10 93	DIABASE+METASEDIMENT NE SIBERIA	61.8	156.0	000	000	X	0	92.7	83.5	0	0.0	58.7	181.2	0	0.0	0.0	0.0	12070	B	
10 94	METASEDIMENT NORTHEAST SIBERIA	64.0	162.0	007	100	Z	10	171.9	88.9	334	3.3	61.8	162.7	0	0.0	6.6	6.6	00000	A **	
10 172	YANO-KOLYMSK SYSTEM METAMORPHIC RX	61.8	156.0	000	024	T	0	188.0	89.0	27	6.0	60.0	155.0	0	0.0	12.0	12.0	S0421	A *	
10 173	OMOLONSK MASSIF METAMORPHOSED ROCK	63.0	159.5	001	004	N	0	147.0	83.0	50	13.0	50.0	171.0	0	0.0	25.0	24.0	S0422	B	
10 174	OLOISK DEPRESSION METAM ROCK MIXED	67.0	163.5	006	069	A		238.0	83.0	11	22.0	58.0	140.0	0	0.0	43.0	41.0	S0423	B	
10 175	UMKUVEENSK DEPRESSION METAM ROCKS	65.0	166.0	006	110	A	66	28.0	89.0	7	4.0	67.0	168.0	0	0.0	9.0	8.0	S0425	A **	

CRETACEOUS OF USSR NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE	POLE	KP	EP	DM	DP	OTHER	F	F
				R						95		LAT	LONG	95				LISTS	1	2
10 176	PENZHINSK BAY SEDIMENTS NE SIBERIA	61.5	164.0	010	010	T	9	61.0	75.0	11	15.0	61.0	-135.0	0	0.0	28.0	25.0	S0424	A	
10 92	SEDIMENT FROM NORTHEAST SIBERIA	63.0	170.0	000	021	X	9	276.8	87.0	17	19.2	63.0	157.0	0	0.0	0.0	0.0	00000	A	
10 177	KORYAKSK AND BARYKOWSK SUITES	63.0	179.5	000	158	N	46	263.0	82.0	11	13.0	57.0	149.0	0	0.0	25.0	24.0	S0426	A *	
10 179	FRANZ JOSEF LAND BASALTS	80.5	47.5	012	042	N	0	30.0	82.0	120	2.0	61.0	166.0	0	0.0	4.0	3.0	S0428	A *	
10 91	BASALT+CONTACT NE SIBERIA SEE 9-99																			

CRETACEOUS OF DEEP-SEA CORES

OTTAWA LIST	ROCK UNIT	LAT	LONG	B	N	T	REV	DECL	INCL	KD	ED	POLE	POLE	KP	EP	DM	DP	OTHER	F	F
				R						95		LAT	LONG	95				LISTS	1	2
10 58	JOIDES SEDIMENT LEG 2 STATION 10	32.9	-52.2	000	020	A	0	0.0	35.5	0	3.1	0.0	0.0	0	0.0	0.0	0.0	00000	A	

PACIFIC OCEAN SEAMOUNTS NORTH POLES

OTTAWA LIST	ROCK UNIT	LAT LONG	B	N	T	REV	DECL	INCL	KD	ED 95	POLE LAT	POLE LONG	KP 95	EP 95	DM	DP	OTHER LISTS	F	F
			R														1	2	
13 1	MANIHIKI COOK ISLAND R=2.78	-10.4-161.0 000 000			100	98.0	60.0		0	0.0	12.8	69.1	0	0.0	0.0	0.0	0.0000	*	
13 2	RAROTONGA COOK ISLAND	-21.2-159.8 000 000			100	165.0	24.0		0	0.0	73.3	138.9	0	0.0	0.0	0.0	0.0000	*	
13 17	"A" SEAMOUNT NORTH JAPAN GROUP	41.3 146.0 000 000			0	352.8	2.4		0	0.0	49.0	-23.0	0	0.0	0.0	0.0	0.0000		
13 18	JAPAN SEAMOUNT	40.6 146.8 000 000			0	352.9	-3.6		0	0.0	47.0	-23.0	0	0.0	0.0	0.0	0.0000		
13 19	SISOEV SEAMOUNT NORTH JAPAN GROUP	40.9 144.9 000 000			0	341.3	22.2		0	0.0	56.0	-1.0	0	0.0	0.0	0.0	0.0000		
13 20	RYOFU SEAMOUNT NORTH JAPAN GROUP	38.0 146.0 000 000			0	343.9	2.8		0	0.0	50.0	-8.0	0	0.0	0.0	0.0	0.0000		
13 21	JAPAN III-I SEAMOUNT	37.0 163.8 000 000			0	268.0	38.0		0	0.0	11.0	92.0	0	0.0	0.0	0.0	0.0000		
13 22	JAPAN Z-III-II SEAMOUNT	36.6 163.9 000 000			0	278.0	44.0		0	0.0	21.0	91.0	0	0.0	0.0	0.0	0.0000		
13 23	JAPAN Z-IV-I SEAMOUNT	28.8 148.4 000 000			0	334.0	9.0		0	0.0	55.0	19.0	0	0.0	0.0	0.0	0.0000		
13 24	Z 4-2 SEAMOUNT SOUTH JAPAN GROUP	28.4 148.2 000 000			0	28.0	5.0		0	0.0	53.0	-82.0	0	0.0	0.0	0.0	0.0000		
13 25	Z 4-3 SEAMOUNT SOUTH JAPAN GROUP	27.1 148.7 000 000			0	16.0-13.0			0	0.0	53.0	-58.0	0	0.0	0.0	0.0	0.0000		
13 26	Z 4-4 SEAMOUNT SOUTH JAPAN GROUP	28.0 147.6 000 000			0	11.0	-1.0		0	0.0	60.0	-54.0	0	0.0	0.0	0.0	0.0000		
13 27	JAPAN Z-IV-V SEAMOUNT	27.7 140.4 000 000			0	5.0	39.0		0	0.0	82.0	-78.0	0	0.0	0.0	0.0	0.0000		
13 28	JAPAN Z-IV-VI SEAMOUNT	29.6 137.1 000 000			0	359.0	31.0		0	0.0	77.0	-40.0	0	0.0	0.0	0.0	0.0000		
13 29	JAPAN Z-IV-VII SEAMOUNT	30.2 136.7 000 000			0	359.0	7.0		0	0.0	63.0	-41.0	0	0.0	0.0	0.0	0.0000		
13 30	JAPANESE SEAMOUNTS COMBINED	0.0 0.0 0 0			0	0.0	0.0		0	0.0	55.7	-34.3	21	13.0	0.0	0.0	0.0000		
13 50	UNNAMED SEAMOUNT NORTH JAPAN GROUP	36.0 143.5 000 000			0	320.0	7.0		0	0.0	40.9	21.6	0	0.0	0.0	0.0	0.0000		
13 51	ARIES 7 (MAIKO) SM NTH JAPAN GROUP	34.0 145.9 000 000			0	359.3-10.9			0	0.0	50.5	-32.9	0	0.0	0.0	0.0	0.0000		
13 52	NORTH JAPAN SMT GROUP COMBINED	38.0 146.0 005 000			0	0.0	0.0		0	0.0	50.9	-7.9	29	14.3	0.0	0.0	0.0000	**	
13 53	ARIES 6 (MAKAROV) STH JAPAN GROUP	29.5 153.5 000 000			0	1.0	6.4		0	0.0	63.7	-28.7	0	0.0	0.0	0.0	0.0000		
13 54	SOUTH JAPAN SMT GROUP COMBINED	29.0 150.0 004 000			0	0.0	0.0		0	0.0	58.8	-57.8	42	14.3	0.0	0.0	0.0000	**	
13 55	ARIES 5 (MIAMI) WAKE ISLAND GROUP	21.7 161.9 000 000			0	0.3-30.8			0	0.0	51.7	-18.5	0	0.0	0.0	0.0	0.0000		
13 56	UNNAMED SEAMOUNT WAKE ISLAND GRP	19.4 165.9 000 000			0	349.5-20.3			0	0.0	58.4	5.9	0	0.0	0.0	0.0	0.0000		
13 57	ARIES 4 SEAMOUNT WAKE ISLAND GROUP	21.2 166.5 000 000			0	358.2-25.7			0	0.0	55.2	-10.5	0	0.0	0.0	0.0	0.0000		
13 58	ARIES 3 (DARWIN) WAKE ISLAND GROUP	22.1 171.5 000 000			100	207.6	36.2		0	0.0	40.0	-43.2	0	0.0	0.0	0.0	0.0000		
13 59	WAKE ISLAND SEAMOUNT GROUP COMBINE	22.0 168.0 004 000			25	0.0	0.0		0	0.0	52.7	-19.1	29	17.5	0.0	0.0	0.0000	**	
13 8	DIXON SEAMOUNT EQUATORIAL GROUP	12.6-179.1 000 000			0	0.0-18.9			0	0.0	68.0	1.0	0	0.0	2.9	1.8	0.0000		

PACIFIC OCEAN SEAMOUNTS 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
				R																
13	60 L3 SEAMOUNT EQUATORIAL SMT GROUP	1.0-179.5	000 000			0		22.4-45.1		0	0.0	54.9	-35.9	0	0.0	0.0	0.0	0.0	00000	
13	61 L2 SEAMOUNT EQUATORIAL SMT GROUP	2.7-174.0	000 000			100		180.2 37.3		0	0.0	66.5	5.5	0	0.0	0.0	0.0	0.0	00000	
13	62 L1 SEAMOUNT EQUATORIAL SMT GROUP	6.2-174.0	000 000			0		352.5-24.3		0	0.0	69.7	27.5	0	0.0	0.0	0.0	0.0	00000	
13	63 EQUATORIAL GROUP OF SEAMOUNTS COMB	8.0-178.0	004 000			25		0.0 0.0		0	0.0	66.7	-4.9	38	15.2	0.0	0.0	0.0	00000 **	
13	64 KHATCHATURIAN SMT MUSICIANS GROUP	28.1-162.3	000 000			0		23.0 5.9		0	0.0	56.5	-27.5	0	0.0	0.0	0.0	0.0	00000	
13	65 BRAHMS SEAMOUNT MUSICIANS GROUP	31.2-162.1	000 000			0		11.6 19.8		0	0.0	66.3	-21.8	0	0.0	0.0	0.0	0.0	00000	
13	66 MUSSORGSKI SEAMOUNT MUSICIANS GRP	30.4-163.9	000 000			0		11.2 0.9		0	0.0	58.2	-5.5	0	0.0	0.0	0.0	0.0	00000	
13	67 RACHMANINOV SMT MUSICIANS GROUP	29.6-163.3	000 000			0		26.6 11.9		0	0.0	55.6	-35.4	0	0.0	0.8	0.0	0.0	00000	
13	68 MUSICIANS SEAMOUNTS COMBINED	30.5-163.0	004 000			0		0.0 0.0		0	0.0	59.7	-20.9	88	9.8	0.0	0.0	0.0	00000 **	
13	7 HAWAIIAN SEAMOUNTS COMBINED 1	19.2-161.5	008 000			22		10.8-34.7		0	0.0	58.0	21.0	19	12.0	0.0	0.0	0.0	00000	
13	9 SHOW SEAMOUNT	17.9-152.7	000 000			100		199.8 18.0		0	0.0	56.5	-9.9	0	0.0	2.6	1.4	00000		
13	10 BUSHNELL SEAMOUNT 1	19.0-153.8	000 000			0		2.9 0.2		0	0.0	70.9	17.1	0	0.0	0.0	0.0	0.0	00000	
13	11 BUSHNELL SEAMOUNT 2	19.2-153.8	000 000			0		8.9-19.4		0	0.0	59.7	8.4	0	0.0	0.0	0.0	0.0	00000	
13	12 BUSHNELL SEAMOUNT 3	19.0-153.6	000 000			0		335.7 0.6		0	0.0	59.7	80.7	0	0.0	0.0	0.0	0.0	00000	
13	13 KONA 4 SEAMOUNT	17.3-154.2	008 000			0		13.5 -8.4		0	0.0	64.6	-7.2	0	0.0	0.0	0.0	0.0	00000	
13	14 KONA 5 SEAMOUNT	17.1-154.2	000 000			100		196.4 35.3		0	0.0	49.8	1.5	0	0.0	0.0	0.0	0.0	00000	
13	15 CHATAUQUA SEAMOUNT	22.2-162.6	000 000			100		189.3 12.7		0	0.0	60.0	-1.0	0	0.0	0.0	0.0	0.0	00000	
13	16 HAWAIIAN SEAMOUNTS COMBINED 2	0.0	0.0 000 000			29		0.0 0.0		0	0.0	61.0	16.0	23	7.6	0.0	0.0	0.0	00000	
13	69 KAPSITOTWA SEAMOUNT HAWAII GROUP	12.0-165.6	000 000			0		28.0-36.6		0	0.0	47.5	-26.5	0	0.0	0.0	0.0	0.0	00000	
13	70 HO1 SEAMOUNT HAWAIIAN GROUP	18.3-161.8	000 000			0		21.8-24.2		0	0.0	52.0	-18.0	0	0.0	0.0	0.0	0.0	00000	
13	71 HO4 SEAMOUNT HAWAIIAN GROUP	20.0-158.2	000 000			0		350.7 -6.7		0	0.0	66.0	40.0	0	0.0	0.0	0.0	0.0	00000	
13	72 HAWAIIAN SEAMOUNTS COMBINED 3	19.0-158.0	009 000			0		0.0 0.0		0	0.0	59.8	-2.6	42	8.0	0.0	0.0	0.0	00000 **	
13	73 NORTH-WEST PACIFIC SEAMOUNTS COMB	0.0	0.0 030 000			0		0.0 0.0		0	0.0	59.4	-15.6	27	5.2	0.0	0.0	0.0	00000 **	
13	74 NW PACIFIC SMTS COMB WITHOUT 13-54	0.0	0.0 026 000			0		0.0 0.0		0	0.0	58.3	-9.7	35	4.8	0.0	0.0	0.0	00000 **	
13	31 TRIPOD SEAMOUNT A	21.0-112.6	000 000			0		0.0 0.0		0	0.0	84.7	-13.5	9	19.0	0.0	0.0	0.0	00000 *	
13	32 TRIPOD SEAMOUNT B	21.0-112.6	000 000			0		0.0 0.0		0	0.0	67.0	90.4	19	14.4	0.0	0.0	0.0	00000 *	
13	33 CALIFORNIAN MARIE SEAMOUNT GROUP	30.7-142.7	000 000			0		62.3-12.1		0	0.0	20.0	-32.2	0	0.0	0.0	0.0	0.0	00000	

PACIFIC OCEAN SEAMOUNTS 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 F F LISTS 1 2
13 34	CALIFORNIAN MOONLESS SMT GROUP	31.9	-141.8	000	000		0	359.4	38.0	0	0.0	79.4	41.3	0	0.0	0.0	0.0	00080 *
13 35	CALIFORNIAN MAHER SMT (POOR FIT)	29.5	-148.8	000	000		0	91.5	46.3	0	0.0	12.0	-83.9	0	0.0	0.0	0.0	00000
13 36	CALIFORNIAN BOUTELLE SMT (FAIR FIT)	39.0	-131.1	000	000		100	233.7	-24.5	0	0.0	18.0	-6.7	0	0.0	0.0	0.0	00000
13 37	CALIFORNIAN HOKE SMT (GOOD FIT)	32.1	-127.0	000	000		0	17.2	30.9	0	0.0	68.1	3.5	0	0.0	0.0	0.0	00000
13 38	CALIFORNIAN UNNAMED SMT (R=2.0)	39.0	-131.0	000	000		0	5.9	47.1	0	0.0	78.0	23.0	0	0.0	0.0	0.0	00000
13 39	FIEBERLING SEAMOUNT (R=3.8)	32.3	-127.2	000	000		0	32.2	48.4	0	0.0	62.1	-40.0	0	0.0	0.0	0.0	00080
13 40	CALIFORNIAN UNNAMED SMT (R=1.8)	36.8	-125.6	000	000		100	196.9	-13.1	0	0.0	56.0	25.0	0	0.0	0.0	0.0	00000
13 41	CALIFORNIAN UNNAMED SMT (R=1.8)	36.8	-125.4	000	000		100	173.3	-43.5	0	0.0	77.0	83.0	0	0.0	0.0	0.0	00000
13 42	CALIFORNIAN UNNAMED SMT (R=1.8)	36.7	-125.3	000	000		100	220.7	-43.3	0	0.0	54.0	-29.0	0	0.0	0.0	0.0	00000
13 43	CALIFORNIAN SEAMOUNT GROUP COMBINE	34.0	-128.0	000	000		50	0.0	0.0	0	0.0	70.7	-6.0	48	13.4	0.0	0.0	12044 **

ATLANTIC OCEAN SEAMOUNTS 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 F F LISTS 1 2
13 3	GULF OF GUINEA SEAMOUNT 1 R=1.61	0.8	2.1	000	000		100	168.4	26.1	0	0.0	70.9	-143.3	0	0.0	0.0	0.0	00000
13 4	GULF OF GUINEA SEAMOUNT 2 R=1.46	-1.6	3.5	000	000		0	326.8	1.3	0	0.0	56.7	-83.6	0	0.0	0.0	0.0	00000
13 5	GULF OF GUINEA SEAMOUNT 3 R=1.86	0.4	2.6	000	000		100	158.8	23.7	0	0.0	65.3	-119.8	0	0.0	0.0	0.0	00000
13 48	GULF OF GUINEA SEAMOUNT 3 R=3.34	0.4	2.6	000	000		100	155.5	23.9	0	0.0	62.4	-116.6	0	0.0	2.8	1.5	00000
13 6	GULF OF GUINEA SEAMOUNTS COMBINED	0.0	0.0	000	000		60	0.0	0.0	0	0.0	66.4	-107.7	17	18.9	0.0	0.0	00000 **
13 49	GILLISSL SEAMOUNT	35.6	-58.6	000	000		0	0.0	0.0	0	0.0	65.2	178.8	0	0.0	0.0	0.0	00000 *
13 44	CARYN SEAMOUNT	36.7	-68.0	000	000		0	0.0	0.0	0	0.0	74.0	178.0	0	0.0	0.0	0.0	00000 *
13 45	KELVIN GROUP SEAMOUNTS	38.3	-62.6	000	000		0	0.0	0.0	0	0.0	71.8	103.2	8	23.0	0.0	0.0	00000 *
13 46	VEMA SEAMOUNT	-31.7	8.3	000	000		100	75.0	65.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	00000
13 47	MADCAP VOLCANO	28.8	-25.4	000	000		100	305.0	-25.0	0	0.0	22.0	-95.0	0	0.0	0.0	0.0	00000 *

Explanatory Notes

8- 13 GUZULUK SUITE (KRAMOV 1973) INDIAN. FIVE BEDS, 5 SAMPLES, 9 SPECIMENS, 2 EXPOSURES ALONG POGROM RIVER AND AT TOWN OF BUZULUK, 5M AND 25M THICKNESSES RESPECTIVELY.
ASSIGNED GEOLOGICAL AGE OF ROCK=222.80MY

8- 42 NEWARK GROUP (ARMSTRONG AND BESANCON 1970). NUMEROUS K-AR AGES ON DOLERITE AND BASALT FROM CONNECTICUT, NOVA SCOTIA AND PALISADE SILL NEW YORK AVERAGE 200MY. THESE AGES ARE CONSIDERED TO BE UPDATED BY LOW GRADE ZEOLITE METAMORPHISM DUE TO DEEP BURIAL, AND THEIR REAL AGE IS PROBABLY GREATER. SEE IRVING 1964 P. 338.
PREFERRED RADIOMETRIC AGE OF ROCK=200.00MY

8- 76 PAGANZO FORMATION AT LA RIOJA (VALENCIO 1970)
LOWER TRIASSIC.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

8- 81 MENDOZA PROVINCE LAVA (VALENCIO 1972A) LOWER TRIASSIC. REFERRED TO AS CERRO COLORADO AND CERRO BOLA FORMATIONS. SEE ISSUE 1 OF THIS CATALOGUE.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

8- 82 PARAMILLOS LAVA FORMATION CACHEUTA GROUP (VALENCIO 1972A) MIDDLE OR UPPER TRIASSIC. SEE ISSUE 1 OF THIS CATALOGUE.
ASSIGNED GEOLOGICAL AGE OF ROCK=203.75MY

