

Data on Stretching of Fluid Inclusions
in Fluorite and Sphalerite

by

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This report is preliminary and has not been
edited or reviewed for conformity with U. S.
Geological Survey standards and nomenclature.

INTRODUCTION

The data presented in the following tables represent the results of more than 1,300 homogenization measurements on fluid inclusions in samples of fluorite, sphalerite and 4 measurements on barite which have been systematically overheated beyond their original homogenization temperatures. The interpretation of the data together with a discussion of the "stretching" of the inclusions caused by such overheating and implications concerning the validity of temperatures estimated from homogenization measurements are being published in Economic Geology (Bodnar and Bethke, 1984). The primary data presented herein have been plotted in figures and summarized in tables in that paper, but because they are voluminous they were not published therein. They are presented in this open-file report so that they may be available for examination by those wishing to go back to the original data.

SAMPLE INFORMATION

Table 1 lists sample information for each individual inclusion measured as part of this study. Each inclusion is identified by a sample number (e.g. PMB B022765) followed by an identifier (e.g. A1) which is unique to each individual inclusion. This information is listed in the first column in Table 1. In the second column the host mineral (either fluorite, sphalerite or barite) is listed. The type of inclusion, either primary or secondary (including pseudosecondary) is listed in column 3, and a qualitative description of the shape of the inclusion, where noted, is indicated in column 4. Information on the size of the inclusion, where measured, is listed in column 5. In the case of fluorite the volume of the inclusion was estimated from the diameter of the vapor bubble, the measured salinity and the original homogenization temperature by the method of Bodnar (Bodnar, 1983). Such measurements are identified in the table by the letter "V" following the value listed. In sphalerite samples most of the inclusions were tabular in shape and the included bubble was flattened. Therefore, for sphalerite, only the bubble diameter is reported in Table 1, no attempt having been made to estimate the actual volume of the inclusion. Such measurements are identified in the table by the letter "D" following the listed value. The values reported in column 5 of Table 1 have not been rounded to the appropriate significant figure. Because of the many factors involved it is difficult to assign an uncertainty to the volume estimates, but certainly they are no better than the third significant figure. No estimates of volume were made for the four inclusions in barite that were measured. Columns 6 and 7 list the values of salinity (expressed in weight percent NaCl equivalent) and homogenization temperature measured on the inclusion prior to overheating.

Most of the measurements on fluorite were made on material from the Hill Mine in the southern Illinois fluorspar district (sample PBB 13-59). The remaining measurements on fluorite were made on material from the OH vein in the Creede District, Colorado (samples PMB B0 22765 and PMB JF). All measurements on inclusions in sphalerite (samples PMB BS 23365, NJPX, and TMI) were made on material from the OH vein in the Creede District. All measurements on barite were made from a single sample (DH49 211-212) from the Bulldog Mountain Mine in the Creede District.

RESULTS OF HEATING TESTS

The results of the heating tests are listed in Table 2. The individual inclusions are identified in the first column using the same convention as in Table 1. The nature of the experiment was to first measure the homogenization temperature of each fluid inclusion. This original, or "true", homogenization temperature is listed in the last column of Table 1. Following determination of the "true" homogenization temperature, each inclusion was overheated (heated beyond the "true" homogenization temperature) by a small amount, usually 5 to 10 degrees Celsius. The sample was then returned to room temperature and reheated to measure the homogenization temperature. The sample was then again cooled to room temperature and then overheated an additional 5 to 10 degrees Celsius above the previous maximum temperature obtained. This cyclic process was repeated until either the upper temperature limit of the stage (at that time 300 degrees Celsius) was reached or until the inclusions decrepitated (only a few cases, indicated in Table 2 by the notation "dec"). In a few cases, the inclusion was overheated by a substantial amount (30 to 100 degrees Celsius), cooled to room temperature and then reheated to measure the homogenization temperature.

