75075

High-Ti Mare Basalt
1008 g, 15 x 12 x 5 cm

INTRODUCTION

75075 was described as a medium dark gray (with a hint of "burnt sienna"(?)), slabby to irregular basalt, containing several fractures, one of which is penetrative (Apollo 17 Lunar Sample Information Catalog, 1973). It has an equigranular, vuggy fabric and the overall shape is slabby, irregular (Fig. 1). Surface T is coated by a dark gray, fine-grained, cohesive patina. This in turn is partially coated with a thin red/brown material which has collected in shallow depressions. Parallel microgrooves (~ 10 grooves per mm) run N-S over much of surface T. Surface B is fresh, except for small patches of gray patina. All other surfaces are fresh (Apollo 17 Lunar Sample Information Catalog, 1973).

Vugs (2-5 mm) occupy ~ 20% of the fresh surfaces; on top they are masked by a gray coating. A few vugs are elongate and reach up to 2 cm. They are irregularly distributed with no preferred orientation (Fig. 1). Many vugs are lined with terminations of matrix crystals; other are lined with minerals found in the matrix, but are larger. Crystals found in these vugs are: pyroxenes (up to 3 mm), ilmenite (up to 2 mm), troilite (up to 1 mm, and plagioclase (up to 22wmm) (Apollo 17 Lunar Sample Information Catalog, 1973).

Figure 1: Hand specimen photograph of 75075.

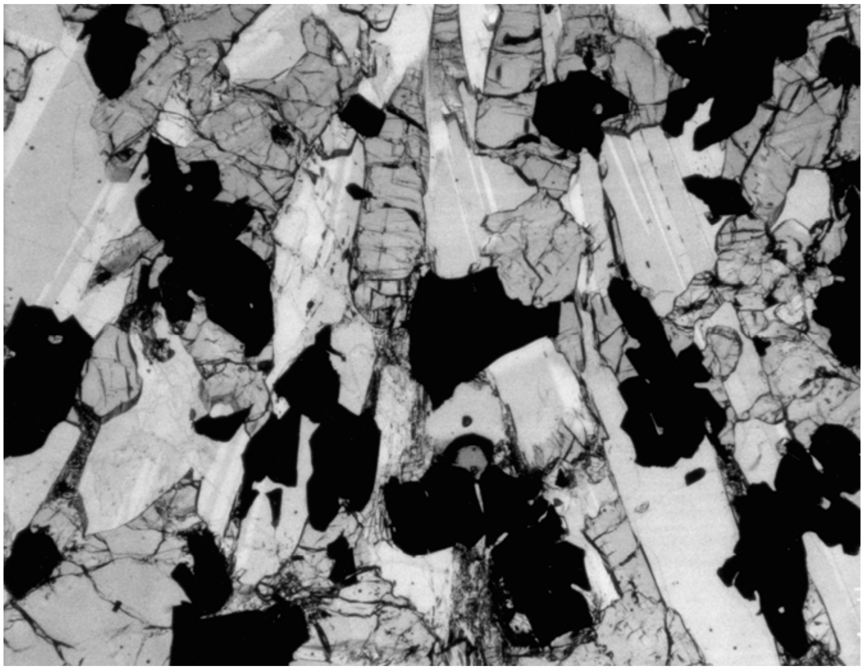

Figure 2: Photomicrograph of 75075. Field of view = 2.5 mm.

PETROGRAPHY AND MINERAL CHEMISTRY

75075 is a medium- to coarse-grained basalt dominated by plagioclase (laths up to 2 mm), ilmenite (up to 2 mm), and pyroxene (up to 1 mm diameter, up to 2 mm Iong). Olivine is present, but only as the cores (up to 0.1 mm) to pyroxene. Pyroxene is the most abundant mineral. The overall texture is subvariolitic to subophitic (Fig. 2). This basalt is well crystallized with no interstitial glass. Armalcolite (up to 0.2mm) is present as a discrete phase (up to 0.2mm included in plagioclase or ilmenite) or has mantles of ilmenite. Silica, troilite, and FeNi metal form interstitial phases (< 0.1mm). Brown et al. (1975) described 75075,82 as a Type 1B Apollo 17 basalt containing: 1.2% olivine, 24.1% opaques, 20.7% plagioclase, 52.2% pyroxene, and 1.5% silica.

The mineral chemistry has not been specifically reported for 75075. However, three specialized studies involving 75075 have been reported. Jagodzinski et al. (1975) used 75075 in a XRD and electron microprobe study of clinopyroxenes. These authors demonstrated the presence of exsolved pigeonite from augite. Roedder and Weiblen (1975) and Roedder (1979) used 75075 in studies of anomalous low-K inclusions in ilmenite, but the results of these studies did not shed any light onto the parageneses of these enigmatic inclusions.