8- 85 MANGLI BEDS (WENSINK 1968) LOWER TRIASSIC. SAMPLES GIVEN UNIT WEIGHT (N=23). THERMAL CLEANING IN 550 TO 660 DEG C. REDBEDS.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

8-112 APPALACHIAN DYKES (ARMSTRONG AND BESANCON 1970)
PROVISIONALLY ASSIGNED TO LOWER TRIASSIC. WR
K-AR AGES OF 223, 227, 235 AND 244MY. SEE ISSUE 1 OF THIS CATALOGUE.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
PREFERRED RADIOMETRIC AGE OF ROCK=232.50MY

8-132 GUICHON BATHOLITH BRITISH COLUMBIA (SYMONS 1971 AND 1972) K-AR AGE OF 198MY (LATE TRIASSIC) QUOTED IN THE ORIGINAL. BATHOLITH INTRUDES LATE TRIASSIC VOLCANICS AND IS OVERLAIN BY JURASSIC SEDIMENTS. THE POLE DIVERGES FROM TRIASSIC POLES FOR NORTH AMERICA AND AUTHOR SUGGESTS THAT A ROTATION ABOUT A VERTICAL AXIS IS IMPLIED. LECOULTEUR AND AGER (1972) ARGUE THAT THE DIVERSION COULD EQUALLY WELL BE ACCOUNTED FOR BY POST-CONSOLIDATION WESTWARD TILTING OF 15-25 DEG.
PREFERRED RADIOMETRIC AGE OF ROCK=198.00MY

8-147 TAIMYR RED SANDSTONE (ADDITIONAL NOTES FROM KRAMOV 1971) LOWER TRIASSIC. UNIT WEIGHT TO SAMPLES N=22. THICKNESS 150M, 11 BEDS. INTERSECTION OF REMAGNETIZATION CIRCLES USED TO ESTIMATE DIRECTION.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

8-148 VARIEGATED SUITE (SLAUCITAIIS IN KRAMOV AND SHOLPO 1967) INDIAN. SEE ISSUE 1 OF THIS CATALOGUE.
ASSIGNED GEOLOGICAL AGE OF ROCK=222.80MY

8-172 SURINAM DOLERITE (VELOKAMP, MULDER AND ZIJDERVELD 1971) PERMO-TRIASSIC. K-AR AGE OF 227MY (LOWER TRIASSIC). SITES UNIT WEIGHT N=10. FOUR LOCALITIES SPREAD OVER 200KM. AUTHORS BELIEVE RESULTS PROBABLY CORRESPOND TO GROUP 3 (MINOR DYKE SUITE) OF HARGRAVES (1-165) WHICH WAS FORMERLY CONSIDERED TO BE PRECAMBRIAN.
ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY
PREFERRED RADIOMETRIC AGE OF ROCK=227.80MY

8-173 MINOR DYKE SUITE GUYANA (HARGRAVES 1968) LISTED IN TRIASSIC AS THIS MAY BE EQUIVALENT OF 8-172. FORMERLY ASSIGNED TO PRECAMBRIAN. SEE 1-165.

8-174 KURAMINSKII HEMATITE ORES (SHOLPO AND ROSSINOV 1971) TRIASSIC TO CRETACEOUS. KURAMINSKII RANGE AND TIEN SHAN. ENTRY 8-174 IS AN AVERAGE OF FOUR DIRECTIONS LISTED IN ORIGINAL GIVING EACH UNIT WEIGHT. EARLY HEMATITE-COPPER-BISMUTH ORES.
PLACED IN "A" PROVISIONALLY.
ASSIGNED GEOLOGICAL AGE OF ROCK=145.00MY

8-175 KURAMINSKII LATE-STAGE HEMATITE-GOLD ORES (SHOLPO AND ROSSINOV 1971). DECLINATIONS ARE ANOMALOUS AND IMPLY ANTICLOCKWISE ROTATION OF KURAMINSKII RANGE RELATIVE TO SIBERIA. PLACED IN "A"
PROVISIONALLY. SEE 8-174.
ASSIGNED GEOLOGICAL AGE OF ROCK=145.00MY

8-176 KURAMINSKII ERUPTIVES (SHOLPO AND ROSSINOV 1971)
ALSO SEE 7-210.
ASSIGNED GEOLOGICAL AGE OF ROCK=273.65MY

8-177 PERMO-TRIASSIC DOLERITE COMBINED. AVERAGE OF 8-172 AND 173 GIVING SITES UNIT WEIGHT N=14.
ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY
PREFERRED RADIOMETRIC AGE OF ROCK=227.00MY

8-181 YUSHATYR AND BUKOBAY SUITES (MOLOTOVSKY AND SLAUCITAIIS SUMMARY RESULT IN KRAMOV 1971) UPPER TRIASSIC. STORAGE AND TEST CHECK THERMAL DEMAGNETIZATION.
ASSIGNED GEOLOGICAL AGE OF ROCK=198.75MY

- 8-183 SIBERIAN "TRAPS" COMBINED (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) LOWER TRIASSIC. EIGHT DETERMINATIONS (632 TO 639) COMBINED, EACH UNIT WEIGHT N=8. SELECTIVE AF DEMAGNETIZATION UP TO 400 OE DID NOT CHANGE DIRECTION. SAMPLES ARE FROM NUMEROUS (PROBABLY ABOUT 50) SITES IN BASIC SILLS, DYKES AND ASSOCIATED TUFFS. THERE IS SOME UNCERTAINTY ABOUT THE AGE OF THE TUFFS. LOCALITIES RANGE 57 TO 69N AND 068 TO 112E FROM NORILSK TO THE ANGARA AND TUNGUSKA RIVER VALLEYS. IN OUR FIRST ISSUE (HICKEN ET AL 1972) 8 RESULTS FROM THIS EXTENSIVE IGNEOUS PROVINCE WERE LISTED. THE FIRST 5 (8-15 TO 19) WERE OBTAINED PRIOR TO 1961. THE LAST 3 (152 TO 154) WERE FROM THE WORK OF KAMYSHEVA (IN KHRAMOV AND SHOLPO 1967). THE RESULTS ENTERED IN 8-183 AND 200 SUPERCEDE 8-15 TO 19. ENTRIES 8-152 TO 154 ARE APPARENTLY SUPERCEDED BY 8-200.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-184 BEGIOZHAN SUITE (SLAUGITAIS IN KHRAMOV 1971) UPPER TO MIDDLE TRIASSIC "UNDIVIDED". FOUR OUTCROPS, 32 LEVELS, 880M THICKNESS. MEANS OF INTERSECTIONS OF REMAGNETIZATION CIRCLES USED TO ESTIMATE MEAN DIRECTION. STORAGE TESTS. TEST SAMPLES DEMAGNETIZED IN AF 400 OE. SUPERCEDES 6-157.
ASSIGNED GEOLOGICAL AGE OF ROCK=203.75MY
- 8-185 TJFFACEOUS SUITE (KARMANOVA IN KHRAMOV 1971) LOWER TO MIDDLE TRIASSIC. THREE STUDIES IN THE CENTRAL URALS (605, 606 AND 607) LISTED IN KHRAMOV 1971 YIELD RESULTS FROM 3 NORMAL AND 2 REVERSED HORIZONS. THESE ARE AVERAGED N=5. ALTOGETHER 24 FLOWS SAMPLED. THIRTY PERCENT OF SPECIMENS DEMAGNETIZED AT 200 DE AND 100 DEG C AND DIRECTIONS UNCHANGED. ALTERNATIVE ANALYSIS OF DATA FROM THAT GIVEN IN 8-146.
ASSIGNED GEOLOGICAL AGE OF ROCK=215.00MY
- 8-186 SEREBRYANSK SUITE (RUSAKOV IN KHRAMOV 1971) LOWER TO MIDDLE TRIASSIC. TWO BEDS FROM LOWER 50M THICKNESS. AF AT 600 DE DOES NOT CHANGE DIRECTION. DONBASS AREA.
ASSIGNED GEOLOGICAL AGE OF ROCK=215.00MY
- 8-187 SEREBRYANSK SUITE DONBASS COMBINED. "WAS FORMERLY CONSIDERED AS MIDDLE TRIASSIC BUT ITS LOWER TRIASSIC AGE HAS BEEN PROVED" (VALIVKIN 1973). MEAN OF ENTRIES 8-10, 130, 144 AND 186, N=4. AGGREGATE THICKNESS SAMPLED ABOUT 250M. SEVERAL DIRECTIONS WERE ESTIMATED FROM INTERSECTION OF REMAGNETIZATION CIRCLES.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-188 VARIEGATED SUITE (MOLOSTOVSKY IN KHRAMOV 1971) LOWER TRIASSIC. UNIT WEIGHT TO SPECIMENS N=67. 100M THICKNESS. DEMAGNETIZATION OF TEST SPECIMENS 200-400 OE. REDEPPOSITION EXPERIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-189 VARIEGATED SUITE COMBINED. LOWER TRIASSIC. AVERAGE OF 8-148, 149 AND 188, N=3. LAKE BASKUNCHAK. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-190 VETLUGA STAGE (MOLOSTOVSKY IN KHRAMOV 1971) LOWER TRIASSIC. UNIT WEIGHT TO SAMPLES. SAMPLED 180M THICKNESS, 13 OUTCROPS ON VETLUGA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-191 VETLUGA STAGE, PERMOGURSK SUITE (POGARSKAYA IN KHRAMOV 1971) LOWER TRIASSIC. SAMPLES UNIT WEIGHT N=18. STORAGE TESTS. DEMAGNETIZATION OF SELECTED SAMPLES 600 OE. BLUISH-GREEN CLAY WITH INTERLAYERS OF SANDSTONE.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-192 BUZULUK SUITE. PREVIOUS RESULT 8-140 UPDATED IN KHRAMOV 1971. LOWER TRIASSIC VETLUGA STAGE.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-193 TANANYK SUITE. PREVIOUS RESULT 8-141 UPDATED IN KHRAMOV 1971. LOWER TRIASSIC VETLUGA STAGE.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-194 BASKUNCHAK STAGE (MOLOSTOVSKY IN KHRAMOV 1971) LOWER TRIASSIC. DESCRIBED AS PETROPAVLOVSK SUITE OF BASKUNCHAK (GLENK) STAGE IN KHRAMOV 1971. VERTEBRATE FOSSILS PLACE IT "BETWEEN THE VETLUGA STAGE AND T-2". SAMPLES UNIT WEIGHT N=43, 240M THICKNESS, RED SEDIMENTS.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-195 VETLUGA STAGE, BLUMENTHAL SUITE (MOLOSTOVSKY IN KHRAMOV 1971) LOWER TRIASSIC. SPECIMENS UNIT WEIGHT N=83. SAMPLED 83 BEDS THROUGH 500M THICKNESS. STORAGE TESTS. RED SEDIMENTS.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-196 BASALTS TUNGUS BASIN (GUSEV IN KHRAMOV 1971) LOWER TRIASSIC, DATED FROM INTER-LAVA SEDIMENTS. SAMPLED 1140M THICKNESS OVER 250 BY 100KM AREA. CLEANED 150 TO 360 OE. MEAN OF RESULTS FROM THE FIVE YOUNGEST (N=5) OF SEVEN LOWER TRIASSIC SUITES OF THE REGION.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-197 TUNGUS BASALT AND DOLERITE (GUSEV IN KHRAMOV 1971) LOWER TRIASSIC, DATED FROM INTER-LAVA SEDIMENTS. SAMPLED 1140M THICKNESS OVER 250 BY 100KM AREA. CLEANED 150 TO 360 OE. MEAN OF RESULTS FROM THE FIVE YOUNGEST (N=5) OF SEVEN LOWER TRIASSIC SUITES OF THE REGION.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-198 TUNGUS BASALT AND DOLERITE (GUSEV IN KHRAMOV 1971) LOWER TRIASSIC, DATED FROM INTER-LAVA SEDIMENTS. SAMPLED 1140M THICKNESS OVER 250 BY 100KM AREA. CLEANED 150 TO 360 OE. MEAN OF RESULTS FROM THE FIVE YOUNGEST (N=5) OF SEVEN LOWER TRIASSIC SUITES OF THE REGION.
ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

- 1971) LOWER TRIASSIC, DATED BY FLORA IN INTERBEDDED SEDIMENTS. SAMPLES UNIT WEIGHT N=119. AGGREGATE THICKNESS SAMPLED 2100M, 43 SHEETS OR FLOWS. CLEANED 150 TO 240 DEG. SUPERCEDES 8-150. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-199 MAYMECHA-KOTUY BASICS AND ULTRABASICS (GUSEV IN KHRAMOV 1971) LOWER TRIASSIC, DATED BY FLORA IN ASSOCIATED SEDIMENTS. UNIT WEIGHT TO 8 (N=8) DETERMINATIONS (SOME PREVIOUSLY INCLUDED IN 8-143 OR 7-194). THICKNESS EXCEEDS 2000M, 98 IGNEOUS BODIES. CLEANED 150 TO 480 DEG. SUPERCEDES 8-143 AND 7-194. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-200 SIBERIAN DOLERITE AND GABBRO COMBINED (KAMYSHEVA IN KHRAMOV 1971) PERMIAN TO TRIASSIC OR TRIASSIC. WR K-AR AGE 360MY, WHICH IS GROSSLY OUT OF LINE WITH AGE DETERMINED FROM FLORA IN ASSOCIATED SEDIMENT. EARLY RESULTS 8-152 TO 154 FROM THESE BODIES WHICH WERE DESCRIBED IN PART AS TRAP ROCK. LATER RESULTS FROM BODIES DESCRIBED AS GABBRO, DOLERITE AND BAKED CONTACTS. UNIT WEIGHT GIVEN TO 6 DETERMINATIONS (623 TO 628) LISTED IN KHRAMOV 1971. SAMPLING LOCATION 63 TO 71N, 108 TO 120E. SEE 8-183. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY
- 8-201 TAGANOZHA AND KEL'TER SUITES VERKHONYANSK (SLAUCITAIS IN KHRAMOV 1971) INDUS STAGE. SEDIMENTS IN 6 OVERLAPPING SECTIONS OVER SCORES OF KM, 450M THICKNESS, 62 BEDS. INTERSECTION OF REMAGNETIZATION CIRCLES USED TO ESTIMATE DIRECTIONS. STORAGE TESTS. ASSIGNED GEOLOGICAL AGE OF ROCK=222.80MY
- 8-203 UPPER PETCHORA AND BYZOV SUITES (SLAUCITAIS IN KHRAMOV 1971) INDUS AND TATARIAN STAGES. SECTION WITH "VISIBLE CONTACT BETWEEN PERMIAN AND TRIASSIC DEPOSITS" SAMPLED. THICKNESS 240M. SYNYA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=225.30MY
- 8-204 VETLUGA STAGE COMBINED. LOWER TRIASSIC. AVERAGE OF 8-12, 13, 39, 155, 190, 191, 192, 193 AND 195. N=9. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-205 SIBERIAN PLATFORM COMBINED. TRIASSIC. AVERAGE OF 8-22, 23 AND 24, N=3. BASIC INTRUSIONS. ASSIGNED GEOLOGICAL AGE OF ROCK=208.75MY
- 8-206 TUFFOGENIC SUITE COMBINED. LOWER TRIASSIC. AVERAGE OF 8-136 AND 137. TUNGUSKA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-207 BASKUNCHAK COMBINED. APPARENTLY LIE BETWEEN VETLUGA AND UPPER TRIASSIC. AVERAGE OF 8-11 AND 194 SEE 8-194. OTHER RESULTS FROM THE BASKUNCHAK ARE GIVEN IN 8-227 BUT ARE NOT SEPARATED THERE FROM THE VETLUGA. ASSIGNED GEOLOGICAL AGE OF ROCK=210.00MY
- 8-209 UPPER KAYENTA FORMATION (STEINER AND HELSLEY 1972). STRADDLES TRIASSIC-JURASSIC BOUNDARY. TOTAL THICKNESS SPANNED 100M. IN THIS ENTRY RESULTS FROM 10M NEAR TOP OF KAYENTA ARE GIVEN. SAMPLES UNIT WEIGHT. CLEANED 630 DEG C. RED SANDSTONE OF KANE SPRING CANYON, MOAB, UTAH. ASSIGNED GEOLOGICAL AGE OF ROCK=192.65MY
- 8-210 MIDDLE KAYENTA FORMATION (STEINER AND HELSLEY 1972) TRIASSIC-JURASSIC BOUNDARY. THICKNESS OF 2M IN MIDDLE. SEE 8-209. ASSIGNED GEOLOGICAL AGE OF ROCK=192.65MY
- 8-211 LOWER KAYENTA FORMATION (STEINER AND HELSLEY 1972) TRIASSIC-JURASSIC BOUNDARY. THICKNESS OF 27M NEAR BASE. RESULT INCLUDES 13 ABERRANT SAMPLES. SEE 8-209. ASSIGNED GEOLOGICAL AGE OF ROCK=192.65MY
- 8-212 KAYENTA FORMATION COMBINED. RESULTS FROM ALL 3 LEVELS (8-209 TO 211) ARE COMBINED GIVING EACH UNIT WEIGHT (N=3) SO THAT THE ABERRANT SAMPLES FROM THE LOWER SECTION ARE INCLUDED AND ARE REGARDED AS NOISE. ASSIGNED GEOLOGICAL AGE OF ROCK=192.65MY
- 8-213 DIABASE SOUTHEASTERN PENNSYLVANIA (BECK 1972B) UPPER TRIASSIC. SAMPLES FROM 4 BODIES OVER 200KM EACH GIVEN UNIT WEIGHT N=4. SUPERCEDES 8-68. ASSIGNED GEOLOGICAL AGE OF ROCK=198.75MY
- 8-214 FREETOWN IGNEOUS COMPLEX (BRIDEN, HENTHORN AND REX 1971). AUTHORS REGARD COMPLEX AS PROBABLY EMPLACED DURING THE TRIASSIC. PREVIOUS K-AR AGES 190-1875 MY NOW INTERPRETED AS DUE TO EXCESS ARGON AND NEW AGES (165-194) PRESENTED. SITES UNIT WEIGHT N=10. CLEANING 300 TO 1000 DEG. PREFERRED RADIOMETRIC AGE OF ROCK=180.00MY
- 8-215 MONGOLIAN SANDSTONE (JELEN, KRS AND KUBINYI 1966) TRIASSIC. FINE-GRAINED FERRUGINOUS SANDSTONE. CLEANING AT 500 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=208.75MY
- 8-216 OMOLONSK MASSIF SEDIMENTS (PECHERSKII SUMMARY IN KHRAMOV 1973) UPPER TRIASSIC. SAMPLES UNIT WEI-