The results of these tests are listed in Table 2 in the following manner. Following each fluid inclusion number listed in the lefthand column are 8 sets of entries of two columns each. These two columns are labelled at the top of the Table: Toh (for the amount of overheating above the initial homogenization temperature) and dTh (for the difference between the initial homogenization temperature and that measured after the indicated increment of overheating, i.e., $T_h\text{-observed} - T_h\text{-initial}$). Each set of Toh plus dTh represents one increment of overheating. When more than eight increments of overheating were performed on an inclusion the table is "folded back" on itself and the data for the 9th increment are listed in the 1st data column directly beneath the data for the first increment; the data for the remaining increments following in the 2nd, 3rd,...nth columns.

For sample PBB 13-59 W10, the following the value of 100 for dTh indicates that the value fell outside the limits of figure 3 in the Economic Geology paper (Bodnar and Bethke, 1984) and therefore was not plotted on that figure.

REFERENCES CITED

Bodnar, R. J., 1983, A method of calculating fluid inclusion volumes based on vapor bubble diameters and P-V-T-X properties of inclusion fluids: *Econ. Geol.*, v. 78, no. 3, p. 535-542.

Bodnar, R. J., and Bethke, P. M., 1984, Systematics of stretching of fluid inclusions I: Fluorite and sphalerite at 1 atmosphere confining pressure: *Econ. Geol.*, v. 79, no. 1, p. 141-161.