WHOLE-ROCK CHEMISTRY

The whole-rock chemistry has been determined to various degrees by several authors. The major elements have been reported by Rose et al. (1974) and Rhodes et al. (1976)
(Table 1). This sample is classified as a Type S1 Apollo 17 high-Ti basalt using the scheme of Rhodes et al. (1976) and Warner et al. (1979), and applying the criteria of Neal et al. (1990a). A variety of trace-element abundances have been determined by Rose et al. (1974) and Shih et al. (1975), and Masuda et al. (1974) reported the REE abundances. Specialized studies to ascertain the abundances of Cl, F, and P were undertaken by Jovanovic and Reed (1974, 1980), Allen et al. (1977), and Leich et al. (1974). Leich et al. (1974) looked at the difference of fluorine concentrations with depth into 75075. Other studies concentrating on S and C abundances were by Petrowski et al. (1974) and Gibson et al. (1976).

The two major-element analyses (Table 1) are in good agreement with each other. The MG# is about the same for each (47.4-47.8). Rhodes et al. (1976) classified 75075,58 as a Type U Apollo 17 high-Ti (75075 =13.33-13.45 wt% TiO_2) basalt because of its coarse-grained nature and the fact that it did not appear to yield a representative whole-rock analysis. The two REE profiles (Masada et al. (1974; Shih et al. (1975) are similar (Fig. 3). These are parallel to each other, with the sample analyzed by Masuda et al. (1974) containing slightly higher REE abundances. Both profiles are LREE-depleted over the HREE and both have a maximum at Gd. The magnitude of the negative Eu anomalies is similar: $(Eu/Eu^*)_N$ = 0.58 from Masuda et al. (1974) and 0.52 from Shih et al. (1975).

RADIOGENIC ISOTOPES

75075 has been analyzed for a variety of radiogenic isotopes. Barisal et al. (1975), Nyquist et al. (1975, 1976), and Murthy and Coscio (1976) have all reported the Rb-Sr isotopic composition of 75075 (Table 2). Nyquist et al. (1975) reported a crystallization age for 75075 of 3.84 ± 0.12 Ga with an initial $^{87}Sr/^{86}Sr$ of 0.69920 ± 4 (Fig 4 a). Murthy and Coscia (1976) dated 75075 and reported a crystallization age of 3.82 ± 0.06 Ga, with an initial $^{87}Sr/^{86}Sr$ ratio of 0.69919 ± 4 (Fig. 4b), almost identical to that of Nyquist et al. (1975).

The Sm-Nd isotopic composition of 75075 has been determined by Lugmair (1975), Lugmair et al. (1975), Lugmair and Marti (1978), and Unruh et al. (1984) (Table 2). Unruh et al. (1984) analyzed 75075 for the Lu-Hf isotopes (Table 2). Lugmair et al. (1975) reported an internal isochron age of 3.70 ± 0.07 Ga for 75075 (Fig. 5), younger than, but just within error of the Rb-Sr dates. Lugmair et al. (1975) reported an initial 143Nd/144Nd ratio of 0.50825 ± 12. This is within error of the calculated initial of 0.50823 ± 2 reported by Unruh et al. (1984). However, the whole-rock $^{143}Nd/^{144}Nd$ ratio for 75075 reported by Lugmair (1975) and Lugmair et al. (1975) is more radiogenic than that reported by Unruh et al. (1984) (0.51455±4 and 0.51445 ± 2, respectively).

The U-Th-Pb isotopic composition of 75075 was determined by Chen et al. (1978), and this work was also reported