- GHT N=113. TWO EXPOSURES. (A) NORIAN, 71 BEDS, 71 SAMPLES, 158M THICKNESS, (53N, 18R), 026, +67. (B) CARNIAN, 42 LEVELS, 42 SAMPLES, 84M THICKNESS, (33N 9R), 017, +70. MAGNETIZATION CONSIDERED BY AUTHOR TO PREDATE DIAGENESIS BECAUSE OF SIMILARITY BETWEEN DIRECTIONS IN UNALTERED AND STRONGLY LITHIFIED ROCKS, AND BECAUSE OF POSITIVE FOLD TEST. ARGILLITE, SANDSTONE AND ALEUROLITE. ASSIGNED GEOLOGICAL AGE OF ROCK=201.15MY
- 8-219 OMOLONSK MASSIF SEDIMENTS (PECHERSKII IN KHRAMOV 1973) NORIAN. SAMPLES UNIT WEIGHT. THICKNESS 60M. ARGILLITE, ALEUROLITE AND SANDSTONE. SUPERCEDES 8-127. ASSIGNED GEOLOGICAL AGE OF ROCK=199.20MY
- 8-220 OMOLONSK MASSIF SEDIMENTS (PECHERSKII LISTED IN KHRAMOV 1973) OLENEKIAN TO LOWER CARNIAN. SAMPLES UNIT WEIGHT. ARGILLITE, SANSTONE AND ALEUROLITE. SUPERCEDES 8-126. ASSIGNED GEOLOGICAL AGE OF ROCK=211.55MY
- 8-221 VETLUGA STAGE REDBEDS (BUROV AND BORONIN IN KHRAMOV 1973) INDIAN STAGE OF LOWER TRIASSIC. VETLUGA WAS FORMERLY PLACED IN THE TATARIAN, BUT IS NOW ALLOCATED TO THE TRIASSIC ON BASIS OF VERTEBRATE FAUNA. FIVE EXPOSURES SPREAD OVER 80 KM ALONG VETLUGA RIVER, 46 LEVELS, 100M THICKNESS. ASSIGNED GEOLOGICAL AGE OF ROCK=222.80MY
- 8-222 VETLUGA STAGE COMBINED. LOWER TRIASSIC. COMBINATION OF 8-190 AND 221 GIVEN IN KHRAMOV (1973). ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-223 OLENEK STAGE (BUROV AND BORONIN IN KHRAMOV 1973) UPPER LOWER TRIASSIC. SAMPLES UNIT WEIGHT N=8. THREE EXPOSURES OF FEDOROVSKII HORIZON SAMPLED ALONG FEDOROVKA RIVER, 25M THICKNESS, 6 BEDS. RED CLAY, ALEUROLITE AND SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=217.80MY
- 8-224 VETLUGA STAGE, VIATKA RIVER (BUROV AND BORONIN IN KHRAMOV 1973) INDIAN STAGE, LOWER TRIASSIC. EIGHT BEDS. STUDIES IN THE LOWERMOST OR "X" SUITE OF KASSIN. RESULTS 8-224 AND 225 ARE FROM SAME BEDS. REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=222.80MY
- 8-225 VETLUGA STAGE, VIATKA RIVER (KHRAMOV IN KHRAMOV 1973) LOWER TRIASSIC. FOUR BEDS. REDBEDS. SEE 8-224. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-226 VETLUGA STAGE, VIATKA RIVER COMBINED. LOWER TRIASSIC. SAMPLES UNIT WEIGHT N=13. SEE 8-224. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-227 VETLUGA AND BASKUNCHAK STAGES, DBSHCHII SYRT (BUROV AND BORONIN IN KHRAMOV 1973) LOWER TRIASSIC. THREE EXPOSURES SPANNING 100M, 50KM, 31 BEDS, 231 SAMPLES (22N 9R). RED CLAY AND SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-228 VETLUGA AND BASKUNCHAK REDBEDS COMBINED. LOWER TRIASSIC. AVERAGE OF 8-13 AND 227 GIVEN IN KHRAMOV 1973. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-229 BASALTS NORILSK PLATEAU (LIND AND GUSEV IN KHRAMOV 1973) LOWER AND MIDDLE TRIASSIC. UPPER 1000M OF THE 1300M SEQUENCE SAMPLED. DEMAGNETIZATION OF SELECTED SAMPLES IN 400 OE "DOES NOT CHANGE DIRECTIONS". MEAN OF 6 DETERMINATIONS EACH UNIT WEIGHT N=6. ONE DETERMINATION (A) IS MIDDLE TRIASSIC, THE OTHER 5 DETERMINATIONS (B-F) ARE LOWER TRIASSIC. (A) KHARAELAKH SUITE, 26 SAMPLES, 125, +71. (B) MOKULAEFSK SUITE, 16 SAMPLES, 117, +72. (C) MORONGOVSK SUITE, 6 SHEETS, 12 SAMPLES, 114, +82. (D) NADEZHDINSK SUITE (=S0618), 56 SAMPLES, 107, +64. (E) NAOEZHDINSK SUITE SECOND DETERMINATION, 240 SAMPLES, 092, +77. (F) GUDCHIKHINSK SUITE, 25 SAMPLES, 119, +74. ASSIGNED GEOLOGICAL AGE OF ROCK=215.00MY
- 8-230 SIBERIAN TRAPS NORILSK COMBINED (DATA OF DAVIDOV, KRAVCHINSKI AND LIND FROM KHRAMOV 1973) LOWER TRIASSIC. UOLERITES "RELATED TO 2ND AND 3RD PHASE". AVERAGE OF 11 GROUPS OF INTRUSIONS FROM 3 PLACES (A-C) GIVING EACH UNIT WEIGHT N=11. (A) IS SAID TO BE 8-183 (S6-32) AND TO EXTEND AND SUPERCEDE THAT WORK. DEMAGNETIZATION (200 OE) OF SELECTED SAMPLES DOES NOT CHANGE DIRECTIONS. TWO EXPOSURES IN SILLS, 40 SAMPLES FROM LOWER 150M, 083, +78. (B) FOUR SILLS AND 2 APOPHYES, 1069 SAMPLES ALL NORMAL, 106, +79. (C) THREE SILLS, 2621 SAMPLES ALL REVERSED, 268, -59. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-231 SIBERIAN TRAPS TUNGUS SYNCLINE (GONCHAROV IN KHRAMOV 1973). THESE UOLERITES CUT ALL PRE-PERMIAN FORMATIONS, AND, BY ANALOGY WITH OTHER REGIONS, ARE REGARDED AS LOWER TRIASSIC, BUT THEY COULD BE OLDER. THIRTY INTRUSIONS EACH 1-50M THICK. SPREAD 25KM ALONG KULIUMBE RIVER. SPECIMENS UNIT WEIGHT N=66. SUPERCEDES 8-134. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

- 8-232 SIBERIAN TRAPS (FAINBERG AND DASHKEVICH IN KHRAMOV 1973) LOWER TRIASSIC. SAMPLES UNIT WEIGHT FOR NORMALLY MAGNETIZED SAMPLES. FOR REVERSED SAMPLES DIRECTIONS CORRESPONDING TO MAXIMUM DENSITY OF POINTS WERE CHOSEN. CLEANING OF SELECTED SAMPLES IN 300 DE RARELY CHANGES DIRECTIONS. TWENTY SIX EXPOSURES ALONG LOWER ANGARA RIVER AND 30 EXPOSURES ALONG CHUNA RIVER. DOLENITE INTRUSIONS CUTTING PALEOZOIC SEJMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-233 FRAGMENTAL BASIC TUFFS (KAMYSHEVA IN KHRAMOV 1973) LOWER TRIASSIC OF CENTRAL VILYUISKII REGION. SAMPLES UNIT WEIGHT N=26. CLEANING 150 DE. ONE EXPOSURE, 500M THICKNESS SAMPLED. AGGLOMERATIC TUFFS. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-234 BASALTS AND HYALOBASALTS (KAMYSHEVA IN KHRAMOV 1973) LOWER TRIASSIC. SAMPLES UNIT WEIGHT N=18. CLEANING 80 DE. THICKNESS OF 20M SAMPLED, 2 EXPOSURES ALONG USABAR RIVER, 4 FLOWS. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-235 FRAGMENTAL BASIC TUFFS (KAMYSHEVA IN KHRAMOV 1973) LOWER TRIASSIC. VENT TUFFS INTRUSIVE INTO UPPER PERMIAN WITH PEBBLES IN LOWER TRIASSIC SEJMENTS SO AGE IS WELL DEFINED. SAMPLES UNIT WEIGHT N=40. CLEANING 150 DE. EIGHT EXPOSURES SPREAD 3-4KM ALONG USUNKU RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-236 MOENKOPI FORMATION (HELSLEY AND STEINER 1974) LOWER TRIASSIC. UNIT WEIGHT TO EACH OF 22.5M INTERVALS, N=22. THERMAL DEMAGNETIZATION 550-620 DEG C. THREE REVERSED AND 3 NORMAL ZONES RECOGNIZED IN THE UPPER HALF OF THE MOENKOPI. THIS WORK COMPLEMENTS PREVIOUS STUDY OF LOWER HALF OF THE MOENKOPI, 8-120, SO THAT 10 POLARITY ZONES (5N 5R) ARE NOW RECOGNIZED IN THE MOENKOPI. APPARENTLY THE MOENKOPI SPANS MUCH OF THE LOWER TRIASSIC. RED BEDS. MAY BE TAKEN TO SUPERCEDE 8-167. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-237 KAYENTA FORMATION (STEINER AND HELESLEY 1974) (A) AND (B) UPPERMOST UPPER TRIASSIC. SEVEN POLARITY ZONES (3N 4R) OBSERVED IN 100M THICKNESS. UNIT WEIGHT TO EACH POLARITY ZONE N=7. THERMAL CLEANING 550-630 DEG C. SYSTEMATIC DEVIATIONS IN DIRECTIONS OCCUR IN SOME BEDS AND ARE INTERPRETED AS TRUE FIELD DEVIATIONS. REDBEDS. ASSIGNED GEOLOGICAL AGE OF ROCK=194.90MY
- 8-239 TRIASSIC SPILITES (WESTPHAL 1973) UPPER TRIASSIC ROCKS OF PELVOUX REGION. ROCKS FROM NEAR TRIASSIC-JURASSIC BOUNDARY. RESULT BASED ON 4 FLOWS WITH LOW INCLINATION, N=4. ASSIGNED GEOLOGICAL AGE OF ROCK=194.90MY
- 8-240 LAWAS OF KONGSE DISTRICT, KYUSHU (FUJIWARA 1958) CARNIAN TO NORIAN. ASSIGNED GEOLOGICAL AGE OF ROCK=201.15MY
- 8-241 FLEMING FJORD FORMATION (RELEV ET AL 1974) CARNIAN TO NORIAN. FORMERLY CALLED THE CAP BIOT FORMATION. SAMPLES CUT FROM 12M OF FULLY ORIENTED CORE. THREE ZONES OF NORMAL POLARITY AND TWO OF REVERSED POLARITY OCCUR. SUPERCEDES 8-45. RED SANDSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=201.15MY
- 8-242 MOENKOPI FORMATION BORE CORE (BAAG AND HELESLEY 1974) LOWER TRIASSIC. FULLY ORIENTED BORE CORE 50M IN LENGTH THROUGH ZONES 2R, 2N AND 3R OBSERVED PREVIOUSLY BY HELESLEY (1959) IN SURFACE OUTCROP 8-120. EACH ZONE GIVEN UNIT WEIGHT N=3. DISPERSION LESS THAN IN SURFACE SAMPLES. RED SANDSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-243 PANCHET SERIES (KLOOTWIJK 1974) EARLY TRIASSIC OR POSSIBLY LATE PERMIAN. NORTH KARANPURA COAL FIELD DAMODAR VALLEY. SAMPLES FROM 2 HORIZONS OF RED MICACEOUS CLAY IN THE UPPER PART OF SERIES. RESULTS FROM ONE HORIZON ONLY GIVEN HERE. MAGNETIZATION AT OTHER HORIZON CONSIDERED TO BE SECONDARY AND ACQUIRED DURING HEATING BY DECCAN TRAPS WHICH ONCE EXTENDED OVER THIS AREA. DIRECTIONS CLOSE TO THOSE IN MANGLI BEDS (8-85) AND WARDHA REDBEDS (7-293). ASSIGNED GEOLOGICAL AGE OF ROCK=227.50MY
- 8-248 VETLUGA STAGE COMBINED 2. LOWER TRIASSIC. HERE ALL RESULTS CONSIDERED TO BELONG TO THE VETLUGA STAGE ARE AVERAGED. THESE ARE ENTRIES 8-155, 190, 191, 192, 193, 195, 221, 224 AND 225, N=9. ONLY RESULTS GIVEN IN KHRAMOV 1971 AND 1973 ARE INCLUDED. EARLIER RESULTS ARE NOT INCLUDED. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-253 KAYENTA FORMATION (COLLINSON AND RUNCORN 1960). SEE 9-34. ASSIGNED GEOLOGICAL AGE OF ROCK=182.25MY
- 8-254 MAYMECHA-KOTUY. FORMERLY REGARDED AS PERMIAN, BUT CITED AS LOWER TRIASSIC IN ENTRY 8-143 (7-194), AND 8-199.

- 8-256 PINGODAL FORMATION (ATHAVALE AND SHARMA 1974) SCYTHIAN. SIX SAMPLES FROM THE RODSTAKEN MEMBER, SCORESBY SUND. CLEANING 1000 DEG. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-257 GIPSDALEN FORMATION (ATHAVALE AND SHARMA 1974) ANISIAN. FIVE SAMPLES FROM SOLFADSPAL HORIZON, SCORESBY SUND. CLEANING 1000 DEG. ASSIGNED GEOLOGICAL AGE OF ROCK=212.50MY
- 8-258 UPPER SERIES OF THE TRIASSIC OF THE CENTRAL HIGH ATLAS OF MOROCCO (HAILWOOD 1975). THE UPPER SERIES IS MIDDLE TRIASSIC AND CONSISTS OF REDBEDS WITH THICK SERIES OF THOLEIITIC BASALT FLOWS AND DOLERITES TOWARD THE CENTRE. IN ENTRY 8-258 RESULTS FROM THOLEIITES OF ISSALDAIN, SITES UNIT WEIGHT N=8. ASSIGNED GEOLOGICAL AGE OF ROCK=210.00MY
- 8-259 UPPER SERIES AIT-ANDAL THOLEIITES (HAILWOOD 1975) MIDDLE TRIASSIC. SITES UNIT WEIGHT N=15. CLEANING 300 DEG C. SEE 8-258. ASSIGNED GEOLOGICAL AGE OF ROCK=210.00MY
- 8-260 UPPER TITCHKA REDBEDS (HAILWOOD 1975) MIDDLE TRIASSIC. SITES UNIT WEIGHT N=6. CLEANING 650 DEG C. SEE 8-258. ASSIGNED GEOLOGICAL AGE OF ROCK=210.00MY
- 8-261 KARMUTSEN GROUP "B" COMBINED. UPPER TRIASSIC. AVERAGE OF ENTRIES 8-169 AND 170 GIVING SITES UNIT WEIGHT N=8. ENTRIES 8-169 AND 170 ARE INDEPENDENT ESTIMATES OF THE "B" MAGNETIZATION WHICH HAS BLOCKING TEMPERATURES IN A NARROW RANGE NEAR TO THE CURIE TEMPERATURE OF MAGNETITE AND IS REGARDDED BY IRVING AND YOLE (1972) AS THE ORIGINAL MAGNETIZATION. IT IS VERY DIFFERENT FROM THAT OBSERVED IN OTHER TRIASSIC ROCKS OF NORTH AMERICA. ASSIGNED GEOLOGICAL AGE OF ROCK=198.75MY
- 8-263 KAYENTA FORMATION (JOHNSON AND NAIRN 1972) LOWEST JURASSIC. LISTED IN THE TRIASSIC IN ORDER TO BE WITH OTHER RESULTS. NO EXPERIMENTAL DETAILS REPORTED.
- 8-267 NIZHNEMALTSEVSK SUITE, KUZBASS (PEREDERIN AND MISHKO IN KHRAMOV 1975) EARLY TRIASSIC (FOSSIL AND STRATIGRAPHIC EVIDENCE). SPECIMENS UNIT WEIGHT N=22. SAMPLED 13.5M THICKNESS FOR 30.1 ALONG STRIKE. ONE OUTCROP IN THE TOM' RIVER VALLEY. CLEANING IN +00 DEG AND 300 DEG C DOES NOT CHANGE DIRECTIONS. BASALTS. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-268 NERAKARSK, YURIAKHSK, KHONNA-MAKITSK AND AYANSK SUITES OF THE TUNGUS SYNECLISE (GUSEV IN KHRAMOV 1975) EARLY TRIASSIC. SPECIMENS UNIT WEIGHT N=25. THICKNESS 840M, 14 FLOWS. CLEANING 150-360 DE. BASALTS ALONG THE KJREIKA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-269 KHONNA-MAKITSK SUITE OF THE TUNGUS SYNECLISE (GUSEV IN KHRAMOV 1975) EARLY TRIASSIC. SAMPLES UNIT WEIGHT N=14. THICKNESS 680M, 7 FLOWS. CLEANING 150-360 DE. BASALTS OF CHASHA LAKE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-270 KHONNA-MAKITSK, YURIAKHSK AND AYANSK SUITES OF THE TUNGUS SYNECLISE (GUSEV IN KHRAMOV 1975) EARLY TRIASSIC. SAMPLES UNIT WEIGHT N=22. THICKNESS 310M, 11 FLOWS. CLEANING 150-360 DE. BASALT OF GIUPKUN LAKE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-271 TUNGUS SYNECLISE COMBINED (KHRAMOV 1975) EARLY TRIASSIC (FROM FLORA IN INTER-LAVA HORIZONS). AVERAGE OF 8-268, 269 AND 270, N=3. THICKNESS 840M OVER AN AREA OF 250X100 SQ KM. CLEANING 150 TO 360 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-272 KHONNA-MAKITSK AND AYANSK SUITES, TUNGUS SYNECLISE (GUSEV IN KHRAMOV 1975) EARLY TRIASSIC. SAMPLES UNIT WEIGHT N=23. THICKNESS 200M, 6 FLOWS. CLEANING 150-240 DE AND 600 DEG C. BASALTS OF SJACHNOYE LAKE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-273 MOKULAEVSK, MORONGOVSK, NADEZHODINSK AND LOGANCHINSK SUITES, TUNGUS SYNECLISE (GUSEV IN KHRAMOV 1975) EARLY TRIASSIC. SAMPLES UNIT WEIGHT N=27. THICKNESS 1140M, 12 FLOWS. CLEANING 150-240 DE AND 600 DEG C. BASALTS OF LAMA LAKE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-274 TAIMYR BAKED CONTACT (BOLSHAKOV AND SOLODOVNIKOV IN KHRAMOV 1975) EARLY TRIASSIC. SAMPLES UNIT WEIGHT N=25. SAMPLING 20-50CM FROM CONTACT. CLEANING 150-240 DE AND 600 DEG C. BAKE ARGILLITES AT THE LOWER CONTACT OF THE BASALT FLOW, LAMA LAKE. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY
- 8-275 BASALTS AND BAKED ARGILLITES, TUNGUS SYNECLISE COMBINED (KHRAMOV 1975) EARLY TRIASSIC (FROM FLORA IN INTERLAVA HORIZONS). BASALT DATED AT 200MY BY PLEOCHROIC HALOS. AVERAGE OF 8-272, 273 AND 274. THICKNESS 1140M, 18 FLOWS. THE MORON-

GOVSK SUITE IS THE ANALOGUE OF THE AYANSK, THE MOKULAEVSK THE ANALOGUE OF THE KHONNA-MAKITSK. CLEANING 150-240 DE AND 600 DEG C. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY PREFERRED RADIOMETRIC AGE OF ROCK=200.00MY

8-276 YOUNGER YGYATYN DOLERITES (KAMYSHEVA IN KHRAMOV 1975) PERMIAN TO UPPER TRIASSIC AGE CONDITIONAL. DOLERITES OVERLIE LOWER PROTEROZOIC CARBONATES. PRESUMABLY CORRELATIVE WITH THE SIBERIAN TRAPS. UNIT WEIGHT TO 9 DETERMINATIONS N=9. TWENTY TABULAR BODIES OVER 50KM. CLEANING 105 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY

8-277 YOUNGER YGYATYN DOLERITES (KAMYSHEVA IN KHRAMOV 1975) PERMIAN TO EARLY TRIASSIC AGE CONDITIONAL. DOLERITES OVERLIE LOWER PROTEROZOIC CARBONATES. PRESUMABLY CORRELATIVE WITH THE SIBERIAN TRAPS. UNIT WEIGHT TO 9 DETERMINATIONS N=9. SIXTEEN TABULAR BODIES OVER 60KM. CLEANING 105 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=247.50MY

8-278 MORKOKA RIVER DOLERITES (KAMYSHEVA IN KHRAMOV 1975) CONDITIONAL AGE OF PERMIAN TO UPPER TRIASSIC BY ANALOGY WITH OTHER BODIES. K-AR AGE FOR 3 BODIES IS 256, 271(ERROR 25), AND 280MY. PRESUMABLY CORRELATIVE WITH THE SIBERIAN TRAPS. UNIT WEIGHT TO 6 DETERMINATIONS N=6. NINE TABULAR BODIES AND 1 DYKE OVER A DISTANCE OF 40KM. CLEANING 80-105 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY PREFERRED RADIOMETRIC AGE OF ROCK=269.70MY