TABLE 1

INCLUSION NUMBER	HOST MINERAL	INCLUSION ORIGIN	INCLUSION SHAPE	INCLUSION SIZE		SALINITY (Wt % NaCl equiv)	HOMOGENIZATION TEMPERATURE(°C)
				VOL(V) in μm^3	VB DIAM(D) in μm		
PMB B022765 A1	FLUORITE	PRIMARY	IRREG., ANGLR	NOT MEASURED	NOT MEASURED	NOT MEASURED	240.3
PMB B022765 B1	FLUORITE	SECONDARY	IRREG., SMOOTH	NOT MEASURED	NOT MEASURED	8.9	124.5
PMB B022765 B3	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	8.9	124.5
PMB B022765 B4	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	8.8	124.5
PBB 13-59 A1	FLUORITE	SECONDARY	REG., SMOOTH	2253.8 V	2253.8 V	19.4	137.9
PBB 13-59 A2	FLUORITE	SECONDARY	REG., SMOOTH	51.0 V	51.0 V	19.4	141.0
PBB 13-59 A3	FLUORITE	SECONDARY	REG., SMOOTH	414.0 V	414.0 V	19.4	139.1
PBB 13-59 A4	FLUORITE	SECONDARY	REG., SMOOTH	404.8 V	404.8 V	19.4	141.0
PBB 13-59 A5	FLUORITE	SECONDARY	REG., SMOOTH	404.8 V	404.8 V	19.4	141.0
PBB 13-59 A6	FLUORITE	SECONDARY	REG., SMOOTH	794.8 V	794.8 V	19.4	140.4
PBB 13-59 A7	FLUORITE	SECONDARY	REG., SMOOTH	1369.9 V	1369.9 V	19.4	141.0
PBB 13-59 A8	FLUORITE	SECONDARY	REG., SMOOTH	2107.0 V	2107.0 V	19.4	143.6
PBB 13-59 A9	FLUORITE	SECONDARY	REG., SMOOTH	793.9 V	793.9 V	19.4	140.5
PBB 13-59 A10	FLUORITE	SECONDARY	REG., SMOOTH	407.2 V	407.2 V	19.4	140.5
PBB 13-59 A11	FLUORITE	SECONDARY	REG., SMOOTH	1411.3 V	1411.3 V	19.4	138.5
PBB 13-59 A12	FLUORITE	SECONDARY	REG., SMOOTH	2221.5 V	2221.5 V	19.4	139.1
PBB 13-59 A13	FLUORITE	SECONDARY	REG., SMOOTH	1369.9 V	1369.9 V	19.4	141.0
PBB 13-59 B2	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.3
PBB 13-59 B3	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	146.2
PBB 13-59 B4	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	146.4
PBB 13-59 C1	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.3
PBB 13-59 C2	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.2
PBB 13-59 C3	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.3
PBB 13-59 C4	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.2
PBB 13-59 C5	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.7
PBB 13-59 C6	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	NOT MEASURED	145.4
PMB JF A1	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	5.5	188.0
PMB JF A2	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	5.5	188.5
PMB JF A3	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	5.5	188.6
PMB JF A4	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	5.5	189.1
PMB JF A5	FLUORITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	5.5	186.0
PBB 13-59 K1	FLUORITE	SECONDARY	IRREG., SMOOTH	13041.4 V*	13041.4 V*	NOT MEASURED	140.5
PBB 13-59 K2	FLUORITE	SECONDARY	IRREG., SMOOTH	4390.5 V*	4390.5 V*	NOT MEASURED	139.3
PBB 13-59 K3	FLUORITE	SECONDARY	REG., SMOOTH	813.9 V*	813.9 V*	NOT MEASURED	133.1
PBB 13-59 K4	FLUORITE	SECONDARY	REG., SMOOTH	387.2 V*	387.2 V*	NOT MEASURED	139.0
PBB 13-59 K6	FLUORITE	SECONDARY	REG., SMOOTH	1310.6 V*	1310.6 V*	NOT MEASURED	139.0
PBB 13-59 K7	FLUORITE	SECONDARY	REG., SMOOTH	237.4 V*	237.4 V*	NOT MEASURED	138.0
PBB 13-59 K8	FLUORITE	SECONDARY	REG., ANGLR	2065.1 V*	2065.1 V*	NOT MEASURED	139.5
PBB 13-59 K9	FLUORITE	SECONDARY	REG., SMOOTH	164.0 V*	164.0 V*	NOT MEASURED	138.9
PBB 13-59 K10	FLUORITE	SECONDARY	REG., ANGLR	751.3 V*	751.3 V*	NOT MEASURED	139.4
PBB 13-59 L1	FLUORITE	SECONDARY	REG., ANGLR	10317.4 V	10317.4 V	19.5	145.8
PBB 13-59 L2	FLUORITE	SECONDARY	REG., SMOOTH	2091.6 V	2091.6 V	19.5	144.3
PBB 13-59 L3	FLUORITE	SECONDARY	REG., SMOOTH	48.9 V	48.9 V	19.5	144.7
PBB 13-59 L4	FLUORITE	SECONDARY	REG., ANGLR	689.9 V*	689.9 V*	NOT MEASURED	146.5
PBB 13-59 L5	FLUORITE	SECONDARY	REG., SMOOTH	385.8 V	385.8 V	19.5	145.2
PBB 13-59 L7	FLUORITE	SECONDARY	REG., ANGLR	2898.1 V*	2898.1 V*	NOT MEASURED	144.5
PBB 13-59 L8	FLUORITE	SECONDARY	REG., ANGLR	6020.0 V	6020.0 V	19.6	145.5
PBB 13-59 L9	FLUORITE	SECONDARY	REG., SMOOTH	699.7 V*	699.7 V*	NOT MEASURED	145.3
PBB 13-59 L10	FLUORITE	SECONDARY	REG., SMOOTH	1925.5 V*	1925.5 V*	NOT MEASURED	145.3
PBB 13-59 L11	FLUORITE	SECONDARY	REG., SMOOTH	165.3 V	165.3 V	19.6	144.1

TABLE 1 (cont)