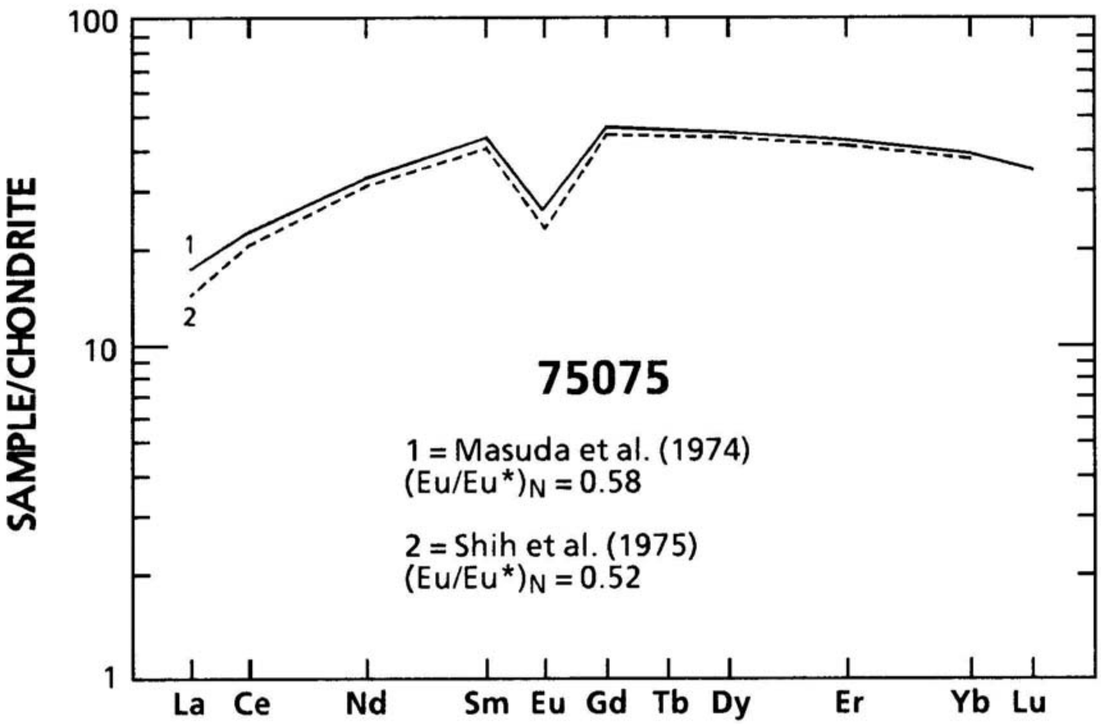

Figure 3: Chondrite -normalized rare-earth-element profiles of 75075. (Eu/Eu*)N values are noted.