8-279 MORKOKA RIVER DOLERITES (KAMYSHEVA IN KHRAMOV 1975) CONDITIONAL AGE OF PERMIAN TO UPPER TRIASSIC BY ANALOGY WITH OTHER BODIES. PRESUMABLY CORRELATIVE WITH THE SIBERIAN TRAPS. UNIT WEIGHT TO 5 DETERMINATIONS N=5. ELEVEN TABULAR BODIES OVER A DISTANCE OF 30KM. CLEANING 80-150 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY

8-280 MARKHINSK DOLERITES AND DOLERITE-BASALTS (KAMYSHEVA IN KHRAMOV 1975) PERMIAN TO UPPER TRIASSIC. SEE 8-282. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY

8-281 MARKHINSK DOLERITES AND MICRODOLERITES (KAMYSHEVA IN KHRAMOV 1975) PERMIAN TO UPPER TRIASSIC. SEE 8-282. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY

8-282 MARKHINSK TRAPS COMBINED (KHRAMOV 1975) PERMIAN TO UPPER TRIASSIC BY ANALOGY WITH THE TUNGUS SYNECLISE. PRESUMABLY CORRELATIVE WITH THE SIBERI-

AN TRAPS. AVERAGE OF 8-280 AND 281. UNIT WEIGHT TO 15 INTRUSIVE BODIES. THIRTEEN INTRUSIONS, 1 FLOW 30M THICK AND 1 MICRODOLERITE DYKE, 296 SAMPLES. CLEANING 105-150 DE. BASIN OF THE ALAKIT AND MARKHA RIVERS. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY

8-283 OLENEK DOLERITES (KAMYSHEVA IN KHRAMOV 1975). PRESUMABLY CORRELATIVE WITH THE SIBERIAN TRAPS. UNIT WEIGHT TO 3 SILLS N=3. THREE OUTCROPS, 69 SAMPLES ON OLENEK RIVER. CLEANING 105 DE. THOLEIITIC, OLIVINE AND PALAGONITE DOLERITES. SUPERCEDES 8-153. ASSIGNED GEOLOGICAL AGE OF ROCK=236.25MY

8-284 OLENEK DOLERITES (KAMYSHEVA IN KHRAMOV 1975). K-AR AGE OF 360(ERROR 15)MY. PRESUMABLY CORRELATIVE WITH THE SIBERIAN TRAPS ALTHOUGH K-AR AGE TOO OLD. SAMPLES UNIT WEIGHT N=24. ONE OUTCROP, 1 DYKE ON OLENEK RIVER. CLEANING 150 DE. SUPERCEDES 8-154. PREFERRED RADIOMETRIC AGE OF ROCK=360.00MY

8-285 BASALTS OF TUNGUS SYNCLINE COMBINED 4. EARLY TRIASSIC. AVERAGE OF POLES IN 8-268, 269, 270, 272, 273 AND 275, N=6. SUPERCEDES 8-197. ASSIGNED GEOLOGICAL AGE OF ROCK=220.00MY

9-111 ORAA VALLEY SILLS (HAILWOOD AND MITCHELL 1971). WHOLE ROCK K-AR AGES OF 180 TO 186MY GIVEN. PREFERRED RADIOMETRIC AGE OF ROCK 183MY. PREFERRED RADIOMETRIC AGE OF ROCK=183.00MY

9-112 FOUM ZGUID DYKE (HAILWOOD AND MITCHELL 1971). WHOLE K-AR AGES OF 182-187MY GIVEN. PREFERRED RADIOMETRIC AGE OF ROCK 184MY. PREFERRED RADIOMETRIC AGE OF ROCK=184.00MY

9-113 INTRUSIVES OF CENTRAL ATLAS (HAILWOOD AND MITCHELL 1971). BIOTITE K-AR AGES OF 152-160MY AND WHOLE-ROCK AGE OF 119-134MY GIVEN. PREFERRED RADIOMETRIC AGE OF ROCK 156MY. PREFERRED RADIOMETRIC AGE OF ROCK=156.00MY

9-115 CHON AIKE FORMATION (CREER, MITCHELL AND ABOUDEEB 1972). K-AR AGE 166(ERROR 5)MY BASED ON 10 SAMPLES CITED. POLE IS AVERAGE OF SITE POLES N=17. AVERAGE DIRECTIONS OF NORMAL (385,-57) AND REVERSED (212,+70) GROUPS GIVEN HERE, WHICH ARE NOT EXACTLY OPPOSED. CLEANING 200 TO 500 DE. ANDESITES, TRACHYTES AND RHYOLITES FROM CAMARONES AND SANTA CRUZ WHICH ARE FARTHER NORTH THAN EARLIER COLLECTIONS 9-84. PREFERRED RADIOMETRIC AGE OF ROCK=166.00MY

- 9-116 GAMBACORTA FORMATION (BECK AND SCHMIDT 1971). CAMBRIAN ROCKS WITH PROBABLE JURASSIC MAGNETIZATION. SEE 2-100. ASSIGNED GEOLOGICAL AGE OF ROCK=535.00MY
- 9-120 DOLERITE FROM MILORGNAUSANE NUVATAKS, DRONNING MAUD LAND (BLUNDELL 1964).
- 9-122 DONBASS CLAYS (RUSAKOV IN KHRAMOV 1971) KIMMERIDGIAN, UPPER JURASSIC. UNIT WEIGHT TO SPECIMENS N=20. TWO LOCALITIES, 20M THICKNESS. CLEANING AT 150-500 DEG C. AF DEMAGNETIZATION OF TEST SPECIMENS. RED, BROWNISH-WHITE AND GREEN CLAYS. ASSIGNED GEOLOGICAL AGE OF ROCK=148.50MY
- 9-123 CLAYS, SILTSTONES AND SANSTONES (NAZAROV QUOTED IN KHRAMOV 1971) CALLOVIAN AND BATHONIAN, MIDDLE TO UPPER JURASSIC. SPECIMENS UNIT WEIGHT N=33. AGGREGATE THICKNESS OF 550M SAMPLED AT 2 LOCALITIES, TURKMENIA. ASSIGNED GEOLOGICAL AGE OF ROCK=162.00MY
- 9-124 VOLGIAN STAGE, SEDIMENTS OF KHATANGA BASIN (POS-PELOVA ET AL IN KHRAMOV 1971) UPPER JURASSIC. SAMPLES GIVEN UNIT WEIGHT N=40. THICKNESS SAMPLED 30M. STORAGE TESTS. PILOT SPECIMENS THERMALLY DEMAGNETIZED. SANDSTONE, SILTSTONE AND CLAYSTONE OF BOYARKA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=141.80MY
- 9-125 GREY CLAYS OF THE DONBASS (RUSAKOV IN KHRAMOV 1971) BATHONIAN (MIDDLE JURASSIC). SAMPLES UNIT WEIGHT N=34. DEMAGNETIZATION OF PILOT SPECIMENS AT 800 DE. SAMPLED 100M THICKNESS. RESEDIMENTATION EXPERIMENTS CARRIED OUT. ASSIGNED GEOLOGICAL AGE OF ROCK=164.50MY
- 9-126 CHALOI BEDS OF THE GREAT BALKHAN (NAZAROV IN KHRAMOV 1971) MIDDLE JURASSIC. SAMPLES UNIT WEIGHT N=215, SPACED THROUGH 1600M. YELLOW CLAYS AND SILTSTONES. TURKMENIA. ASSIGNED GEOLOGICAL AGE OF ROCK=167.00MY
- 9-127 DONBASS CLAYS AND SANSTONES (RJSKOV IN KHRAMOV 1971) TOARCIAN. GREY CLAYS AND YELLOW SANSTONES ASSIGNED GEOLOGICAL AGE OF ROCK=175.00MY
- 9-128 VERKHONYANSK SEDIMENTS (SLAUCITAIIS IN KHRAMOV 1971) LIASSIC. AVERAGE OF 4 RESULTS FROM 12 LOCALITIES LISTED IN KHRAMOV (NOS. 5-7 TO 5-10) GIVING EACH UNIT WEIGHT N=4. STORAGE TESTS. SAND-SILT DEPOSITS. SUPERCEDES 9-109. ASSIGNED GEOLOGICAL AGE OF ROCK=182.25MY
- 9-129 CRIMEAN SEDIMENTS (ANFEROVA IN KHRAMOV 1971). BATHONIAN TO BAJOCIAN (MIDDLE JURASSIC). SAMPLES UNIT WEIGHT N=18. POLYMIXT SANSTONES AND DARK-GREY CLAYS. ASSIGNED GEOLOGICAL AGE OF ROCK=167.00MY
- 9-130 PETROPAVLOVSK GROUP WESTERN TRANSBAIKALIA (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) TRIASSIC TO LOWER JURASSIC. SITES UNIT WEIGHT N=43. NJMERJUS ANDESITE-BASALT FLOWS STUDIED THROUGH 1000M OVER 20KM. OZHIDA RIVER. SUPERCEDES 9-108. ASSIGNED GEOLOGICAL AGE OF ROCK=198.50MY
- 9-135 CARMEL FORMATION (STEINER AND HELSLEY 1972) MIDDLE AND LOWEST UPPER JURASSIC. SAMPLES UNIT WEIGHT N=42. CLEANING 500 DEG C. AUTHORS REGARD MAGNETIZATION AS "UNSTABLE". RED SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=154.00MY
- 9-136 ENTRADA FORMATION (STEINER AND HELSLEY 1972) LOWER UPPER JURASSIC. NRM DIRECTIONS AT 2 LOCALITIES WERE NEAR PRESENT FIELD AND WERE IN CLOSE AGREEMENT BEFORE CORRECTION FOR TILT. THEIR MEAN IS GIVEN HERE. THERMAL DEMAGNETIZATION OF PILOT SAMPLES GIVE LITTLE CHANGE IN DIRECTION UP TO 500 DEG C WITH WIDE SCATTER ABOVE 500 DEG C. MAGNETIZATION REGARDED AS "UNSTABLE" BY AUTHORS. RED SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=159.50MY
- 9-137 SUMMERTON FORMATION (STEINER AND HELSLEY 1972) MIDDLE OF UPPER JURASSIC, POSSIBLY UPPER OXFORDIAN. SAMPLES UNIT WEIGHT N=40. SAMPLES SPAN 10M THICKNESS. CHOCOLATE SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=154.00MY
- 9-138 GABBRO DUFEK MASSIF, PENSACOLA (BECK 1972A). K-Ar PLAGIOCLASE AGE OF 168MY (MIDDLE JURASSIC) QUOTED. SAMPLES FROM THE FORESTRAL AND DUFEK SECTIONS THROUGH A GABBRO INTRUSION OF ABOUT 6KM THICKNESS. TWELVE KM SPREAD. AUTHOR UNCERTAIN WHETHER REVERSALS ARE TRUE FIELD REVERSALS OR SELF-REVERSALS. ENTRY 9-93 IS AN EARLIER RESULT. PREFERRED KADIOMETRIC AGE OF ROCK=168.00MY
- 9-140 ARMENIAN PORPHYRITES (AKOPYAN IN KHRAMOV 1973) UPPER JURASSIC. TITHONIAN, KIMMERIDGIAN AND OXFORDIAN FAUNAS IN INTERBEDDED SEDIMENTS. SPECIMENS UNIT WEIGHT N=52. SIX EXPOSURES, THICKNESS OF 1200M SAMPLED OVER 200KM. STORAGE TESTS. SUPERCEDES 9-16, 17, 18 AND 19. ASSIGNED GEOLOGICAL AGE OF ROCK=143.50MY
- 9-141 VOLCANO-SEDIMENTARY SERIES, LITTLE CAUCASUS

- (KARKOSHKIN AND ALEKSEEV IN KHRAMOV 1973) KIMMERIDGIAN. SAMPLES UNIT WEIGHT N=30. THICKNESS 210M, 20 BEDS, 3 LOCALITIES. CLEANING 100-200 DE. TUFFS, TUFFACEOUS BRECCIAS, TUFFACEOUS GRITS, TUFFACEOUS SANDSTONES AND PORPHYRITES. ASSIGNED GEOLOGICAL AGE OF ROCK=148.50MY
- 9-142 VOLCANO-SEDIMENTARY SERIES LITTLE CAUCASUS (KARKOSHKIN AND ALEKSEEV IN KHRAMOV 1973) UPPER CALLOVIAN. SAMPLES UNIT WEIGHT N=21. THICKNESS 230M, 15 LEVELS. CLEANING 100-200 DE. ARGILLITE, TUFFACEOUS SANDSTONE AND TUFFITE. ASSIGNED GEOLOGICAL AGE OF ROCK=159.50MY
- 9-143 VOLCANO-SEDIMENTARY SERIES. ENTRIES 9-141 AND 9-142 COMBINED IN KHRAMOV (1973). UPPER JURASSIC. SAMPLES UNIT WEIGHT N=51. ASSIGNED GEOLOGICAL AGE OF ROCK=149.00MY
- 9-144 ANDESITE-BASALT VOLCANIC NECK OMOLONSK MASSIF (PECHERSKII IN KHRAMOV 1973) MIDDLE-UPPER JURASSIC. INTRUSIVE INTO PERMIAN TO LOWER JURASSIC. SAMPLES UNIT WEIGHT N=12. CLEANING 400 DE. THICKNESS OF SEVERAL HUNDRED METRES SAMPLED NEAR KHIVACHA RIVER. ANDESITE-BASALT AND CONTACT METAMORPHOSED LIMESTONES. SUPPLEMENTS 9-100. ASSIGNED GEOLOGICAL AGE OF ROCK=154.00MY
- 9-145 INTRUSIVE SYENITE OF UMKUVEEMSK DEPRESSION (PECHERSKII IN KHRAMOV 1973) MIDDLE TO UPPER JURASSIC. INTRUDERS LOWER JURASSIC. SAMPLES UNIT WEIGHT N=7. COMPONENT ACQUIRED DURING HEATING BY LATER MAGMATISM MAY BE PRESENT. SUPPLEMENTS 9-101. ASSIGNED GEOLOGICAL AGE OF ROCK=154.00MY
- 9-146 LITTLE CAUCASUS (AKOPYAN IN KHRAMOV 1973) BATHONIAN AND BAJOCIAN. SAMPLES UNIT WEIGHT N=54. THREE EXPOSURES OVER 200KM THROUGH 2200M. STORAGE TESTS. PORPHYRITE AND TUFFACEOUS SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=167.00MY
- 9-147 LITTLE CAUCASUS (KARKOSHKIN IN KHRAMOV 1973) LOWER AND MIDDLE BATHONIAN. SAMPLES UNIT WEIGHT N=228. CLEANING 150-300 DE. ELEVEN SECTIONS OVER 700 SQ KM, 86 LEVELS THROUGH 900M. PORPHYRITE, TUFFITE, TUFF AND TUFFACEOUS CONGLOMERATE. ASSIGNED GEOLOGICAL AGE OF ROCK=163.65MY
- 9-148 LITTLE CAUCASUS (KARKOSHKIN AND ALEKSEEV IN KHRAMOV 1973) UPPER BAJOCIAN. SAMPLES UNIT WEIGHT N=14. CLEANING 200-300 DE. SAMPLED 2 SECTIONS, 14 BEDS THROUGH 200M THICKNESS. QUARTZ PORPHYRITES, TUFFS AND TUFF-BRECCIAS. ASSIGNED GEOLOGICAL AGE OF ROCK=170.75MY
- 9-149 LITTLE CAUCASUS (KARKOSHKIN AND ALEKSEEV IN KHRAMOV 1973) LOWER BAJOCIAN. SAMPLES UNIT WEIGHT N=134. SEVEN SECTIONS OVER 700 SQ KM, 70 BEDS THROUGH 1100M SAMPLED. PORPHYRITE, TUFF, TUFFITE, TUFFACEOUS SANDSTONE AND SANDSTONE. ASSIGNED GEOLOGICAL AGE OF ROCK=170.75MY
- 9-150 LITTLE CAUCASUS COMBINED, MIDDLE JURASSIC. COMBINATION IN KHRAMOV (1973) OF ENTRIES 9-146, 147, 148 AND 149, GIVING EACH UNIT WEIGHT N=4. SUPERCEDES 9-16, 17, 18 AND 19. ASSIGNED GEOLOGICAL AGE OF ROCK=167.00MY
- 9-151 CONGLOMERATE SERIES KUZNetsk BASIN (APARIN IN KHRAMOV 1973) LOWER TO MIDDLE JURASSIC. SAMPLES UNIT WEIGHT N=20. THICKNESS OF 142M STUDIED OF WHICH LOWER 106M IS NORMAL AND UPPER 36M REVERSED. TWO BORE-HOLES IN YUZHNYI URAL'NYI AREA OF THE TUTUYAS SYNCLINE. SANDSTONE AND ALEUROLITE. ASSIGNED GEOLOGICAL AGE OF ROCK=177.25MY
- 9-152 SEDIMENTS OF YANO-KOLYMSK FOLD SYSTEM (PECHERSKII IN KHRAMOV 1973) AALENIAN AND BAJOCIAN. SAMPLES UNIT WEIGHT N=44. TWO EXPOSURES SEPARATED BY 10KM FROM OPPOSITE LIMBS OF A SYNCLINE. EIGHT SECTIONS SPANNING 850M, 44 SAMPLES. DEMAGNETIZATION OF SELECTED SPECIMENS UNDERTAKEN. MAGNETIZATION MUCH AFFECTED BY CRETACEOUS METAMORPHISM. POLYMICT SANDSTONES AND ALEUROLITES. ASSIGNED GEOLOGICAL AGE OF ROCK=171.00MY
- 9-153 LOWER AND MIDDLE JURASSIC SEDIMENTS OMOLONSK MASSIF (PECHERSKII IN KHRAMOV 1973). FIVE EXPOSURES, 280M THICKNESS, 120 LEVELS AND 120 SAMPLES OF WHICH 89 ARE NORMAL AND 31 REVERSED. POLARITY OF SAMPLES DISTRIBUTED AS FOLLOWS: BAJOCIAN AND AALENIAN (17N, 7R), TOARCIAN, DOMERIAN AND SINEMURIAN (49N, 21R) AND SINEMURIAN AND HETTANGIAN (23N, 3R). SAMPLES UNIT WEIGHT N=120. ARGILLITE, ALEUROLITE AND SANDSTONE. SUPERCEDES 9-98. ASSIGNED GEOLOGICAL AGE OF ROCK=177.25MY
- 9-154 TOPLEY INTRUSIONS (SYMONS 1973B, 1974A). THE C-14 AGES CITED RANGE FROM 135 TO 143MY, AND HAVE A MEAN OF 139(ERROR 4)MY. SITES UNIT WEIGHT N=13. RESULT BASED ON 13 SITES FROM 6 INTRUSIVE UNITS SPREAD OVER 20KM. SIX SITES FROM 3 OTHER UNITS OF DIFFERENT AGE ALSO SAMPLED. CLEANING 100 TO 400 DE. QUARTZ MONZONITE. PREFERRED RADIOMETRIC AGE OF ROCK=139.00MY
- 9-156 JURASSIC OF SOUTHERN ALASKA (PACKER AND STONE 1974). ROCKS OF UPPER, MIDDLE AND LOWER JURASSIC STUDIED. SPREAD 700KM. POLE DIVERGES FROM OTHER JURASSIC POLES FROM NORTH AMERICA, AND THIS IS

EXPLAINED BY INVOKING NORTHWARD MOVEMENT AND CLOCKWISE ROTATION OF SOUTHERN ALASKA, RELATIVE TO THE NORTH AMERICAN CRATON. SANDSTONES, SILT-STONES, GRANITES AND QUARTZ DIORITES.
ASSIGNED GEOLOGICAL AGE OF ROCK=164.25MY

9-157 ANTI-ATLAS MOROCCAN BASIC ROCKS (BARDON ET AL 1973). SEE 9-158.
ASSIGNED GEOLOGICAL AGE OF ROCK=188.50MY
PREFERRED RADIOMETRIC AGE OF ROCK=183.50MY