INCLUSION NUMBER	HOST MINERAL	INCLUSION ORIGIN	INCLUSION SHAPE	INCLUSION SIZE VOL(V) in μm^3 VB DIAM(D) in μm	SALINITY (Wt % NaCl equiv)	HOMOGENIZATION TEMPERATURE(°C)
PBB 13-59 M1	FLUORITE	SECONDARY	REG., SMOOTH	28289.8 V	20.1	134.3
PBB 13-59 M2	FLUORITE	SECONDARY	REG., ANGLR	18209.9 V	20.1	137.3
PBB 13-59 M3	FLUORITE	SECONDARY	REG., ANGLR	14992.0 V	20.2	134.9
PBB 13-59 M4	FLUORITE	SECONDARY	REG., SMOOTH	6369.0 V	20.2	140.8
PBB 13-59 M5	FLUORITE	SECONDARY	REG., ANGLR	31115.1 V	20.2	141.6
PBB 13-59 M6	FLUORITE	SECONDARY	REG., ANGLR	15242.0 V	17.7	132.8
PBB 13-59 M7	FLUORITE	SECONDARY	REG., SMOOTH	38627.5 V	17.6	137.0
PBB 13-59 N1	FLUORITE	SECONDARY	REG., SMOOTH	20.6 V*	NOT MEASURED	138.6
PBB 13-59 N2	FLUORITE	SECONDARY	REG., SMOOTH	383.0 V*	NOT MEASURED	139.9
PBB 13-59 N3	FLUORITE	SECONDARY	REG., ANGLR	383.4 V*	NOT MEASURED	139.8
PBB 13-59 N5	FLUORITE	SECONDARY	REG., SMOOTH	1312.2 V*	NOT MEASURED	138.9
PBB 13-59 N6	FLUORITE	SECONDARY	REG., SMOOTH	162.4 V*	NOT MEASURED	139.7
PBB 13-59 N7	FLUORITE	SECONDARY	REG., SMOOTH	83.3 V*	NOT MEASURED	139.1
PBB 13-59 N8	FLUORITE	SECONDARY	REG., SMOOTH	162.4 V*	NOT MEASURED	139.7
PBB 13-59 N9	FLUORITE	SECONDARY	REG., SMOOTH	6.0 V*	NOT MEASURED	139.0
PBB 13-59 N10	FLUORITE	SECONDARY	REG., ANGLR	162.2 V*	NOT MEASURED	139.8
PBB 13-59 P1	FLUORITE	SECONDARY	REG., ANGLR	150.6 V*	NOT MEASURED	146.0
PBB 13-59 P2	FLUORITE	SECONDARY	REG., SMOOTH	150.6 V*	NOT MEASURED	146.0
PBB 13-59 P3	FLUORITE	SECONDARY	REG., ANGLR	45.3 V*	NOT MEASURED	145.1
PBB 13-59 P4	FLUORITE	SECONDARY	REG., SMOOTH	87.7 V*	NOT MEASURED	145.1
PBB 13-59 T1	FLUORITE	SECONDARY	NOT MEASURED	361.4 V*	NOT MEASURED	144.7
PBB 13-59 T4	FLUORITE	SECONDARY	NOT MEASURED	45.6 V*	NOT MEASURED	144.7
PBB 13-59 T5	FLUORITE	SECONDARY	NOT MEASURED	147.8 V*	NOT MEASURED	147.6
PBB 13-59 T6	FLUORITE	SECONDARY	NOT MEASURED	1175.5 V*	NOT MEASURED	148.1