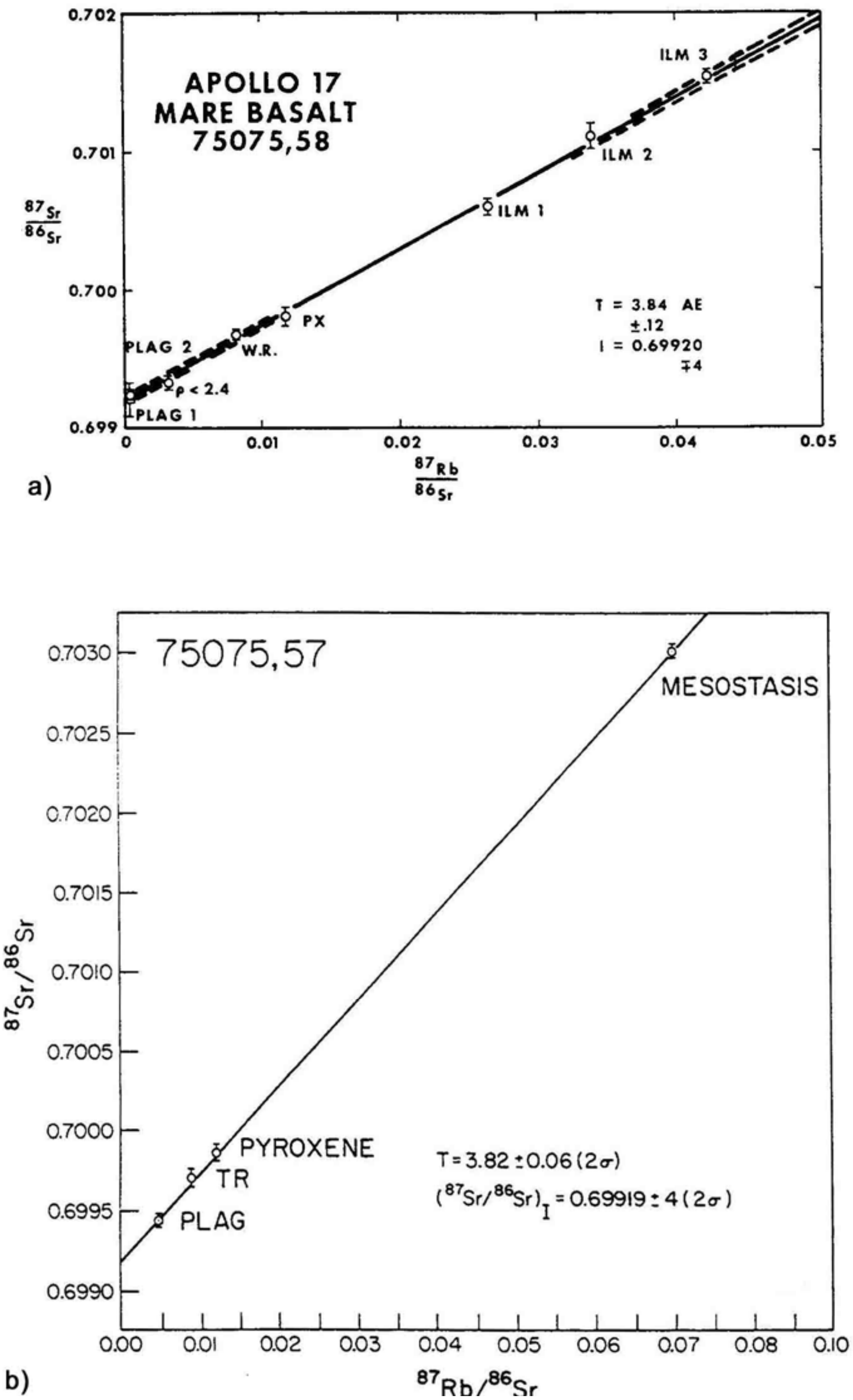

Figure 4: Internal Rb-Sr isochrons for 75075. A=Nyquist et al. (1975); B =Murthy and Coscio (1976).

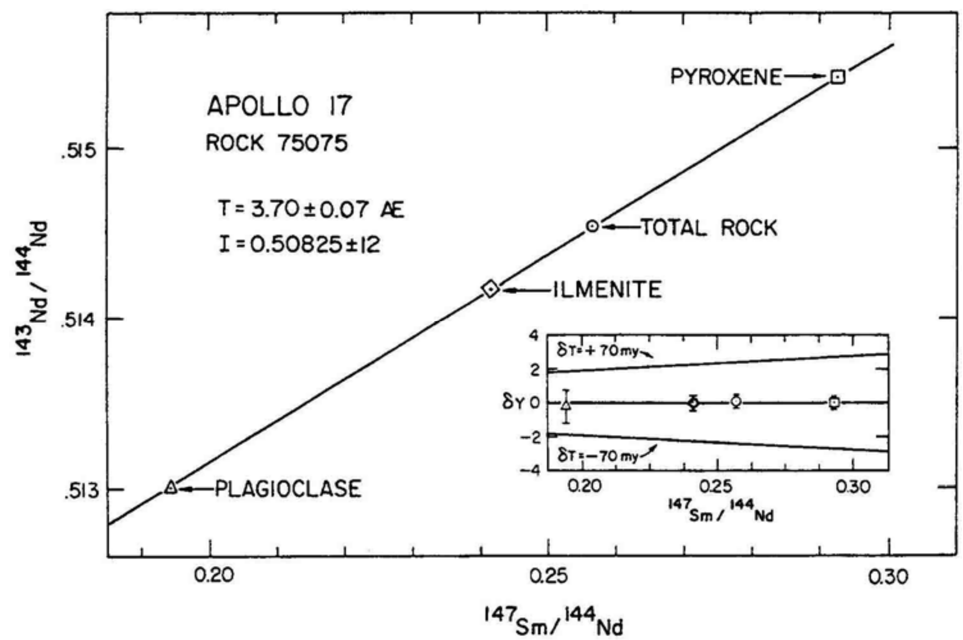

Figure 5: Sm-Nd evolution diagram for medium-grained basalt 75075. The data points for the total rock, the plagioclase, ilmenite and the pyroxene mineral separates form a very precise linear array. The best-fit line (Wendt, 1969) through these points represents a mineral isochron and yields a crystallization age (T, T_2 in text), and the initial $^{14}3Nd/^{144}Nd$ (1). The errors quoted are 20 $_{mean}$. We use $^{A}147 = 6.54$ X 10^{-12} yr^{-1}. The insert shows the relative deviation (6Y in parts in 10^4) of the data points from the best fit line and their respective 95% C.L. uncertainties. The symbols in the insert agree with those on the isochron. The lines on either side of the best-fit line correspond to an 70 m_y. uncertainty in the age. The total range of enrichment in $^{14}3Nd/144Nd$ is 0.47%. After Lugmair et al. (1975),

by Tilton and Chen (1979).
Chen et al. (1978) reported U, Th, and isotopic Pb data for two bulk samples of 75075, as well as mineral separates of pyroxene, ilmenite, and plagioclase (Table 4). These data define a chord intersecting the concordia at ~4.25 and 2.8 Ga. The Pb data indicate some post-crystallization disturbance of the U-Pb system which is not detected in other systems. Chen et al. (1978) suggest that the loss of 5-10% of Pb, due to its greater volatility than U, Th, Sm, Nd, Rb, and Sr accounts for the U-Pb data (Table 4), and if this loss occurred in the temperature range 400-900°C, other systems would be unaffected.