9-158 BASIC ROCKS OF HIGH ATLAS AND NORTHERN MOROCCO (BARDON ET AL 1973) LATE TRIASSIC TO EARLY JURASSIC AGE IS SUGGESTED BY STRATIGRAPHIC EVIDENCE. K-AR RESULTS GIVEN IN 9-111 TO 113. THE AGES FROM THE SILLS AND DYKES ARE REGARDED AS MOST RELIABLE. ENTRY 9-158 MAY CORRESPOND IN PART TO 9-111 BUT SOME SAMPLES COME FROM FURTHER NORTH NEAR CASABLANCA. LAVAS, DYKES AND SILLS.
ASSIGNED GEOLOGICAL AGE OF ROCK=186.50MY
PREFERRED RADIOMETRIC AGE OF ROCK=183.50MY

9-162 COAST PARALLEL DYKES (FAHRIG AND FREDA 1975)
TRIASSIC OR JURASSIC. K-AR BIOTITE AGE CITED OF 162(ERROR 5)MY ON LAMPROPHYRE THAT CUTS ONE OF THESE DYKES. A WR K-AR AGE OF 136MY ALSO CITED. UNIT WEIGHT TO SITES N=8. CLEANING IN 50 TO 800 OE.
PREFERRED RADIOMETRIC AGE OF ROCK=162.00MY

9-163 COAST PARALLEL DYKES COMBINED. TRIASSIC OR JURASSIC. DATA OF 9-162 COMBINED WITH DATA OF A. KETELAAR WHO STUDIED 15 DYKES. IN THIS COMBINATION BY FAHRIG AND FREDA (1975) UNIT WEIGHT IS GIVEN TO THE NORMAL AND REVERSED GROUPS OF KETELAAR AND THE 8 INDIVIDUAL RESULTS OF 9-162 (N=10).
ASSIGNED GEOLOGICAL AGE OF ROCK=180.50MY

9-164 LOMFJORDEN DOLERITE (BRISEID AND HALVORSEN 1974)
UPPER JURASSIC. EARLIER CONTROVERSIAL RESULTS (10-77, 213 AND 214) WERE FROM TERTIARY OROGENIC ZONE AND ARE CONSIDERED TO BE A CONSEQUENCE OF TERTIARY OVERPRINTING. THIS SILL IS OUTSIDE TERTIARY OROGENIC ZONE AND THE MAGNETIZATION IS CONSIDERED TO RECORD LATE JURASSIC FIELD. THIRTY FIVE METRES SAMPLED THROUGH SINGLE SILL. DETAILED STUDIES ARE PRESENTED.
ASSIGNED GEOLOGICAL AGE OF ROCK=149.00MY

9-165 KIMMERIDGIAN BASALT (GREGOR ET AL 1974). OVERLIES OXFORDIAN AND OVERLAIN BY TITHONIAN AND GENERALLY CONSIDERED TO BE KIMMERIDGIAN. SITES UNIT WEIGHT N=8. THICKNESS 200M. CLEANED IN 150 AND 300 OE. SUPERCEDES 9-73.
ASSIGNED GEOLOGICAL AGE OF ROCK=148.50MY

9-166 TOARCIAN ROCKS FROM ENGLAND (SALLOMY AND BRIDEN 1975). A STUDY OF MANY HORIZONS YIELDED MAGNETIZATIONS THAT WERE EITHER ALONG THE PRESENT FIELD OR WERE ACQUIRED DURING DRILLING. RESULTS FROM 3 UNITS GAVE EVIDENCE OF STABILITY IN THE LABORATORY AND THEIR COMBINATION IS GIVEN HERE. SAMPLES UNIT WEIGHT N=26. THIS ESSENTIALLY CONFIRMS THE EARLIER WORK (9-1 TO 9-9) WHICH IT SUPERCEDES. THE 3 UNITS ARE THE BRIDPORT AND COTSWOLD SANDS AND THE ROSEDALE IRON ORE.
ASSIGNED GEOLOGICAL AGE OF ROCK=175.00MY

9-167 TULAMEEN COMPLEX (SYMONS 1974B) LOWER JURASSIC. K-AR AGE ON BIOTITE OF 186MY CITED. ALSO 4 K-AR HORNBLENDE AGES OF 176(ERROR 3)MY WHICH IS REGARDED AS RELIABLE ESTIMATE OF THE AGE OF INTRUSION. ULTRAMAFIC-GABBRO PLUTON INTRUSIVE INTO UPPER JURASSIC NICOLA GROUP AND INTRUDED BY EAGLE GRANODIORITE WHICH HAS YIELDED K-AR BIOTITE AGE OF 143MY. POLE DOES NOT AGREE EXACTLY WITH OTHER POLES FROM NORTH AMERICA AND AUTHOR SUGGESTS THAT THIS COULD BE RECONCILED BY ASSUMING A 20 DEG SE TILT DURING LARAMIDE OROGENY.
CLEANING IN 100 TO 650 OE.
ASSIGNED GEOLOGICAL AGE OF ROCK=182.25MY
PREFERRED RADIOMETRIC AGE OF ROCK=176.00MY

9-169 CARMEL FORMATION (JOHNSON AND NAIRN 1972) MIDDLE AND LOWER PART OF UPPER JURASSIC. NO EXPERIMENTAL DETAILS GIVEN. AUTHORS REGARD THEIR RESULTS AS SUSPECT.
ASSIGNED GEOLOGICAL AGE OF ROCK=154.00MY

9-170 NAVAJO SANDSTONE (JOHNSON AND NAIRN 1972) JURASSIC. NO EXPERIMENTAL DETAILS GIVEN. DIRECTIONS ARE CLOSE TO PRESENT FIELD AND ARE SUSPECT.
ASSIGNED GEOLOGICAL AGE OF ROCK=164.25MY

9-171 NAVAJO SANDSTONE (JOHNSON AND NAIRN 1972) JURASSIC. MAGNETIZATION CONSIDERED BY AUTHORS TO CONTAIN "RELICTS OF AN ORIGINAL MAGNETIZATION OVERPRINTED BY VARIABLE BUT SMALL STABLE SECONDARY MAGNETIZATION". NO EXPERIMENTAL DETAILS GIVEN.
ASSIGNED GEOLOGICAL AGE OF ROCK=164.25MY

9-172 LIBERIAN THOLEIITIC DIABASE DYKES (DALRYMPLE, GROMME AND WHITE 1975). AGE REGARDED AS "PROBABLY EARLIEST JURASSIC". K-AR AGES OF 173 TO 192MY REPORTED. SITES UNIT WEIGHT N=25. SAMPLES SPREAD OVER 200KM. CLEANING IN 50 TO 100 OE.
ASSIGNED GEOLOGICAL AGE OF ROCK=190.25MY
PREFERRED RADIOMETRIC AGE OF ROCK=182.50MY

9-173 MOROCCAN INTRUSIVES 2 COMBINED. LATE TRIASSIC TO EARLY JURASSIC AGE SUGGESTED BY STRATIGRAPHIC

- EVIDENCE (SEE 9-158). K-AR AGE OF LAVAS AND DYKES INDICATES EARLY JURASSIC AGE WHEREAS K-AR RESULTS FROM GABBROS ARE INCONSISTENT. THIS FORMER AGE IS PREFERRED.
 ASSIGNED GEOLOGICAL AGE OF ROCK=188.50MY
 PREFERRED RADIOMETRIC AGE OF ROCK=183.50MY
- 9-174 FERRAR DOLERITE SHEETS COMBINED. AVERAGE OF ENTRIES 9-36 AND 56 GIVING EACH UNIT WEIGHT N=55.
 PREFERRED RADIOMETRIC AGE OF ROCK=155.00MY
- 9-175 HOACHANAS BASALTS (GIDSKEHAUG, GREER AND MITCHELL 1975) K-AR AGE OF 166±ERROR 51MY CITED.
 SITES UNIT WEIGHT N=3. SPREAD 10KM.
 PREFERRED RADIOMETRIC AGE OF ROCK=168.00MY
- 9-176 MORRISON FORMATION (STEINER AND HELSLEY 1975)
 TITHONIAN TO KIMMERIDGIAN - UPPER JURASSIC. CONFORMABLY OVERLIES THE SUMMERTOWN FORMATION.
 THIRTEEN POLARITY ZONES OBSERVED IN 105M THICKNESS THAT IS THOUGHT TO CORRESPOND TO KEIGHLEY ANOMALY SEQUENCE. REVERSE POLARITY PREDOMINATES. CLEANING AT ABOUT 600 DEG C. NORWOOD, COLORADO. IN 9-176 RESULTS FROM UPPER 67M GIVEN.
 UNIT WEIGHT TO SELECTED POLARITY ZONES N=4. SELECTION PROCEDURE JUSTIFIED BECAUSE EVEN AFTER THIRD DEMAGNETIZATION SMALL MAGNETIZATIONS DUE TO PRESENT FIELD PROBABLY PERSIST.
 ASSIGNED GEOLOGICAL AGE OF ROCK=143.50MY
- 9-177 LOWER PART OF MORRISON FORMATION. RESULTS FROM LOWER 78M. UNIT WEIGHT TO SELECTED POLARITY ZONES N=3. SEE 9-176.
 ASSIGNED GEOLOGICAL AGE OF ROCK=143.50MY
- 9-178 ARMENIAN TUFFACEOUS BRECCIAS AND TUFFACEOUS CONGLOMERATES (SIRUNYAN IN KHRAMOV 1975) LATE OXFORDIAN TO KIMMERIDGIAN (DETERMINED FROM FOSSILS). SAMPLES UNIT WEIGHT N=45. ABOUT 900M THICKNESS, 37 BEDS, 4 OUTCROPS 4 TO 11KM APART. CLEANING 200 DEG C AND 200-250 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=151.50MY
- 9-179 ARMENIAN PORPHYRITES, TUFFACEOUS SANDSTONES AND SANDSTONES (SIRUNYAN IN KHRAMOV 1975) LATE CALLOVIAN TO EARLY OXFORDIAN (DETERMINED FROM FOSSILS). SAMPLES UNIT WEIGHT N=30. ABOUT 300M THICKNESS, 20 BEDS, 3 OUTCROPS 9 TO 80KM APART. CLEANING IN 200 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=156.50MY
- 9-180 ARMENIAN PORPHYRITES (SIRUNYAN IN KHRAMOV 1975) BAJOCIAN (FROM FOSSILS). SAMPLES UNIT WEIGHT N=61. THICKNESS ABOUT 1000M, 41 FLOWS, 5 SECTIONS OVER AN AREA OF 100 SQ KM IN THE KAFANSK AREA. CLEANING IN 300-400 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=169.50MY
- 9-181 ARMENIAN PORPHYRITES, TUFFACEOUS BRECCIAS AND KERATOPHYRES (SIRUNYAN IN KHRAMOV 1975) BATHONIAN AND BAJOCIAN. SAMPLES UNIT WEIGHT N=31. THICKNESS ABOUT 690M. CLEANING IN 200 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=167.00MY
- 9-182 ARMENIAN PORPHYRITES AND TUFFACEOUS SANDSTONES (SIRUNYAN IN KHRAMOV 1975) LATE AALENIAN (?) TO BAJOCIAN. SAMPLES UNIT WEIGHT N=45. THICKNESS ABOUT 400M, 29 BEDS. CLEANING 250 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=171.00MY
- 9-183 ARMENIAN SANDSTONES AND CLAYS (SIRUNYAN IN KHRAMOV 1975) TOARCIAN TO EARLY AALENIAN. SAMPLES UNIT WEIGHT N=30. THICKNESS 70M, 15 BEDS. CLEANING 200-300 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=175.00MY
- 9-184 ARMENIAN SEDIMENTS AND VOLCANICS COMBINED (KHRAMOV 1975) LOWER TO MIDDLE JURASSIC. AVERAGE OF 9-181, 162 AND 163, N=3. NINE SECTIONS. AF AND THERMAL CLEANING.
 ASSIGNED GEOLOGICAL AGE OF ROCK=177.25MY
- 10-94 METAMORPHOSED SEDIMENTS NORTHEAST SIBERIA (PECHERSKII 1970) CRETACEOUS. SEDIMENTS FROM 4 LOCALITIES, OVER A DISTANCE OF SEVERAL HUNDRED KM, HAVE BEEN METAMORPHOSED BY GRANITIC ROCKS PRESUMABLY OF CRETACEOUS AGE. POLARITY RATIO CANNOT BE FORMALLY CALCULATED AND AN ESTIMATE IS GIVEN HERE. RESULT OBTAINED BY AVERAGING ENTRIES 14 TO 20 IN ORIGINAL. NUMBER OF SPECIMENS APPROXIMATE ONLY.
 ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-105 YUNUS-DAGH SUITE (ADDITIONAL NOTE FROM KHRAMOV 1971) SENONIAN. LILAC AND RED CLAYS AND MARLS. SEE ISSUE ONE.
 ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-118 STEVENS PASS PLUTONS WASHINGTON (BECK AND NISON 1972) RADIOMETRIC AGE OF 85MY CITED (=UPPER CRETACEOUS). SITES UNIT WEIGHT N=4. SPREAD 50KM. CLEANING 150-200 DE. QUARTZ MONZONITE TO JIORITE PREFERRED RADIOMETRIC AGE OF ROCK= 85.00MY
- 10-122 NORTHERN FERGHANA BASALTS (SHOLPO AND ROSSINOV 1971) CRETACEOUS. NO DETAILS REPORTED.
 ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY

10-128 GONDWANA DYKES (ATHAVALE AND VERMA 1970) JURU-CRETACEOUS. THE AUTHORS SAY THAT THE AGE IS REGARDED AS INTERMEDIATE BETWEEN THE RAJAMAHAL, SYLHET AND RAJAMAHENDRI TRAPS AND THE DECCAN TRAPS. THE RAJAMAHAL TRAPS, ALTHOUGH FORMERLY CONSIDERED TO BE JURASSIC, HAVE NOW BEEN SHOWN TO BE CRETACEOUS (100 TO 105 MY, SEE 10-47). THE DECCAN TRAPS ARE LOWEST TERTIARY ABOUT 65MY. HENCE THE GONDWANA DYKES ARE PROBABLY UPPER CRETACEOUS IN THE RANGE 105 TO 65MY. TWELVE BASIC DYKES SAMPLED OVER 300KM. DYKES GIVEN UNIT WEIGHT N=12. CLEANING 25-100 DE. POLE IS MEAN OF THE SITE POLES LISTED IN ORIGINAL. ASSIGNED GEOLOGICAL AGE OF ROCK= 62.50MY PREFERRED RADIOMETRIC AGE OF ROCK= 80.00MY

10-130 UPPER CRETACEOUS LAVAS (HELSLEY AND NJR 1970). SAMPLES UNIT WEIGHT N=15. BASALTS. ASSIGNED GEOLOGICAL AGE OF ROCK= 62.50MY

10-131 LOWER CRETACEOUS LAVAS (HELSLEY AND NJR 1970). SAMPLES UNIT WEIGHT N=23. BASALTS. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY

10-132 INDIA SATYAVEDU SANSTONE (MITAL, VERMA AND PUL-LAIAH 1970). CONSIDERED TO BE EQUIVALENT OF THE LOWER TO MIDDLE CRETACEOUS TIRUPATI SANDSTONE AND SIMILARITY IN MAGNETIZATION CONFIRMS THIS. CLEANED IN 400-600 DE. THERMAL AND ACID-LEACHING STUDIES ALSO REPORTED. RESULTS FROM TWO OTHER SITES ATTRIBUTED TO TERTIARY LATERIZATION. ASSIGNED GEOLOGICAL AGE OF ROCK=112.00MY

10-133 ALBITOPHYRE TUFFS AND DACITES (VEKUA IN KHRAMOV 1971) UPPER TURONIAN TO SANTONIAN. THICKNESS OF 25M SAMPLED. STORAGE TESTS. ASSIGNED GEOLOGICAL AGE OF ROCK= 83.50MY

10-134 CALCAREOUS SANSTONES AND MARLS TURKMENIA (NAZAROV IN KHRAMOV 1971) UPPER CRETACEOUS. UNIT WEIGHT TO SPECIMENS N=10. THICKNESS OF 25M SAMPLED AT ONE LOCALITY. ASSIGNED GEOLOGICAL AGE OF ROCK= 62.50MY

10-135 APTIAN SEDIMENTS OF THE CRIMEA (RJSAKOV IN KHRAMOV 1971). UNIT WEIGHT TO SPECIMENS N=37. THREE LOCALITIES SPREAD OVER 80KM. RED AND GREY CLAYS. ASSIGNED GEOLOGICAL AGE OF ROCK=109.00MY

10-136 TADZHIK ALBIAN TO VALANGINIAN REDBEDS (RZHEVSKI IN KHRAMOV 1971). BASED ON DATA FROM 180 BEDS FROM 7 EXPOSURES OVER 300KM. STATISTICS BASED ON INTERSECTIONS OF REMAGNETIZATION CIRCLES. AF DEMAGNETIZATION OF TEST SPECIMENS AT 500 DE

PRODUCED NO CHANGES IN DIRECTION. THERE ARE A FEW REVERSED SAMPLES AND A POLARITY RATIO OF 2 PERCENT ARBITRARILY ASSIGNED. RED SANDSTONES, SILTSTONES AND CLAYS. SUPERCEDES 10-99. ASSIGNED GEOLOGICAL AGE OF ROCK=115.00MY

10-137 BASALTIC DYKE OF OBI-GERM AREA (RUSSINOV AND SHOLPO IN KHRAMOV 1971) LOWER CRETACEOUS. K-AR AGE OF 120MY QUOTED. UNIT WEIGHT TO SAMPLES N=14. SAMPLES EVENLY SPACED ACROSS ONE DYKE. THERMAL (450 DEG C) AND AF CLEANING (450 DE) OF 30 PERCENT OF SPECIMENS DID NOT ESSENTIALLY CHANGE DIRECTION. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY PREFERRED RADIOMETRIC AGE OF ROCK=120.00MY

10-138 ILEK SUITE CHULYM-YENISSEI BASIN (PUSPELOVA IN KHRAMOV 1971) NEOCOMIAN. GENERALLY ASSIGNED TO UPPER JURASSIC OR CRETACEOUS. RECENT WORK ON SPOKES SUGGESTS NEOCOMIAN AGE (LOWER CRETACEOUS). RESULTS FROM 3 OUTCROPS SAMPLED OVER 100KM ARE LISTED IN KHRAMOV, TOGETHER WITH THIS AVERAGE IN WHICH UNIT WEIGHT IS GIVEN TO OUTCROPS N=3. MOST SPECIMENS CLEANED AT 500 DE OR 150-200 DEG C. STORAGE TESTS. CONTINENTAL SEDIMENTS, IN PART REDBEDS, WITH NO FAUNA. CLAYS, ARGILLITES AND SILTSTONES. PRESUMABLY SUPERCEDES 10-25. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY

10-139 KHATANGA BASIN CLAYS AND SILTSTONES (PUSPELOVA IN KHRAMOV 1971) BASE OF HAUTERIVIAN. SAMPLES UNIT WEIGHT N=31. THERMAL CLEANING 250-300 DEG C. STORAGE TESTS. BEDS WITH GOOD MARINE FAUNA FROM LEVAYA-BAYARKA RIVER. ASSIGNED GEOLOGICAL AGE OF ROCK=121.00MY

10-141 TRACHYBASALTS AND DOLERITES TRANS-BAIKALIA (RJS-SINOV AND SHOLPO IN KHRAMOV 1971) LOWER CRETACEOUS. K-AR AGES OF 110 TO 130MY CITED. SAMPLES UNIT WEIGHT N=46. SEVERAL OUTCROPS IN EACH OF 3 AREAS OVER 150KM. ONE THIRD OF COLLECTION WAS CLEANED AT 300 DEG C OR 450 DE. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY PREFERRED RADIOMETRIC AGE OF ROCK=120.00MY

10-142 VALANGINIAN SEDIMENTS EASTERN SHORE OF ANABAR BAY (PUSPELOVA ET AL IN KHRAMOV 1971) BASAL VALANGINIAN. THICKNESS OF 120M SAMPLED. POLARITY RATIO APPROXIMATE ONLY. STORAGE TESTS AND THERMAL DEMAGNETIZATION OF PILOT SPECIMENS. RESULTS FROM 3 LOCALITIES SHOWING VERY CLOSE AGREEMENT ARE LISTED IN KHRAMOV TOGETHER WITH THIS SUMMARY IN WHICH UNIT WEIGHT IS GIVEN TO SAMPLES. CLAYS AND SILTSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=127.00MY