PBB 13-59 T7	FLUORITE	SECONDARY	NOT MEASURED	7.8 V*	NOT MEASURED	146.1
PBB 13-59 T8	FLUORITE	SECONDARY	NOT MEASURED	1231.9 V*	NOT MEASURED	144.1
PBB 13-59 T9	FLUORITE	SECONDARY	NOT MEASURED	362.7 V*	NOT MEASURED	144.4
PBB 13-59 T10	FLUORITE	SECONDARY	NOT MEASURED	1898.6 V*	NOT MEASURED	146.5
PBB 13-59 T11	FLUORITE	SECONDARY	NOT MEASURED	154.7 V*	NOT MEASURED	143.7
PBB 13-59 T12	FLUORITE	SECONDARY	NOT MEASURED	1237.8 V*	NOT MEASURED	143.7
PBB 13-59 T13	FLUORITE	SECONDARY	NOT MEASURED	362.7 V*	NOT MEASURED	144.4
PBB 13-59 T14	FLUORITE	SECONDARY	NOT MEASURED	2905.0 V*	NOT MEASURED	144.3
PBB 13-59 T15	FLUORITE	SECONDARY	NOT MEASURED	1224.6 V*	NOT MEASURED	144.6
PBB 13-59 U1	FLUORITE	SECONDARY	REG., SMOOTH	1288.2 V*	NOT MEASURED	140.4
PBB 13-59 U2	FLUORITE	SECONDARY	REG., SMOOTH	735.8 V*	NOT MEASURED	141.1
PBB 13-59 U3	FLUORITE	SECONDARY	REG., SMOOTH	382.0 V*	NOT MEASURED	140.1
PBB 13-59 U4	FLUORITE	SECONDARY	REG., SMOOTH	382.0 V*	NOT MEASURED	140.1
PBB 13-59 U5	FLUORITE	SECONDARY	REG., SMOOTH	744.0 V*	NOT MEASURED	140.2
PBB 13-59 U6	FLUORITE	SECONDARY	REG., SMOOTH	383.4 V*	NOT MEASURED	139.8
PBB 13-59 U7	FLUORITE	SECONDARY	REG., SMOOTH	1291.3 V*	NOT MEASURED	140.2
PBB 13-59 U8	FLUORITE	SECONDARY	REG., SMOOTH	748.6 V*	NOT MEASURED	139.7
PBB 13-59 U9	FLUORITE	SECONDARY	REG., ANGLR	383.0 V*	NOT MEASURED	139.9
PBB 13-59 U10	FLUORITE	SECONDARY	REG., ANGLR	381.6 V*	NOT MEASURED	140.2
PBB 13-59 V1	FLUORITE	SECONDARY	REG., ANGLR	682.8 V*	NOT MEASURED	147.4
PBB 13-59 V2	FLUORITE	SECONDARY	REG., ANGLR	356.3 V*	NOT MEASURED	145.9
PBB 13-59 V3	FLUORITE	SECONDARY	REG., ANGLR	1196.2 V*	NOT MEASURED	146.6
PBB 13-59 V4	FLUORITE	SECONDARY	REG., SMOOTH	143.9 V*	NOT MEASURED	149.9
PBB 13-59 V5	FLUORITE	SECONDARY	REG., SMOOTH	1846.7 V*	NOT MEASURED	148.9
PBB 13-59 V6	FLUORITE	SECONDARY	REG., ANGLR	346.1 V*	NOT MEASURED	148.4
PBB 13-59 V7	FLUORITE	SECONDARY	REG., SMOOTH	1186.5 V*	NOT MEASURED	147.3