The Ar-Ar data for 75075 have been reported by Horn et al. (1975) and Jessberger et at. (1975) (same analysis) (Table 5)

These authors analyzed two whole-rock samples of 75075 and reported crystallization ages of 3.74 ± 0.04 Ga and 3.71 ± 0.05 Ga, compatible with Rb-Sr and Sm-Nd ages in that they are all within error. Whole-rock and mineral data are summarized in Table 5.

STABLEISOTOPES

Stable isotope compositions of 75075 have been reported by Mayeda et at. (1975) and Petrowski et al. (1975) (Table 6). Mayeda et al. (1975) studied the $5^1 80$ compositions of the constituent minerals in 75075 (Table 6), noting that the observed fractionations were similar to those from other sites. Petrowski et al. (1975) reported the C and S isotopic ratios for the whole-rock sample, noting that the $s^{13}C$ ratio was light, typical of Apollo 17 basalts, and the $8^{34}S$ was slightly positive.

EXPOSURE AGES AND COSMOGENIC RADIONUCLIDES

Exposure ages have been determined using Ar (119-128 Ma - Horn et al., 1975) and Kr isotopes (143 Ma - Horz et al., 1975). Lugmair et al. (1975) reported the abundances of Xe and Kr isotopes of 75075,66 (Table 7).

EXPERIMENTAL STUDIES

75075 has been used in three experimental studies, as well as in the modelling of high-Ti basalt petrogenesis by Drake and Consolmagno (1976). Muan et al. (1974) used 75075,69 in a study of liquid-solid equilibria in lunar rocks. O'Hara and Humphries (1975) used 75075 in a study of the conditions required to crystallize armalcolite. Usselman et al. (1975) used experimental evidence to use the texture of 75075 in order to determine the cooling rate. These authors concluded that 75075 cooled at a rate of < 1°C/hour.

PROCESSING

The original sample, 75075,0, has been entirely subdivided. The largest remaining subsamples are: 75075,6 (104g); ,7 (530g);,9 (71.3g);,14 (311.7g); and,75 (39.48). Seven thin sections are available - 75075,85-,91.

Table l: Whole-rock chemistry of 75075.

Sample Method Ref.	,58 X 1	,72 X 2	,58 IN 3	,59 I 4	 C 5	,24 N 6	,24 7,8	,2 9	,18 9	,55 P 10
SiO_2 (wt%)	37.64	38.51								
TiO_2	13.45	13.33								
Al_2O_3	8.20	8.29								
Cr_2O_3	0.57	0.55								
FeO	18.78	18.85								
MnO	0.28	0.25								
MgO	9.49	9.68								
CaO	10.29	10.17								
Na_2O	0.40	0.37								
K_2O	0.05	0.11	0.052							
P_2O_5	0.05	0.12					0.05			
S	0.16				0.17					0.1708
Nb (ppm)		31								
Zr		296	235							
Hf										
Ta										
U			0.096				0.13			
Th			0.32							
W										
Y		98								
Sr		190	165							
Rb		1.0	0.460							
Li		8.9	8.5				8.7			
Ba		348	64.4	72.3						
Cs										
Be		<1								
Zn		<4				22				
Pb		<2				0.0008				
Cu		34								
Ni		31								
Cr			2880							
Co		32	20.5							
V		108								
Sc		82	78.3							
La		<10	5.01	5.67						
Ce			17.6	19.5						
Nd			19.8	21.0						

Table 1: (Concluded.).

Sample	,58	,72	,58	,59		,24	,24	,2	,18	,55
Method	X	X	IN	I	C	N				P
Ref.	1	2	3	4	5	6	7,8	9	9	10
Sm			8.29	8.90						
Eu			1.77	2.00						
Gd			12.9	12.9						
Tb										
Dy			15.1	15.7						
Er			8.89	9.48						
Yb		7.4	8.31	8.71						
Lu				1.22						
Ga		6.5								
F							39	975*	330*	
Cl							12			
C										16
N										
H										
He										
Pd (ppb)										
Ge										
Re										
Ir										
Au										
Ru										
Os										

References: 1 = Rhodes et al. (1976); 2 = Rose et al. (1974); 3 = Shih et al. (1975); 4 = Masuda et al. (1974); 5 = Gibson et al. (1976); 6 = Allen et al. (1977); 7 = Jovanovic and Reed (1974); 8 = Jovanovic and Reed (1980); 9 = Leich et al. (1974); 10 = Petrowski et al. (1974).