- 10-143 GLAUCONITIC SANDSTONE OF THE CRIMEA (ANFEROVA IN KHRAMOV 1971) LATE CRETACEOUS, BASAL CENOMANIAN. SAMPLES UNIT WEIGHT N=13. THICKNESS OF 3M AT ONE LOCALITY.
ASSIGNED GEOLOGICAL AGE OF ROCK= 97.00MY
- 10-144 LOWER CRETACEOUS SEDIMENT OF THE CRIMEA (ANFEROVA IN KHRAMOV 1971) LOWER ALBIAN TO APTIAN. RESULTS FROM 5 LOCALITIES ARE LISTED IN KHRAMOV TOGETHER WITH THE AVERAGE WHICH IS GIVEN HERE N=5. BASED ON SAMPLES FROM 13 BEDS SPANNING 300M. AF CLEANING OF PILOT SPECIMENS. DARK GREY AND BROWNISH-GREY CLAYS.
ASSIGNED GEOLOGICAL AGE OF ROCK=107.50MY
- 10-145 GREY GREEN CLAYS OF THE CRIMEA (ANFEROVA IN KHRAMOV 1971) LATE BARREMIAN TO MIDDLE VALANGINIAN. THICKNESS OF 50M OVER 51KM, 3 LOCALITIES, 21 BEDS. AF DEMAGNETIZATION OF PILOT SPECIMENS.
ASSIGNED GEOLOGICAL AGE OF ROCK=121.00MY
- 10-146 BORZYA MOUNTAIN BASALT OF TRANSBAIKALIA (DAVIDOV AND KRAVCHINSKI IN KHRAMOV 1971) CRETACEOUS (?). SAMPLES UNIT WEIGHT N=10. ONE 10M FLOW. DEMAGNETIZATION OF TEST SPECIMENS IN 400 DE DOES NOT CHANGE DIRECTION.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-148 FERGHANA RED SEDIMENTS COMBINED. UPPER CRETACEOUS. AVERAGE OF 10-62(SENONIAN AND TURONIAN), 63 (CENOMANIAN), 101(SENONIAN), 102(SENONIAN AND TURONIAN), 103(SENONIAN AND TURONIAN) AND 104 (SENONIAN AND TURONIAN), N=6.
ASSIGNED GEOLOGICAL AGE OF ROCK= 62.50MY
- 10-149 SHIN-YAMA ORE BODY, KAMAISHA MINING DISTRICT (UENO 1967) CRETACEOUS. METASOMATIC DEPOSITS IN PERMIAN LIMESTONES CAUSED BY CRETACEOUS INTRUSIONS WHICH "COULD BE FACIES OF TONO GRANITE". MAGNETIZATION OF IRON BODY (10-149) IS DIRECTED ALONG ITS LENGTH AND CONSIDERED TO BE CONTROLLED BY INTERNAL FIELDS.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-150 SHIN-YAMA SECOND COPPER BODY (UENO 1967). MAGNETIZATION CONSIDERED TO BE DUE TO GEOMAGNETIC FIELD PLUS FIELD OF 10-149. SEE 10-149.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-151 SHIN-YAMA FOURTH COPPER BODY (UENO 1967). MAGNETIZATION CONSIDERED TO REFLECT CRETACEOUS GEOMAGNETIC FIELD. THIS ENTRY 10-151 IS PARALLEL TO GRANODIORITE 10-152 FOR WHICH A K-AR AGE OF 119 MY IS CITED, AND FOR THIS REASON MINERALIZATION THOUGHT TO BE DUE TO THAT BODY. SEE 10-149.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-152 KAMAISHA GRANODIORITE (UENO 1967). K-AR AGE OF 119MY. SEE 10-149 AND 151.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
PREFERRED RADIOMETRIC AGE OF ROCK=119.00MY
- 10-153 KAMAISHA QUARTZ DIORITE (UENO 1967). AF DEMAGNETIZATION OF PILOT SPECIMENS. THIS ROCK BODY IS ADJACENT TO 10-152 BUT HAS A SOMEWHAT DIFFERENT DIRECTION. SEE 10-149.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-154 AKAGANE ORE DEPOSITS, IWATE PREFECTURE (NEDACHI, ABE AND UENO 1970) CRETACEOUS. ORE IS OF CONTACT METASOMATIC ORIGIN. THE ORE AND FOUR POSSIBLE RELATED BODIES WERE STUDIED. SIMILARITY IN DIRECTION BETWEEN THE ORE AND GRANITE PORPHYRY (10-159) SUGGESTS THAT THE LATTER IS THE RELATED BODY. DIRECTIONS WITH RESPECT TO MAGNETIC NORTH GIVEN IN THE ORIGINAL. THE DIRECTIONS WITH RESPECT TO TRUE NORTH GIVEN HERE. SEE 10-155 TO 159.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-155 GRANITE PORPHYRY, JAPAN. SEE 10-154 AND 159.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-156 GABBRO, JAPAN. SEE 10-154 AND 159.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-157 QUARTZ DIORITE, JAPAN. SEE 10-154 AND 159.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-158 QUARTZ PORPHYRY, JAPAN. SEE 10-154 AND 159.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-159 AKAGANE ORE DEPOSITS COMBINED. AVERAGE OF 10-154, 155, 156, 157 AND 158, N=5. SEE 10-154.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-160 LA TETA LAVAS AND MARUAYAN DIORITE (MACDONALD AND OPOYKE 1972) CRETACEOUS. K-Ar AGES ON LAVAS 95 TO 120MY, AND ON DIORITE 120MY. STRATIGRAPHIC RELATIONSHIPS INDICATE THAT THESE CRETACEOUS AGES ARE MINIMUMS. RESULTS FROM 8 LAVAS AND ONE DIORITE GIVEN UNIT WEIGHT N=9.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
PREFERRED RADIOMETRIC AGE OF ROCK=107.50MY
- 10-161 SOUTHERN CALIFORNIA BATHOLITH (TEISSERE AND BECK

- 1973). FIELD EVIDENCE INDICATES MIDDLE CRETACEOUS. K-AK AGE OF 100MY AND KB-SR AGE OF 121MY CITED. SAMPLES SPREAD OVER 150KM. SITUATED WITHIN OR TO SW OF SAN ANDREAS FAULT ZONE AND DIRECTION SUGGESTS DEXTRAL ROTATION OF 26 DEG AND ABOUT 10 DEG NORTHWARD MOTION SINCE INTRUSION. GABBRO, DIORITE, GRANODIORITE AND TONALITE. PREFERRED RADIOMETRIC AGE OF ROCK= 121.00MY
- 10-162 ARMENIAN PORPHYRITES AND TUFFACEOUS SANDSTONES (AKOPYAN IN KHRAMOV 1973) CONIACIAN TO SANTONIAN. SPECIMENS UNIT WEIGHT N=92. THICKNESS 800M. SIX EXPOSURES SPREAD OVER 100KM. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-163 VOLCANIC ROCKS OF LITTLE CAUCASJS (KARKOSHIN AND ALEKSEEV IN KHRAMOV 1973) SANTONIAN TO UPPERMOST CONIACIAN. ALTOGETHER 73 LEVELS SPACED THROUGH 1170M HAVE BEEN STUDIED AT 9 LOCALITIES. THE FOLLOWING 3 DETERMINATIONS ARE LISTED IN KHRAMOV TOGETHER WITH THEIR AVERAGE WHICH IS GIVEN HERE. SAMPLES UNIT WEIGHT N=75. (A) UPPER SANTONIAN, 150M, 10 LEVELS REVERSED, 210,+21. (B) LOWER SANTONIAN, 820M, 47 LEVELS NORMAL, 035,+42. (C) LOWERMOST SANTONIAN TO UPPERMOST CONIACIAN, 15 LEVELS ALL NORMAL, 042,+35. TUFFS, TUFFACEOUS SANDSTONES, PORPHYRITES, ANDESITES, BASALTS AND ANDESITIC BASALTS. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-164 UPPER CRETACEOUS REDBEDS OF FERGHANA COMBINED (SHMELEVA, TSAPENKO AND MURATOV GIVEN IN KHRAMOV 1973). COMBINES ENTRIES 10-164 TO 169. CORRESPONDS TO PREVIOUS ENTRIES 10-62, 63, 101, 102 AND 103 WHICH ARE SUPERCEOED. RED SANDSTONE, CLAY AND LIMESTONE. ENTRY 10-164 IS KUGARTSK AND PALVANTASHSK SUITES. SENONIAN. SPECIMENS UNIT WEIGHT N=62. SAMPLES SPACED THROUGH AGGREGATE THICKNESS 224M, 3 EXPOSURES. ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-165 AGAARALSK AND YALOVACH SUITES (SHMELEVA, TSAPENKO AND MURATOV GIVEN IN KHRAMOV 1973) SENONIAN TO TURONIAN. SAMPLES UNIT WEIGHT N=13. SAMPLES SPACED THROUGH AGGREGATE THICKNESS OF 450M, 2 EXPOSURES. REVERSED MAGNETIZATION OCCURS IN THE AGAARALSK SUITE. SEE 10-164. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-166 YALOVACH SUITE (SHMELEVA, TSAPENKO AND MURATOV GIVEN IN KHRAMOV 1973) SENONIAN TO TURONIAN, SAID TO BE CONIACIAN-SANTONIAN BY NALIVKIN 1973. SPECIMENS UNIT WEIGHT N=56. SAMPLES SPACED THROUGH AGGREGATE THICKNESS 336M, 3 EXPOSURES. SEE 10-164. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-167 UPPER CHANGETS SUITE (SHMELEVA, TSAPENKO AND MURATOV GIVEN IN KHRAMOV 1973) CENOMANIAN. SAMPLES UNIT WEIGHT. AGGREGATE THICKNESS 700M, 41 LEVELS AND 2 EXPOSURES. SEE 10-164. ASSIGNED GEOLOGICAL AGE OF ROCK= 97.00MY
- 10-168 KUVASAISK SUITE (SHMELEVA, TSAPENKO AND MURATOV GIVEN IN KHRAMOV 1973) CENOMANIAN. SAMPLES UNIT WEIGHT N=41. SAMPLES SPACED THROUGH 61M THICKNESS, ONE EXPOSURE. SEE 10-164. ASSIGNED GEOLOGICAL AGE OF ROCK= 97.00MY
- 10-169 MIXED REDBEDS, FERGHANA (SHMELEVA, TSAPENKO AND MURATOV GIVEN IN KHRAMOV 1973) CENOMANIAN TO MASTRICHTIAN. SAMPLES UNIT WEIGHT. AGGREGATE THICKNESS 2082M, 2 SECTIONS, 45 LEVELS. REVERSED SPECIMENS PRESENT BUT NUMBER NOT GIVEN. SEE 10-164. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-170 FERGHANA REDBEDS COMBINED. UPPER CRETACEOUS. AVERAGE OF 10-164 TO 169 GIVING EACH UNIT WEIGHT N=6. TOTAL NUMBER OF LEVELS SAMPLED PROBABLY BETWEEN 100 AND 200. POLARITY RATIO APPROXIMATE ONLY. SUPERCEDES 10-148. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-171 ANDESITE AND TUFF OF POPIGAI BASIN (KHRAMOV 1973) ALBIAN TO CENOMANIAN. SAMPLES UNIT WEIGHT N=19. TWELVE EXPOSURES OVER 100 SQ KM. AF DEMAGNETIZATION AT 240 OE OF 6 SPECIMENS GIVEN 079, +80. ASSIGNED GEOLOGICAL AGE OF ROCK= 100.00MY
- 10-172 YANG-KOLYMSK FOLD SYSTEM OF NORTHEASTERN SIBERIA (PECHERSKII IN KHRAMOV 1973). ROCKS OF PERMIAN AND MESOZOIC AGE THAT HAVE BEEN METAMORPHOSED AND REMAGNETIZED IN THE CRETACEOUS. PRESUMABLY SUPERCEDE 10-91, 92, 93 AND 94. IN 10-172 MAGNETIZATION IS PRESUMABLY CRETACEOUS. DIABASE, SANDSTONE AND ALEUROLITE METAMORPHOSED BY GRANITE. ASSIGNED GEOLOGICAL AGE OF ROCK= 100.50MY
- 10-173 METAMORPHIC ROCKS OF THE OMOLONSK MASSIF (PECHERSKII IN KHRAMOV 1973). ALEUROLITES WITH LOWER PERMIAN FOSSILS METAMORPHOSED BY LIPARITES. MAGNETIZATION PRESUMABLY DATES FROM LATE CRETACEOUS METAMORPHISM. ONE SITE 0-4M FROM LIPARITE CONTACT. SEE 10-172. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-174 METAMORPHIC ROCKS OF OLOISK DEPRESSION (PECHERSKII IN KHRAMOV 1973). ARGILLITE, ALEUROLITE AND SANDSTONE CONTAINING LATE JURASSIC TO VALANGINIAN FOSSILS.

- GINIAN FAUNAS. ROCKS WERE MAGNETIZED DURING PERIOD OF MAXIMUM MAGMATIC ACTIVITY IN THE CRETACEOUS WHEN BURIED TO DEPTHS OF SEVERAL KM. SIX EXPOSURES, UNIT WEIGHT N=5, SPREAD OVER 50-60KM ALONG PEZHENKA RIVER. SEE 10-172.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-175 YANO-KOLYMSK SYSTEM (PECHERSKII IN KHRAMOV 1973) LOWER CRETACEOUS SEDIMENTS. LATE CRETACEOUS MAGNETIZATION PRESUMABLY POST-FOLDING. UNIT WEIGHT TO EACH EXPOSURE N=6. SIX LOCALITIES WITH SAMPLES SPACED THROUGH VERY THICK (2-10KM) SEQUENCES. CORRESPONDS TO 10-94. SEE 10-172.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-176 SANDSTONES AND TUFFS PENZHINSK BAY (PECHERSKII IN KHRAMOV 1973) GENOMANIAN TO MAESTRICHITIAN. SPREAD 10KM.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-177 KORYAKSK AND BARYKOVSK SUITES (PECHERSKII IN KHRAMOV 1973) SENONIAN. SAMPLES SPACED THROUGH ONE CONTINUOUS EXPOSURE 2KM THICK IN UGOL'NAYA BAY. DEMAGNETIZATION OF 13 SELECTED SPECIMENS AND POLARITY RATIO CALCULATED FROM THESE. ALEJROLITES, TUFFS, ARGILLITES AND SANDSTONES. CORRESPONDS TO 10-92.
ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-178 ARMENIAN PORPHYRY (AKOPYAN IN KHRAMOV 1973). VALANGINIAN AGE ESTABLISHED ON BASIS OF FOSSILS IN ENCLOSING LIMESTONES. SAMPLES UNIT WEIGHT N=12. FOUR EXPOSURES, SPREAD 180KM.
ASSIGNED GEOLOGICAL AGE OF ROCK=127.00MY
- 10-179 BASALT FROM FRANZ JOSEF LAND (GJSEV IN KHRAMOV 1973). BARREMIAN TO ALBIAN FLORA IN INTER-FLOW SEDIMENTS. SAMPLES UNIT WEIGHT N=42. ONE LOCALITY, 12 SHEETS, 180M THICKNESS. STORAGE TESTS. CONGLOMERATE TEST. AF DEMAGNETIZATION (150 DE) OF 12 SELECTED SPECIMENS GAVE 033,+81.
ASSIGNED GEOLOGICAL AGE OF ROCK=109.00MY
- 10-182 VULCANITAS CERRO COLORADO FORMATION (VALENCIO 1972B) LOWER CRETACEOUS. WR K-AR AGE FOR ONE FLOW CITED 118.5(±6)MY. THERE ARE K-AR AGES OF 121MY ON NEARBY ROCKS WITH COMPARABLE STRATIGRAPHIC RELATIONSHIPS. SITES UNIT WEIGHT N=7. SIERRA DE LOS CONDORES GROUP, CORDOBA PROVINCE. TRACHYTE AND TRACHY-BASALT.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
PREFERRED RADIOMETRIC AGE OF ROCK=118.50MY
- 10-183 HOWE SOUND FELSIC PLUTONS (SYMONS 1973A). SIX K-AR MINERAL AGES WITH MEAN OF 95MY, AND ONE AGE OF 158MY WERE CITED FROM OLDER PLUTONS. THREE K-AR BIOTITE AGES OF 94(±4)MY ON YOUNGER PLUTONS ALSO CITED. AUTHOR SUGGESTS THAT THE AGE OF THE MAGNETIZATION IS 94(±6)MY. SITES UNIT WEIGHT N=17. SITES SPREAD OVER 50KM. OLDER AND YOUNGER PLUTONS OF COAST RANGES OF BRITISH COLUMBIA. QUARTZ DIORITE AND GRANODIORITE.
PREFERRED RADIOMETRIC AGE OF ROCK= 94.00MY
- 10-184 CAPO PASSERO VOLCANICS (SCHULT 1973). SUBMARINE VOLCANICS OVERLAIN BY MAESTRICHITIAN LIMESTONES. AGE CITED IS UPPERMOST CRETACEOUS AGE, ABOUT 70-80MY. SITES UNIT WEIGHT N=19. SAMPLED OVER 10KM.
ASSIGNED GEOLOGICAL AGE OF ROCK= 70.50MY
- 10-186 BOULDER BATHOLITH (HANNA 1973). VERY EXTENSIVE K-AR STUDIES GAVE RANGE 68-78MY. AUTHOR SUGGESTS THAT THERE ARE 4 DISTINCT PERIODS OF REVERSED FIELD WITH AGES OF 68.5, 72, 75 AND 77MY. UNIT WEIGHT TO SITES N=27. LOW INCLINATIONS WERE OBSERVED AT 5 OTHER SITES, AND RESULTS ARE NOT INCLUDED IN THIS ANALYSIS. QUARTZ MONZONITE, GRANODIORITE AND OTHER FELSIC ROCKS.
PREFERRED RADIOMETRIC AGE OF ROCK= 73.00MY
- 10-189 JAMAICAN IGNIMBRITES (VINCENZ, STEINHAUSER AND DASGUPTA 1973) UPPER CRETACEOUS. FOUR LOCATIONS SAMPLED. TWO GAVE THE DIRECTION LISTED HERE. THE OTHER TWO GAVE "ABERRANT" POLES IN THE NORTHEASTERN ATLANTIC. THE LATTER ARE ATTRIBUTED TO TRANSITIONAL FIELDS DURING REVERSALS.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-190 LAVAS OF BENBOW INLIER (STEINHAUSER AND VINCENZ 1973). DIABASE AND ANDESITE INTERBEDDED WITH ALBIAN AND APTIAN SEDIMENTS. TWO SITES GAVE THIS RESULT. ALSO A THIRD SITE GAVE A POLE AT 26S, 158W.
ASSIGNED GEOLOGICAL AGE OF ROCK=106.00MY
- 10-191 CRETACEOUS OF JAMAICA COMBINED (STEINHAUSER AND VINCENZ 1973). AUTHORS PROPOSE THIS AS A REPRESENTATIVE MEAN POLE. IT IS BASED ON 12 LOWER AND UPPER CRETACEOUS ROCK UNITS.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-193 POCOS DE CALDAS ALKALINE COMPLEX (OPDYKE AND MACDONALD 1973) K-AR AGE OF 75MY CITED. SITES SPREAD OVER 20KM GIVEN UNIT WEIGHT N=6. A SEVENTH SITE, BELIEVED TO BE SOMEWHAT OLDER, IS NORMALLY MAGNETIZED. PHONOLITE.
PREFERRED RADIOMETRIC AGE OF ROCK= 75.00MY