X = XRF; N = INAA; I = Isotope dilution; C = Combustion; P = Pyrolysis.

* = u moles

Table 2: Rb-Sr Isotopic Composition of 75075.

Ref. Sample Mineral	1 ,58 WR	1 ,58 Plag 1	1 ,58 Ilm 1	1 ,58 Px 1	1 ,58 Ilm 2	1 ,58 Plag 2	1 ,58 Ilm 3	1 ,58 p < 2.4	2 ,57 WR	2 ,57 Plag	2 ,57 Px	2 ,57 Meso
Wt (mg)	51.3	1.2	5.5	15.4	21.9	4.4	10.7	2.02	25.09	25.05	19.42	3.55
K (ppm)									356	1159		
Ba (ppm)									62.4	206		
Rb (ppm)	0.460	0.073	0.450	0.276	0.0671	0.084	0.836	0.396	0.387	0.946	0.341	3.720
Sr (ppm)	164.6	661.5	49.3	67.8	57.3	643.6	57.2	365.4	131.0	576.4	81.35	155.3
$^{87}Rb/^{86}Sr$	0.0081	0.00032	0.0264	0.01179	0.0339	0.00038	0.0423	0.00314	0.00853	0.00475	0.01213	0.07014
Error	±2	±8	±4	±15	±3	±2	±4	±14				
$^{87}Sr/^{86}Sr$	0.69968	0.69920	0.70060	0.69981	0.70111	0.69924	0.70153	0.69933	0.69970	0.69944	0.69984	0.70302
Error	±4	±11	±6	±7	±9	±4	±5	±5	±14	±7	±13	±7
T_{BABI}[a] (Ga)	5.0											
Error	±0.5											
T_{LUNI}[b] (Ga)	5.6											
Error	±0.5											

References: 1 = Nyquist et al. (1975); 2 = Murthy and Coscio (1976).

WR = Whole-Rock; Plag = Plagioclase; Ilm = Ilmenite; Px = Pyroxene; Meso = Mesostasis.

a = I(Sr) of 0.69910 (BABI + JSC bias); b = I(Sr) of 0.69903 (A16 Anorthosites for T = 4.6 Ga).

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Table 3: Sm-Nd and Lu-Hf Isotopic Composition of 75075.

Ref. Sample Mineral	1 ,66 WR	2 ,66 Plag	2 ,66 Ilm	2,3 ,66 WR	2 ,66 Px	4 ,25	4 ,29
Wt (mg)	29.89	31.17	37.05	29.89	22.90		
Sm (ppm)	48.00	4.173	27.41	48.00	39.12	7.257	
Nd (ppm)	28.05	3.22	17.01	28.05	20.02	17.27	
$^{147}Sm/^{144}Nd$	0.2566	0.1942	0.2416	0.2566	0.2930	0.2540	
Error	±3	±3	±3	±3	±2		
$^{143}Nd/^{144}Nd_a$	0.514548	0.51297	0.51417	0.51455	0.51545		
Error	±41	±12	±2	±4	±5		
$^{143}Nd/^{144}Nd_b$	0.51541	0.51300	0.51417	0.51454	0.51542		
Error	±20	±5	±2	±2	±2		
$^{143}Nd/^{144}Nd_O$						0.514455	
Error						±21	
εNd_0						+35.5	
Error						±0.4	
$^{143}Nd/^{144}Nd_I$						0.50823	
Error						±2	
εNd_I						±8.2	
εJ_{uv}				+7.1		±0.4	
Error				±0.5			
T_{ICE} (Ga)				4.55			
Error				±0.05			
Lu (ppm)							1.095
Hf (ppm)							7.484
$^{176}Lu/^{177}Hf$							0.02074
$^{176}Hf/^{177}Hf_O$							0.282142
Error							±45
εHf_0							+25.5±1.6
$^{176}Hf/^{177}Hf_I$							0.28060
Error							±5
εHf_I							+8.0±1.8

a = Isotopic ratios calculated from spiked aliquot; b = Nd was measured as an oxide - isotopic ratios corrected for mass fractionation by normalizing to $^{148}NdO/^{144}NdO$ = 0.242436 and for oxygen by using the isotopic composition of Nier (1950).

Table 4: U-Th-Pb data from 75075.

Sample	Weight (mg)	Pb (ppm)		U (ppm)		Th (ppm)		$^{232}Th/^{238}U$		$^{238}U/^{204}Pb$	
WR-1	173	0.1732	(6)	0.0892	(4)	0.326	(3)	3.78	(4)	528	(30)
WR-2[b,c]	54	0.2022	(10)	0.1063	(10)	0.322	(6)	3.13	(6)	373	(20)
Px-1	65	0.1388	(16)	0.0819	(6)	0.246	(3)	3.11	(4)	931	(200)
Acid Wash[d]	65	0.0109	(1)	0.0123	(2)	0.0056	(1)	0.47	(1)	309	(5)
Px-2	34	0.1327	(29)	0.0743	(6)	0.236	(3)	3.28	(3)	461	(102)
Acid Wash[d]	34	0.0100	(1)	0.0022	(0.2)	0.015	(0.2)	6.97	(10)	40	(0.6)
Px-3	55	0.1392	(16)	0.0797	(9)	0.226	(2)	2.92	(4)	694	(200)
Acid Wash[d]	55	0.0172	(2)	0.0044	(0.5)	0.036	(0.3)	8.4	(1)	59	(1)
Px-L	104	0.1659	(11)	0.0935	(10)	0.347	(3)	3.83	(5)	611	(63)
Ilm	74	0.2757	(14)	0.1428	(12)	0.511	(5)	3.70	(4)	615	(67)
Plag-1	80	0.0479	(20)	0.00817	(9)	0.0501	(10)	6.33	(14)	29.5	(16)
Plag-2	37	0.0350	(30)	0.00402	(4)	0.0500	(5)	12.9	(2)	17.3	(30)
Acid Wash[d]	37	0.0098	(1)	0.00065	(1)	0.0032	(1)	5.07	(17)	5.7	(10)
Plag-3	60	0.0583	(17)	0.0167	(1)	0.0584	(15)	3.61	(9)	52.1	(40)

Numbers in parentheses are 2-sigma errors for mass spec ratio measurements plus chemical blanks;

b = sample analyzed using ^{208}Pb isotopic tracer - all others analyzed using ^{205}Pb tracer;

c = sample dissolved in open teflon beaker. All other samples dissolved in steel-jacketed teflon bombs;

d = samples contacted with cold 1 N HCl for 10 minutes.

Table 4: (Concluded).

Sample	Weight	Blank	Observed Ratios[a]						Corrected Ratios		
			$^{208}Pb/^{206}Pb$		$^{207}Pb/^{206}Pb$		$^{204}Pb/^{206}Pb$		$^{208}Pb/^{206}Pb$	$^{207}Pb/^{206}Pb$	$^{204}Pb/^{206}Pb$
	(mg)	(ng)									
WR-1	173	0.25	0.9155	(16)	0.5059	(10)	0.00230	(10)	0.9098 +12,-35	0.5043 +10,-14	0.00204 +10,-18
WR-2	54	0.20	0.8869	(13)	0.5179	(15)	0.00365	(8)	0.8729 +13,-80	0.5139 +15,-50	0.00257 +8,-20
Px-1	65	0.30	0.8154	(20)	0.4765	(28)	0.00221	(10)	0.7918 ±82	0.4698 ±36	0.00124 ±33
Acid Wash	65	0.05	2.2111	(180)	0.6257	(34)	0.0148	(6)	2.223 ±18	0.6120 ±34	0.0121 ±6
Px-2	34	0.40	0.9030	(34)	0.5027	(24)	0.00496	(16)	0.8432 +305,-34	0.4858 +86,-24	0.00245 +129,-16
Acid Wash	34	0.05	2.1464	(60)	0.6912	(38)	0.0230	(10)	2.1614 ±60	0.6722 ±38	0.0187 ±10
Px-3	55	0.21	0.8009	(40)	0.4879	(18)	0.00242	(5)	0.7811 +40,-85	0.4825 +18,-50	0.00161 +5,-74
Acid Wash	55	0.05	2.0877	(46)	0.6137	(14)	0.0157	(3)	2.0848 ±46	0.6033 ±14	0.0138 ±3
Px-L	104	0.32	0.9534	(40)	0.4741	(50)	0.00249	(13)	0.9412 ±45	0.4701 ±52	0.00192 ±21
Ilm	74	0.29	0.8995	(24)	0.5103	(30)	0.00219	(5)	0.8895 ±44	0.5076 ±32	0.00174 ±17
Pl-1	80	0.37	1.2616	(40)	0.9080	(60)	0.0183	(4)	1.201 +30,-4	0.9145 -68,+5	0.0156 +13,-2
Pl-2	37	0.33	1.3695	(48)	0.9583	(60)	0.0245	(6)	1.228 +62,-37	0.9865 -124,+74	0.0185 +36,-16
Acid Wash	37	0.05	1.8386	(120)	0.8470	(68)	0.0394	(20)	1.813 ±12	0.8498 ±68	0.0377 ±20
Pl-3	60	0.30	1.1452	(40)	0.7707	(20)	0.0160	(1)	1.089 ±21	0.7673 ±23	0.0136 ±8

a = Numbers in parentheses are 2 sigma errors from the mass spectrometry;

b = uncertainties are corrected for 0.2-0.4ng Pb blanks and for 2 sigma errors in mass spectrometry. Isotopic composition of blank = $^{204}Pb:^{206}Pb:^{207}Pb:^{208}Pb$ = 1.00:18.90:15.60:38.60.