- 10-194 CRETACEOUS ROCKS OF SOUTHWESTERN HONSHU (SASAJIMA AND SHIMADA 1966). THIS STUDY (ENTRIES 10-194 TO 209) IS OF INTEREST BECAUSE IT WAS FIRST TO SUGGEST THAT THERE WAS AN EXTENSIVE INTERVAL OF NORMAL POLARITY WITH FEW REVERSALS IN THE CRETACEOUS. ENTRY 10-194 IS THE MONOMIDAKE FORMATION. CRETACEOUS ANDESITE AND WELDED TUFF. ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-195 SEKIMON GROUP. LOWER CRETACEOUS. WELDED TUFF. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-196 MAIYA FORMATION. UPPER CRETACEOUS. WELDED TUFF. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-197 EFUNE FORMATION. UPPER CRETACEOUS. WELDED TUFF. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-198 SHINONE FORMATION. UPPER CRETACEOUS. ANDESITE. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-199 SHIOHAMA FORMATION. LOWER CRETACEOUS. RED SHALE. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-200 KITA-HIKOSHIMA FORMATION. LOWER CRETACEOUS. ANDESITE. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-201 ZENTEIJI SAN FORMATION. CONIACIAN. WELDED TUFF. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 85.00MY
- 10-202 AKANA GRANODIORITE. CRETACEOUS. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-203 SAKUGI ANDESITE. CAMPANIAN TO MAESTRICHIAN. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 70.50MY
- 10-204 TAKAYAMA ANDESITE. CAMPANIAN TO MAESTRICHIAN. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 70.50MY
- 10-205 KISA ANDESITE. TURONIAN TO CONIACIAN. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 88.00MY
- 10-206 NARIBA-SUGURI-ISHI GROUP. LOWER CRETACEOUS. RED SHALE. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-207 AKOH FORMATION. CONIACIAN TO SANTONIAN. WELDED TUFFS, 1000M THICK. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-208 ARIMA FORMATION. TURONIAN. WELDED TUFF. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK= 91.00MY
- 10-209 CRETACEOUS OF SOUTHWESTERN HONSHU COMBINED. COMBINATION OF ENTRIES 10-194 TO 208. SEE 10-194. ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-210 NUBIAN SANDSTONES AND LAVAS (SHAZLY AND KRS 1970 AND 1973) UPPER CRETACEOUS. K-Ar AGE OF 86(ERROR 4) MY CITED FOR THE BASALTS. THIS AND FOSSILS IN SEDIMENTS SUGGEST SENONIAN AGE. CLEANED AT 550 DEG C. WADI NYTASH. ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY PREFERRED RADIODMETRIC AGE OF ROCK= 86.00MY
- 10-211 NUBIAN SANDSTONE (SHAZLY AND KRS 1973) UPPER CRETACEOUS. CLEANED AT 200 DEG C. HEMATITIC OOLITIC ORES FROM EAST OF ASWAN. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-212 ECOSTALL PLUTON, COAST RANGES (SYMONS 1974C). K-Ar AGES OF 64MY (BIOTITE), 70MY (BIOTITE) AND 87 MY (HORNBLENDE) CITED. AN AGE OF 75(ERROR 12)MY IS CITED AS THE PROBABLE AGE OF EMPLACEMENT. ANOTHER OPINION IS CITED THAT THESE AGES CORRESPOND TO UPLIFT AND UNROOFING OF THE BODIES WHICH WERE IN FACT EMPLACED MUCH EARLIER. THE MAGNETIZATION IS CONSIDERED BY THE AUTHOR TO HAVE BEEN ACQUIRED AT ABOUT 75(ERROR 12)MY. FELSIC PLUTONS. PREFERRED RADIODMETRIC AGE OF ROCK= 75.00MY
- 10-213 SORLIFJELL BASALTS (SANDAL AND HALVORSEN 1973) CENOZOIC OR CRETACEOUS, "PROBABLY LATE CRETACEOUS". UNOXIDIZED TITANOMAGNETITES WITH LOW BLOCKING TEMPERATURES LESS THAN 300 DEG C AND LOW MDF. AUTHORS REGARD REMANENCE AS SECONDARY ACQUIRED AFTER TIME OF EXTRUSION DURING THE OPENING OF THE ARCTIC OCEAN. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-214 SEIDFJELL BASALT (SANDAL AND HALVORSEN 1973) CENOZOIC OR CRETACEOUS, "PROBABLY LATE CRETACEOUS". STRONGLY OXIDIZED AND STABLE VERSUS HEAT

ANU AF. AFTER ROTATING FOR CLOSURE OF ARCTIC POLE IS IN GOOD AGREEMENT WITH NORTH AMERICAN CRETACEOUS POLES. AUTHORS SUGGEST THAT THIS RESULT REPRESENTS GOOD POLE FOR EUROPEAN PLATE. ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY

10-215 ISFJORDEN DIABASE (HALVORSEN 1970, 1972 AND 1973) LATE MESOZOIC. EARLIER WORK, ENTRIES 10-77 AND 10-232, GAVE INCONSISTENT RESULTS. THIS WORK SHOWS BY DETAILED STUDIES THAT "IT WAS NOT POSSIBLE TO ISOLATE THE ORIGINAL MAGNETIZATION". THE RESULTS ARE SCATTERED AND THIS IS AScribed TO REMAGNETIZATION DURING THE CRETACEOUS AND TERTIARY, AND HALVORSEN ASSCRIBES THIS INCONSISTENCY TO THE EFFECTS HE OBSERVES. HENCE HE BELIEVES THAT ENTRIES 10-77 AND 232 ARE NOT RELIABLE INDICATORS OF THE CRETACEOUS FIELD. ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY

10-216 NIUBRARA FORMATION (SHIVE AND FRERICHS 1974) CONIACIAN TO MAESTrichtian. DEPOSITIONAL INTERVAL APPROXIMATELY 20MY. FOLD TEST ON SHALE SAMPLES INDICATE MAGNETIZATION IS PRE-PALEOCENE. ONE LOCALITY IS SCATTERED (K=4) AND MEAN OF THE OTHERS (N=3) IS GIVEN HERE. SAMPLES FROM 4 LOCALITIES IN KANSAS, WYOMING AND COLORADO. LIMESTONES. ASSIGNED GEOLOGICAL AGE OF ROCK= 76.50MY

10-217 TROODOS IGNEOUS MASSIF (VINE, PUSTER AND GASS 1973) PRE-CAMPAÑIAN BEING OVERLAIN BY CAMPAÑIAN RADIGLARIAN ASSEMBLAGES, FOUR WR K-AR AGES CITED 68, 78, 66 AND 58MY. IF THESE ARE REGARDED AS MINIMUM AGES THEY APPARENTLY CONFIRM THE PRE-CAMPAÑIAN AGE (76MY) ALTHOUGH TWO SEEM TO BE ANOMALOUSLY LOW. ENTRY 10-217 IS BASED ON 7 UNITS FROM TWO PILLOW LAVA SEQUENCES N=7. PREFERRED RADIOMETRIC AGE OF ROCK= 76.00MY

10-218 TROODOS IGNEOUS MASSIF (VINE, PUSTER AND GASS 1973). TWENTY-FOUR BASIC AND ULTRABASIC INTRUSIVE UNITS ARRANGED INTO FOUR GROUPS (N=4). SEE 10-217. PREFERRED RADIOMETRIC AGE OF ROCK= 76.00MY

10-219 TROODOS IGNEOUS MASSIF (VINE, PUSTER AND GASS 1973). OVERALL MEAN GIVING UNIT WEIGHT TO THE 2 PILLOW LAVA SEQUENCES AND THE 4 INTRUSIVE GROUPS N=6. SEE 10-217. PREFERRED RADIOMETRIC AGE OF ROCK= 76.00MY

10-220 RAJMAHAL TRAPS. SEE 9-71. FOR AGE INFORMATION SEE 10-47.

10-221 SEGAMAT BASALTS, KUANTAN AND MASSAI DYKES (MCLE-

HINNY, HAILE AND CRAWFORD 1974) REGARDED AS "PROBABLY CRETACEOUS". SINGLE K-AR AGE OF 110MY CITED. SAMPLES UNIT WEIGHT N=16. MISCELLANEOUS COLLECTION OF BASIC IGNEOUS ROCKS SPREAD OVER 250KM. CLEANING AT 200 °C. ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY PREFERRED RADIOMETRIC AGE OF ROCK=110.00MY

10-222 ELKHORN VOLCANICS OF MONTANA (HANNA 1973) K-AR AGES 77.6 TO 78.2MY CITED. REVISION OF 10-44. RESULT BASED ON 13 SITES, 7R AND 6N. PREFERRED RADIOMETRIC AGE OF ROCK= 77.80MY

10-223 ALBIAN SEDIMENTS HISSAR RANGES (ABDULLAEV IN KHARAMOV 1971). TWO SECTIONS 300 AND 417M THICK. EIGHT BEDS. AF CLEANING OF SELECTED SPECIMENS. GREY CLAYS AND SILTSTONES. ASSIGNED GEOLOGICAL AGE OF ROCK=103.00MY

10-224 KALIGREK AND OKUZBULAK GROUPS (ABDULLAEV IN KHARAMOV 1971) BARREMIAN AND APTIAN. FOUR SECTIONS 100M THICK, 62 BEDS. AF CLEANING OF SELECTED SPECIMENS. SEDIMENTS. ASSIGNED GEOLOGICAL AGE OF ROCK=112.00MY

10-225 HAUTERIVIAN SEDIMENTS HISSAR RANGES (ABDULLAEV IN KHARAMOV 1971) FOUR SECTIONS 60-100M THICK, 67 BEDS. AF CLEANING OF SELECTED SPECIMENS. ASSIGNED GEOLOGICAL AGE OF ROCK=121.00MY

10-226 AL'MURAD AND KARABIL' GROUPS (ABDULLAEV IN KHARAMOV 1971) VALANGINIAN SEDIMENTS. THREE SECTIONS 240 TO 330M THICK, 74 BEDS. AF CLEANING OF SELECTED SPECIMENS. ASSIGNED GEOLOGICAL AGE OF ROCK=127.00MY

10-227 SEDIMENTS FROM THE SOUTHWESTERN SPURS OF HISSAR RANGES COMBINED (KHARAMOV 1971). AVERAGE OF ENTRIES 10-223, 224, 225 AND 226, EACH UNIT WEIGHT N=4. PRESUMABLY REPLACES 10-36 AND 98. ASSIGNED GEOLOGICAL AGE OF ROCK=115.00MY

10-228 LOWER CRETACEOUS REOBEDS FERGHANA (MURATOV, SHMEL'eva AND TSAPENKO GIVEN IN KHARAMOV 1971). AGE OF BEDS NOT SPECIFIED IN KHARAMOV BUT THEY UNDERLIE THE UPPER CHANGETS WHICH IS GENOMANIAN. THEY ARE THEREFORE PROBABLY LOWER CRETACEOUS. SANDSTONE, CLAY AND ALEUROLITE. ENTRY 10-228 IS THE MIDDLE AND LOWER CHANGETS SUITE. SPECIMENS UNIT WEIGHT N=42. TWO EXPOSURES, AGGREGATE THICKNESS 612M, ALL N POLARITY 029, +69. SEE 10-228. ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY

- 10-229 LOWER CHANGETS SUITE (MURATOV, SHMELEVA AND TSAPENKO GIVEN IN KHRAMOV 1971). SAMPLES UNIT WEIGHT N=19. TWO EXPOSURES, AGGREGATE THICKNESS 1100M, 19 LEVELS, 19 SAMPLES, ALL N, 340, +55. SEE 10-228.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-230 UNNAMED SEQUENCE IN PART BELONGING TO CHANGETS SUITE (MURATOV, SHMELEVA AND TSAPENKO GIVEN IN KHRAMOV 1971). SAMPLES UNIT WEIGHT N=53. TWO EXPOSURES, AGGREGATE THICKNESS 1356M, 49 SAMPLES N, 5 SAMPLES R, 344, +58. SEE 10-228.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-231 LOWER AND MIDDLE CHANGETS SUITE COMBINED. LOWER CRETACEOUS. AVERAGE OF 10-229, 229 AND 300 GIVING SAMPLES UNIT WEIGHT N=115. SEE 10-228.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-232 DOLERITE SPITSBERGEN (KRUMSIEK, NAGEL AND NAIRN 1968) UPPER JURASSIC. RESULT BASED ON 6 SAMPLES FROM ONE DYKE. PRESUMABLY SAME JOLERITES AS 10-77.
- 10-233 UMBRIAN SEDIMENTS (KLOOTWIJK AND VAN DEN BERG 1975). IN ENTRY 10-233 RESULTS FROM SCAGLIA ROSSA ARE GIVEN. AGE RANGES FROM UPPERMOST CRETACEOUS TO MIDDLE EOCENE. TWO RESULTS FROM SUPPOSEDLY AUTOCHTHONOUS UMBRIAN SEQUENCE HAVE DIFFERENT DECLINATIONS AND INDICATE 40 DEG COUNTER-CLOCKWISE ROTATION OF ITALIAN PENINSULAR DURING LATE CRETACEOUS. SAMPLES UNIT WEIGHT N=5.
ASSIGNED GEOLOGICAL AGE OF ROCK= 57.50MY
- 10-234 CALCARI DIASPRINI (KLOOTWIJK AND VAN DER BERG 1975) MIDDLE JUASSIC TO LOWER UPPER CRETACEOUS (MALM). FUGUO MARLS (ALBIAN-CENOMANIAN) AND SCAGLIA BIANCA (LOWER UPPER CRETACEOUS). SEE ENTRY 10-233.
ASSIGNED GEOLOGICAL AGE OF ROCK=127.00MY
- 10-235 NEOCOMIAN LAVAS (GRÉGUR ET AL 1974). SITES UNIT WEIGHT N=7. CLEANING 150 TO 300 DEG. SUPERJÉDES 10-37.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-236 SCAGLIA BEDS (CHANNELL AND TARLING 1975) SENONIAN TO PALEOCENE. RED AND WHITE TO GREY LIMESTONES OF THE AUTOCHTHONOUS OR PARA-AUTOCHTHONOUS UMBRIAN SEQUENCE. INDEPENDENT STUDY OF SAME SEQUENCE REPORTED IN 10-233 AND 10-243. SEE 10-242.
ASSIGNED GEOLOGICAL AGE OF ROCK= 70.75MY
- 10-237 APTIAN LIMESTONES (CHANNELL AND TARLING 1975). WHITE LIMESTONES FROM THE UMBRIAN SEQUENCE BELOW THE SCAGLIA. SEE 10-242.
ASSIGNED GEOLOGICAL AGE OF ROCK=109.00MY
- 10-238 SCAGLIA ROSSA (CHANNELL AND TARLING 1975) SENONIAN. THREE LOCALITIES, 12 SITES. RED SCAGLIA OF THE SOUTHERN DOLOMITES. SEE 10-242.
ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-239 CENOMANIAN WHITE LIMESTONES (CHANNELL AND TARLING 1975). TWO LOCALITIES, 3 SITES. SEE 10-242.
ASSIGNED GEOLOGICAL AGE OF ROCK= 97.00MY
- 10-240 APULIAN BAUXITES (CHANNELL AND TARLING 1975) TURONIAN OR CENOMANIAN. BAUXITES REST ON APTIAN-ALBIAN AND ARE OVERLAIN BY SENONIAN LIMESTONES. SAMPLES UNIT WEIGHT N=26. RESULT BASED ON FOUR SITES AT SAN GIOVANI ROTONDO IN THE GARGANO PLATEAU. SEE 10-242.
ASSIGNED GEOLOGICAL AGE OF ROCK= 94.00MY
- 10-241 MATESE MOUNTAINS BAUXITE (CHANNELL AND TARLING 1975) TURONIAN AND CENOMANIAN. SAME STRATIGRAPHIC RELATIONSHIPS AS 10-240 AND PRESUMED TO BE SAME AGE. SAMPLES UNIT WEIGHT. RESULT BASED ON 5 SITES FROM THE CAMPANIA PLATFORM. SEE 10-242.
ASSIGNED GEOLOGICAL AGE OF ROCK= 94.00MY
- 10-242 BAUXITES OF SOUTHERN ITALY COMBINED. CENOMANIAN OR TURONIAN. THE BAUXITES OF THE MATESE AND GARGANO ARE OF SIMILAR AGE AND THEIR AVERAGE IS CALCULATED HERE GIVING SAMPLES UNIT WEIGHT N=9. THESE RESULTS ALONG WITH 10-236 TO 10-239 ARE INTERPRETED TO MEAN THAT ITALY HAS MOVED AS ONE PIECE WITH AFRICA SINCE THE MIDDLE CRETACEOUS SINCE THE POLES AGREE WITH AFRICAN APH CURVE.
ASSIGNED GEOLOGICAL AGE OF ROCK= 94.00MY
- 10-243 SCAGLIA ROSSA (LOWRIE AND ALVAREZ 1974 AND 1975) RESULT BASED ON DETAILED STUDIES OF OVER 350 SAMPLES FROM 37 SITES COLLECTED THROUGH THE TOTAL THICKNESS WHICH IS ABOUT 350M. UNIT WEIGHT TO SITES THROUGHOUT. THE VARIATIONS OF DIRECTIONS ARE INTERPRETED TO MEAN THAT THE ITALIAN PENINSULAR HAS ROTATED COUNTER CLOCKWISE 45 DEG IN THE CAMPANIAN TO MAESTRICHTIAN INTERVAL AND 25 DEG AFTER THE MIDDLE EOCENE. RED PELAGIC LIMESTONES. IN ENTRY 10-243 RESULTS FROM THE UPPER PART (LATE MAESTRICHTIAN TO MIDDLE EOCENE) OF THE CLASSICAL GUGGIC LOCALITY. THICKNESS 160M.
ASSIGNED GEOLOGICAL AGE OF ROCK= 57.50MY
- 10-244 SCAGLIA ROSSA (LOWRIE AND ALVAREZ 1974 AND 1975)

- TURONIAN TO EARLY CAMPANIAN. RESULTS FROM LOWER PART OF CLASSICAL GUBBIO LOCALITY. THICKNESS 170M. SEE NOTE 10-243.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-245 SCAGLIA ROSSA (LOWRIE AND ALVAREZ 1974 AND 1975) TURONIAN TO MIDDLE EOCENE. SAMPLES THROUGH ENTIRE THICKNESS (380M) AT CLASSICAL GUBBIO LOCALITY. SEE NOTE 10-243.
ASSIGNED GEOLOGICAL AGE OF ROCK= 69.50MY
- 10-246 SCAGLIA ROSSA (LOWRIE AND ALVAREZ 1974 AND 1975) TURONIAN TO EOCENE. RESULTS FROM UMBRIAN SEQUENCE AT LOCALITIES OTHER THAN THE GUBBIO SECTION. SEE NOTE 10-243.
ASSIGNED GEOLOGICAL AGE OF ROCK= 65.75MY
- 10-247 SCAGLIA ROSSA. ALL DATA OF LOWRIE AND ALVAREZ FROM SCAGLIA ROSSA COMBINED. SEE NOTE 10-243.
ASSIGNED GEOLOGICAL AGE OF ROCK= 69.50MY
- 10-248 CAPO PASSERO DYKES (BARBERI ET AL 1974). K-AR ISOCRON AGE OF 71MY GIVEN. DYKES UNIT WEIGHT N=8. CLEANING IN 150 TO 200 DEG. AUTHORS CONTEND THAT SIMILARITY OF POLES WITH AFRICAN POLES IMPLIES SICILY PART OF AFRICAN PLATE. ALKALINE BASIC DYKES.
PREFERRED RADIOMETRIC AGE OF ROCK= 71.00MY
- 10-249 CAPO PASSERO IGNEOUS ROCKS COMBINED. THE STUDIES 10-164 AND 348 WERE MADE ON THE SAME ROCK COMPLEX. THEIR MEAN COMPUTED BY BARBERI IS GIVEN HERE GIVING EACH SITE UNIT WEIGHT N=27.
PREFERRED RADIOMETRIC AGE OF ROCK= 71.00MY
- 10-250 ANDESITES AND ANDESITE-TUFFITES (NOZHAROV AND VELERICH 1974) TURONIAN TO MAESTRICHIAN. AVERAGE OF RESULTS GIVEN IN TABLE OF THE ORIGINAL OMITTING SITES WITH OBLIQUE DIRECTIONS AND WHICH ARE LABELLED WITH LETTER O. SITES UNIT WEIGHT N=11. THERMAL (200 DEG) AND AF CLEANING. SAMPLES FROM TIMOK ERUPTIVE REGION IN YUGOSLAVIA AND THE SREDNODGORIYE IN BULGARIA.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-251 RAJMAHAL TRAPS (KLOOTWIJK 1971). K-AR AGE 100-105MY. BASALTIC LAVAS OVERLYING LOWER CRETACEOUS SEDIMENTARY ROCKS. CLEANING 200 TO 250 DEG. SEE NOTE 10-47.
PREFERRED RADIOMETRIC AGE OF ROCK= 102.50MY
- 10-252 VOLCANICS OF THE BENI MELLAL ATLAS (BAROUN ET AL 1973) APTIAN. SITES UNIT WEIGHT N=11. SPREAD OVER 100KM. POLE FALLS TO THE NORTH OF OTHER CRETACEOUS POLES FROM AFRICA.
ASSIGNED GEOLOGICAL AGE OF ROCK= 109.00MY
- 10-253 DIFFERENTIATED ALKALINE COMPLEXES OF THE NEMURO PENINSULA (FUJIWARA AND OHTAKE 1975). K-AR AGE OF 84MY CITED. SAMPLES WERE STUDIED FROM THE PURAMOSHIRI, HONIOI AND NOSAPPU COMPLEXES. IN THIS ENTRY THE MEAN OF ALL SITES IS GIVEN N=32 NEGLECTING THOSE IN A POLARITY TRANSITION SEQUENCE. NRM RESULTS ALSO REPORTED FROM INDIFFERENTIATED COMPLEXES THAT SHOWED REVERSED MAGNETIZATION WHICH IS REFERRED TO A TIME OF 88MY.
PREFERRED RADIOMETRIC AGE OF ROCK= 84.00MY
- 10-254 INFRAGENOMANIAN REDBEDS NEAR DEMNATE OF CENTRAL HIGH ATLAS (HAILWOOD 1975) LOWER CRETACEOUS. SITES UNIT WEIGHT N=5. CLEANING AT 300 DEG C. THICKNESS 100M. COARSE GRAINED CONTINENTAL RED SANDSTONES.
ASSIGNED GEOLOGICAL AGE OF ROCK= 118.00MY
- 10-255 BUCKS BATHOLITH AND GUADELOUPE BATHOLITH COMBINED (GROMME, MERRILL AND VERHOOGEN 1967) K-AR AGE RANGE OF 129-142MY. AVERAGE OF ENTRIES 10-29 AND 30 GIVING SITES UNIT WEIGHT N=13.
PREFERRED RADIOMETRIC AGE OF ROCK= 136.00MY
- 10-256 ETENDEKA PLATEAU (GIDSKEHAUG, CREER AND MITCHELL 1975) K-AR AGES OF 118(ERROR 4)MY GIVEN. SITES UNIT WEIGHT N=40. SPREAD 100KM.
PREFERRED RADIOMETRIC AGE OF ROCK= 118.00MY
- 10-257 ARMENIAN PORPHYRITES, TUFF-BRECCIAS AND SANDSTONES (SIRUNYAN IN KHRAMOV 1975) SANTONIAN TO LATE TURONIAN. SAMPLES UNIT WEIGHT N=46. THICKNESS 650M, 21 BEDS.
ASSIGNED GEOLOGICAL AGE OF ROCK= 83.50MY
- 10-258 TUFF-SANDSTONES AND TUFFS, LITTLE CAUCASUS (KARKOSHIN AND ALEKSEEV IN KHRAMOV 1975) LATE SANTONIAN. SAMPLES UNIT WEIGHT N=13. SAMPLED 5-10M THICKNESS, 10 LEVELS.
ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-259 ANDESITES AND BASALTS OF LITTLE CAUCASUS (KARKOSHIN AND ALEKSEEV IN KHRAMOV 1975) EARLY SANTONIAN. SAMPLES UNIT WEIGHT N=47. SAMPLED AT 5-30M INTERVALS THROUGH TOTAL THICKNESS OF 820M, 47 LEVELS.
ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-260 LITTLE CAUCASUS TUFFS AND PURPHRYRITES (KARKOSH-

- KIN AND ALEKSEEV IN KHRAMOV 1975) EARLY SANTONIAN TO LATE CONIACIAN. SAMPLES UNIT WEIGHT N=15. THICKNESS 200M, 15 LEVELS.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.00MY
- 10-262 LITTLE CAUCASUS SEIMENTS AND VOLCANICS COMBINED (KHRAMOV 1975) SANTONIAN TO LATE TURONIAN. AVERAGE OF 10-256, 259, 260 AND 261, GIVING SAMPLES UNIT WEIGHT N=121. SUPERCEDES 10-163.
ASSIGNED GEOLOGICAL AGE OF ROCK= 83.50MY
- 10-263 CAUCASIAN MARLS AND LIMESTONES (ISMAIL-ZADE AND VOROBYEVA IN KHRAMOV 1975) MAESTRICHITIAN. SAMPLES UNIT WEIGHT N=61. THICKNESS 145M.
ASSIGNED GEOLOGICAL AGE OF ROCK= 67.50MY
- 10-264 CAUCASIAN MARLS AND LIMESTONES (ISMAIL-ZADE AND VOROBYEVA IN KHRAMOV 1975) UPPER CAMPANIAN. SAMPLES UNIT WEIGHT N=26. THICKNESS 97M.
ASSIGNED GEOLOGICAL AGE OF ROCK= 73.00MY
- 10-265 CAUCASIAN MARLS AND LIMESTONES (ISMAIL-ZADE AND GASANOV IN KHRAMOV 1975) LOWER CAMPANIAN. SAMPLES UNIT WEIGHT N=15. THICKNESS 20M.
ASSIGNED GEOLOGICAL AGE OF ROCK= 73.00MY
- 10-266 CAUCASIAN LIMESTONES (ISMAIL-ZADE AND GASANOV IN KHRAMOV 1975) SANTONIAN. SAMPLES UNIT WEIGHT N=65. THICKNESS 150M.
ASSIGNED GEOLOGICAL AGE OF ROCK= 79.00MY
- 10-267 CAUCASIAN LIMESTONES (ISMAIL-ZADE AND GASANOV IN KHRAMOV 1975) TURONIAN. SAMPLES UNIT WEIGHT N=45. THICKNESS 31M.
ASSIGNED GEOLOGICAL AGE OF ROCK= 91.00MY
- 10-268 CAUCASIAN MARLS AND LIMESTONES COMBINED (KHRAMOV 1975) TURONIAN TO MAESTRICHITIAN. AVERAGE OF 10-263, 264, 265, 266 AND 267, GIVING SPECIMENS UNIT WEIGHT N=212.
ASSIGNED GEOLOGICAL AGE OF ROCK= 79.50MY
- 10-269 DYKES AND CONTACT AUREOLES, PRIMORYE (BRISTEIN IN KHRAMOV 1975) UPPER CRETACEOUS. K-Ar AGE OF PORPHYRITES 73-67MY, AND THAT OF BASALTS 60MY. UNIT WEIGHT TO 6 ROCK GROUPS N=5. THERMAL AND AF CLEANING UP TO 400 DEG C OF 30 PERCENT OF SPECIMENS DOES NOT CHANGE DIRECTIONS. KAVALEROVSK REGION.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
PREFERRED RADIOMETRIC AGE OF ROCK= 70.00MY
- 10-270 ARGILLITES, ALEUKOLITES AND SANJSTONES OF SAKHA-
- LIN ISLAND (PECHERSKII IN KHRAMOV 1975) GENOMIAN TO MAESTRICHITIAN (DETERMINED BY FAUNA). SAMPLES UNIT WEIGHT N=127. THICKNESS OVER 3KM, 6 LARGE SECTIONS IN THE BASIN OF THE NAIBA AND SYNYA RIVERS. CLEANING UP TO 200 DEG C. SUPERCEDES 10-95.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY
- 10-271 ARMENIAN TUFF-SANDSTONES, SANDSTONES AND LIMESTONES (SIRUNYAN IN KHRAMOV 1975) APTIAN TO LATE VALANGINIAN (DETERMINED BY FAUNA). SPECIMENS JN-IT WEIGHT N=63. THICKNESS 500M, 25 BEDS, 4 OUTCROPS 7-18KM APART. SELECTIVE CLEANING 100-200 DEG C.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-272 LITTLE CAUCASUS LIMESTONES, TUFFACEOUS SANDSTONES AND TUFFACEOUS BRECCIAS (ISMAIL-ZADE AND ISAYEVA IN KHRAMOV 1975) UPPER ALBIAN. SPECIMENS UNIT WEIGHT N=30. THICKNESS 156M.
ASSIGNED GEOLOGICAL AGE OF ROCK=103.00MY
- 10-273 LITTLE CAUCASUS LIMESTONES AND TUFFACEOUS SANDSTONES (ISMAIL-ZADE AND ISAYEVA IN KHRAMOV 1975) HAUTERIVIAN. SPECIMENS UNIT WEIGHT N=10. THICKNESS 60M.
ASSIGNED GEOLOGICAL AGE OF ROCK=121.00MY
- 10-274 LITTLE CAUCASUS SANDSTONES AND TUFFACEOUS SANDSTONES (ISMAIL-ZADE AND GASANOV IN KHRAMOV 1975) VALANGINIAN. SPECIMENS UNIT WEIGHT N=12. THICKNESS 110M. CLEANING 150 DEG C.
ASSIGNED GEOLOGICAL AGE OF ROCK=127.00MY
- 10-275 LITTLE CAUCASUS SANDSTONES AND TUFFACEOUS SANDSTONES (ISMAIL-ZADE AND GASANOV IN KHRAMOV 1975) BERRIASIAN. SPECIMENS UNIT WEIGHT N=21. THICKNESS 100M. THERMAL CLEANING IN 150 DEG C.
ASSIGNED GEOLOGICAL AGE OF ROCK=133.00MY
- 10-276 LITTLE CAUCASUS LIMESTONES, TUFFACEOUS BRECCIAS AND TUFFACEOUS SANJSTONES (ISMAIL-ZADE AND ISAYEVA IN KHRAMOV 1975) BERRIASIAN. SPECIMENS UNIT WEIGHT N=85. THICKNESS 140M.
ASSIGNED GEOLOGICAL AGE OF ROCK=133.00MY
- 10-277 LITTLE CAUCASUS SEDIMENTS COMBINED (KHRAMOV 1975) ALBIAN TO BERRIASIAN. AVERAGE OF 10-272, 273, 274, 275 AND 276, GIVING UNIT WEIGHT TO SPECIMENS N=158.
ASSIGNED GEOLOGICAL AGE OF ROCK=118.00MY
- 10-278 CENTRAL URAL RED BAUXITES (SVYAZHINA IN KHRAMOV

- 1975) CRETACEOUS (DETERMINED FROM PALEONTOLOGY AND STRATIGRAPHY). SPECIMENS UNIT WEIGHT N=21 FROM AN OPEN PIT 2M LONG. AF CLEANING IN 300 DEGREES DOES NOT CHANGE DIRECTIONS.
ASSIGNED GEOLOGICAL AGE OF ROCK=100.50MY
- 10-279 ARMENIAN PORPHYRITES AND TUFFACEOUS BRECCIAS (SIRUNYAN IN KHRAMOV 1975) TITHONIAN TO EARLY VALANGINIAN (DETERMINED BY FAUNA IN INTERBEDS). SPECIMENS UNIT WEIGHT N=118. THICKNESS 1100M, 41 FLOWS AND BEUS, 6 OUTCROPS 5 TO 22KM APART. CLEAVING 200 DEG.
ASSIGNED GEOLOGICAL AGE OF ROCK=135.60MY
- 10-289 RAJMAHENDRI TRAPS, INDIA. SEE 11-203 IN HICKEN ET AL.
- 10-290 RAJMAHENDRI TRAPS, INDIA. SEE 11-203 IN HICKEN ET AL.
- 13- 19 SISGEV SEAMOUNT (HARRISON ET AL 1975). DREDGE FOSSILS INDICATE A MINIMUM AGE OF 70-80MY. K-Ar AGES OF 78-80MY CITED.
ASSIGNED GEOLOGICAL AGE OF ROCK= 80.00MY
PREFERRED RADIODIOMETRIC AGE OF ROCK= 79.00MY
- 13- 49 GILLISS SEAMOUNT (CORDELL AND TAYLOR 1971). MINIMUM AGE IS LATE CRETACEOUS (MAESTRICHIAN). POLE CALCULATED FOR DATA IN WHICH Q IS GREATER THAN 3. WHEN DATA IN WHICH Q IS GREATER THAN 2, POLE CHANGES BY ONLY 5 DEG.
ASSIGNED GEOLOGICAL AGE OF ROCK= 67.50MY
- 13- 50 UNNAMED SEAMOUNT EAST OF JAPAN (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=2.7.
- 13- 51 ARIES 7 SEAMOUNT (HARRISON ET AL 1975). PLANKTONIC FORAMINIFERA INDICATE A MINIMUM AGE OF 5-22 MY. GOODNESS OF FIT PARAMETER R=4.7.
ASSIGNED GEOLOGICAL AGE OF ROCK= 13.50MY
- 13- 52 NORTH JAPAN GROUP COMBINED (HARRISON ET AL 1975) AVERAGE OF ENTRIES 13-17, 19, 20, 50 AND 51, GIVING EACH UNIT WEIGHT N=5. THIS GROUP RESTS ON SEA FLOOR WHOSE AGE IS BETWEEN 110 AND 140MY. RELIABLE K-Ar AGES IN THE RANGE 78-80MY ARE AVAILABLE, AND THIS IS PROBABLY THE BEST ESTIMATE OF THEIR AGE. THIS SUMMARY PRESUMABLY SUPERCEDES ALL PREVIOUS JAPANESE SEAMOUNT DATA.
PREFERRED RADIODIOMETRIC AGE OF ROCK= 79.00MY
- 13- 53 ARIES 6 SEAMOUNT (HARRISON ET AL 1975). MINIMUM AGE OF 87-100MY ESTIMATED FROM PLANKTONIC FORAMINIFERA. K-Ar AGE OF 94MY CITED. GOODNESS OF FIT PARAMETER R=3.4.
ASSIGNED GEOLOGICAL AGE OF ROCK= 93.50MY
PREFERRED RADIODIOMETRIC AGE OF ROCK= 94.00MY
- 13- 54 SOUTH JAPAN GROUP COMBINED (HARRISON ET AL 1975) AVERAGE OF 13-24, 25, 26 AND 53 GIVING EACH UNIT WEIGHT N=6. THIS GROUP RESTS ON SEA FLOOR THAT IS ABOUT 150MY OLD. K-Ar AGES INDICATE MINIMUM AGES IN THE RANGE 18-36MY. A TENTATIVE AGE OF LATE JURASSIC IS FAVORED BY THE AUTHORS. THIS SUMMARY PRESUMABLY SUPERCEDES ALL PREVIOUS JAPANESE SEAMOUNT DATA.
ASSIGNED GEOLOGICAL AGE OF ROCK=149.00MY
- 13- 55 ARIES 5 SEAMOUNT (HARRISON ET AL 1975). MINIMUM AGE OF 43-49MY ESTIMATED FROM PLANKTONIC FORAMINIFERA. GOODNESS OF FIT PARAMETER R=2.6.
ASSIGNED GEOLOGICAL AGE OF ROCK= 46.00MY
- 13- 56 UNNAMED SEAMOUNT NEAR WAKE ISLAND (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=2.2.
- 13- 57 ARIES 4 SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=3.2.
- 13- 58 ARIES 3 SEAMOUNT (HARRISON ET AL 1975). MINIMUM AGE OF 106-109MY DETERMINED FROM CORALS. GOODNESS OF FIT PARAMETER R=2.4.
ASSIGNED GEOLOGICAL AGE OF ROCK=107.50MY
- 13- 59 WAKE ISLAND SEAMOUNT GROUP COMBINED (HARRISON ET AL 1975). AVERAGE OF 13-55, 56, 57 AND 58, GIVING EACH UNIT WEIGHT N=4. THIS GROUP RESTS ON OCEAN FLOOR WHICH IS OLDER THAN 150MY. FOSSIL EVIDENCE INDICATES AN AGE GREATER THAN 100MY.
SEE 13-58)
ASSIGNED GEOLOGICAL AGE OF ROCK=125.00MY
- 13- 60 L3 SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=4.3.
- 13- 61 L2 SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=3.8.
- 13- 62 L1 SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R= 2.6.
- 13- 63 EQUATORIAL GROUP OF SEAMOUNTS COMBINED (HARRISON ET AL 1975). AVERAGE OF 13-8, 60, 61 AND 62, GI-

TING EACH UNIT WEIGHT N=4. THE EQUATOR GROUP RESTS ON SEA FLOOR THAT IS 110-130MY OLD. THERE IS ONE REVERSED SEAMOUNT, AND THE SIMILARITY OF ITS POLE WITH THAT OF 13-72 INDICATES THE AGE IS IN THE UPPER CRETACEOUS AFTER THE END OF THE CRETACEOUS QUIET INTERVAL. AN AGE OF UPPER CRETACEOUS IS ASSIGNED HERE. IT COULD HOWEVER BE OLDER.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY

13- 64 KHATCHATURIAN SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=5.3.

13- 65 BRAHMS SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=2.0.

13- 66 MUSSORGSKI SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=3.3.

13- 67 RACHMANINOV SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=2.5.

13- 68 MUSICIANS SEAMOUNTS COMBINED (HARRISON ET AL 1975). AVERAGE OF 13-64, 65, 66 AND 67, GIVING EACH UNIT WEIGHT N=4. THESE SEAMOUNTS REST ON OCEAN FLOOR THAT IS 80-100MY OLD. THEY ARE NORMALLY MAGNETIZED WHICH INDICATES A LATE CRETACEOUS AGE, AND THEIR POLE IS SIMILAR TO THAT OF THE HAWAIIAN SEAMOUNTS, INDICATING THAT THEY ARE OF COMPARABLE AGE.
ASSIGNED GEOLOGICAL AGE OF ROCK= 82.50MY

13- 69 KAPSITOTWA SEAMOUNT (HARRISON ET AL 1975). K-Ar 39-40 AGE OF 84MY CITED. A MINIMUM AGE OF 80-81 MY ESTIMATED FROM PLANKTONIC FORAMINIFERA.
ASSIGNED GEOLOGICAL AGE OF ROCK= 85.50MY
PREFERRED RADIODMETRIC AGE OF ROCK= 84.00MY

13- 70 HO1 SEAMOUNT (HARRISON ET AL 1975). K-Ar AGES OF 65-89MY CITED. GOODNESS OF FIT PARAMETER R=4.7. IN PREVIOUS ENTRY 13-7 RESULTS FROM 3 SEAMOUNTS IN THE HAWAIIAN AREA WERE GIVEN. IN THIS ENTRY AND IN 13-71 INDIVIDUAL VALUES FOR THE 2 SEAMOUNTS WITH HIGHEST R VALUES ARE GIVEN.
PREFERRED RADIODMETRIC AGE OF ROCK= 87.00MY

13- 71 HO2 SEAMOUNT (HARRISON ET AL 1975). GOODNESS OF FIT PARAMETER R=3.4. SEE 13-70.

13- 72 HAWAII SEAMOUNT GROUP COMBINED 3 (HARRISON ET AL 1975). AVERAGE OF 13-9, 10, 11, 13, 14, 15, 69, 70 AND 71, GIVING EACH UNIT WEIGHT N=9. THE SEA-

MOUNTS REST ON OCEAN FLOOR WHICH IS 80-100MY OLD. RELIABLE K-Ar AGES OF 84-89MY, WHICH ARE PROBABLY A GOOD ESTIMATE OF THEIR AGE.
PREFERRED RADIODMETRIC AGE OF ROCK= 86.50MY

13- 73 NORTH-WEST PACIFIC SEAMOUNTS COMBINED (HARRISON ET AL 1975). AVERAGE OF RESULTS COMBINED IN ENTRIES 13-52, 54, 59, 63, 68 AND 72, GIVING EACH UNIT WEIGHT N=30.

13- 74 NORTH-WEST PACIFIC SEAMOUNTS COMBINED WITHOUT THE SOUTH JAPANESE GROUP (HARRISON ET AL 1975). AVERAGE OF RESULTS COMBINED IN ENTRIES 13-52, 59, 63, 68 AND 72, GIVING EACH UNIT WEIGHT N=26. THE SOUTH JAPANESE GROUP IS SIGNIFICANTLY DIFFERENT FROM THE OTHER POLE POSITIONS AND IS OMITTED FROM THIS ENTRY.

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