Table 5. Summary of ^{39}Ar-^{40}Ar results for 75075.
Data from Horn et al. (1975).

	WR-1	WR-2	Etched WR	Plag. > 35um	Plag. < 15um	Pyroxene	Opaques
n-Dose [$n_f cm^{-2} \times 10^{18}$]	2.0	2.0	20.4	20.4	20.4	2.0	2.0
Weight (mg)	75.7	46.8	53.6	21.5	27.3	26.9	24.3
K^a (ppm)	390	520	360	720	780	330	650
Ca^a (%)	6.9	7.2	7.7	12.2	12.3	9.6	0.9
Total Age (Ga)	3.62 ± 0.03	3.53 ± 0.02	3.54 ± 0.03	3.64 ± 0.05	3.52 ± 0.02	3.32 ± 0.06	3.54 ± 0.02
Exp. Age (Ma)	119	125	125	118	128	---	---
Plateau Range (% of $^{39}Ar^*$ released)	55-90	30-90	35-80	10-90	50-90	70-90	55-95
Plateau Age (Ga)	3.74 ± 0.04	3.71 ± 0.05	3.64 ± 0.03	3.74 ± 0.02	3.66 ± 0.02	3.80 ± 0.07	3.65 ± 0.10
$^{40}Ar^a$ (10^{-8} cc STP/g)	2470	1498	2146	3188	3331	1195	2782
$^{36}Ar/^{40}Ar^b \times 10^{-5}$	560 ± 30	473 ± 30	770 ± 58	447 ± 20	284 ± 5	116 ± 11	430 ± 40
$^{37}Ar/^{40}Ar^c \times 10^{-3}$	192 ± 5	230 ± 14	3700 ± 275	268 ± 7	264 ± 4	549 ± 65	218 ± 12
$^{38}Ar/^{40}Ar^d \times 10^{-5}$	605 ± 15	713 ± 45	1130 ± 90	629 ± 18	107 ± 2	1470 ± 165	377 ± 52
$^{39}Ar^*/^{40}Ar^{c,e} \times 10^{-5}$	219 ± 16	335 ± 6	340 ± 6	311 ± 9	335 ± 6	38 ± 2	324 ± 5

a = Absolute amounts are uncertain to ± 10%. Corrected for $^{40}Ar_K$ and system blank;

b = Corrected for $^{36}Ar_{Ca}$ and system blank. Error figures are measured isotope ratio errors (1 sigma) and include a 50% uncertainty in system blank and spectrometer background, respectively;

c = Corrected for decay during and after n-irradiation;

d = Corrected for $^{38}Ar_{Ca}$ and $^{38}Ar_K$ and system blank;

e = Corrected for $^{39}Ar_{Ca}$ and mass spectrometer background.

Table 6: Stable Isotope Composition of 75075.

Reference Sub-Sample Mineral	1 ,30 Crist.	1 ,30 Plag.	1 ,30 Pyroxene	1 ,30 Ilmenite	2 ,55
$\delta^{18}O_{SMOW}$ (‰)	----	5.70	5.39	3.95	
$\delta^{34}S_{CDT}$ (‰)					+1.8
$\delta^{13}C_{PDB}$ (‰)					-25.4

1 = Mayeda et al. (1975)

2 = Petrowski et al. (1975)

Table 7: Xenon and Krypton Isotopic Abundances in Basalt 75075

	75075,66[a]	"Spallation" Only[b]
^{131}Xe (x 10^{-12} cc STP/g)	51 ± 7	
^{124}Xe	8.58 ± 0.09	0.580
^{126}Xe	14.72 ± 0.13	=1.00
^{128}Xe	23.72 ± 0.18	1.504
^{129}Xe	48.61 ± 0.27	1.84
^{130}Xe	17.80 ± 0.20	0.984
^{131}Xe	100	5.67
^{132}Xe	35.22 ± 0.09	0.982
^{134}Xe	9.42 ± 0.07	0.106
^{136}Xe	6.78 ± 0.09	0.015

a = Uncertainties in isotopic composition represent 95% confidence limits;

b = "Spallation" includes effects from secondary neutron capture.