TABLE 1 (cont)

INCLUSION NUMBER	HOST MINERAL	INCLUSION ORIGIN	INCLUSION SHAPE	INCLUSION SIZE VOL(V) in μm^3 VB DIAM(D) in μm	SALINITY (Wt % NaCl equiv)	HOMOGENIZATION TEMPERATURE($^{\circ}\text{C}$)
PBB 13-59 V8	FLUORITE	SECONDARY	REG., SMOOTH	353.0 V*	NOT MEASURED	146.7
PBB 13-59 V9	FLUORITE	SECONDARY	REG., SMOOTH	1197.6 V*	NOT MEASURED	146.5
PBB 13-59 V10	FLUORITE	SECONDARY	REG., SMOOTH	1197.6 V*	NOT MEASURED	146.5
PBB 13-59 V11	FLUORITE	SECONDARY	REG., SMOOTH	353.8 V*	NOT MEASURED	146.5
PBB 13-59 W3	FLUORITE	SECONDARY	REG., ANGLR	4428.8 V*	NOT MEASURED	138.6
PBB 13-59 W4	FLUORITE	SECONDARY	REG., ANGLR	396.6 V*	NOT MEASURED	137.1
PBB 13-59 W8	FLUORITE	SECONDARY	NOT MEASURED	50.6 V*	NOT MEASURED	136.2
PBB 13-59 W10	FLUORITE	SECONDARY	REG., ANGLR	168.6 V*	NOT MEASURED	136.7
PBB 13-59 W11	FLUORITE	SECONDARY	REG., SMOOTH	397.1 V*	NOT MEASURED	137.0
PBB 13-59 W12	FLUORITE	SECONDARY	IRREG., ANGLR	3172.4 V*	NOT MEASURED	137.1
PBB 13-59 X1	FLUORITE	SECONDARY	NOT MEASURED	75773.1 V*	NOT MEASURED	147.0
PBB 13-59 X2	FLUORITE	SECONDARY	NOT MEASURED	30822.3 V*	NOT MEASURED	151.0
PBB 13-59 X3	FLUORITE	SECONDARY	NOT MEASURED	43883.9 V*	NOT MEASURED	147.9
PBB 13-59 X4	FLUORITE	SECONDARY	NOT MEASURED	118731.2 V*	NOT MEASURED	148.5
PBB 13-59 X5	FLUORITE	SECONDARY	NOT MEASURED	32417.1 V*	NOT MEASURED	146.6
PBB 13-59 X6	FLUORITE	SECONDARY	NOT MEASURED	32005.7 V*	NOT MEASURED	147.7
PBB 13-59 Y1	FLUORITE	SECONDARY	REG., ANGLR	762.6 V*	NOT MEASURED	138.2
PBB 13-59 Y2	FLUORITE	SECONDARY	REG., SMOOTH	2072.7 V*	NOT MEASURED	139.2
PBB 13-59 Y3	FLUORITE	SECONDARY	REG., SMOOTH	3094.1 V*	NOT MEASURED	139.1
PBB 13-59 Y4	FLUORITE	SECONDARY	REG., ANGLR	1309.0 V*	NOT MEASURED	139.1
PBB 13-59 Y6	FLUORITE	SECONDARY	REG., ANGLR	759.8 V*	NOT MEASURED	138.5
PBB 13-59 Y9	FLUORITE	SECONDARY	REG., SMOOTH	1313.9 V*	NOT MEASURED	138.8
PBB 13-59 Y10	FLUORITE	SECONDARY	REG., SMOOTH	389.7 V*	NOT MEASURED	138.5
PBB 13-59 Z1	FLUORITE	SECONDARY	NOT MEASURED	696.4 V*	NOT MEASURED	145.7
PBB 13-59 Z2	FLUORITE	SECONDARY	NOT MEASURED	150.0 V*	NOT MEASURED	146.3
PBB 13-59 Z3	FLUORITE	SECONDARY	NOT MEASURED	1193.4 V*	NOT MEASURED	146.8
PBB 13-59 Z4	FLUORITE	SECONDARY	NOT MEASURED	1199.0 V*	NOT MEASURED	146.4
PBB 13-59 Z5	FLUORITE	SECONDARY	NOT MEASURED	355.9 V*	NOT MEASURED	146.0
PBB 13-59 Z6	FLUORITE	SECONDARY	NOT MEASURED	355.9 V*	NOT MEASURED	146.0
PMB BS233 A1	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	247.0
PMB BS233 A2	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	247.6
PMB BS233 B1	SPHALERITE	PRIMARY	IRREG., ANGLR	NOT MEASURED	11.2	261.8
PMB BS233 B2	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	10.9	258.6
PMB BS233 B3	SPHALERITE	PRIMARY	REG., SMOOTH	NOT MEASURED	11.6	259.0
PMB BS233 B4	SPHALERITE	PRIMARY	REG., SMOOTH	NOT MEASURED	11.5	262.0
PMB BS233 B5	SPHALERITE	PRIMARY	REG., SMOOTH	NOT MEASURED	11.0	262.0
PMB BS233 B6	SPHALERITE	PRIMARY	REG., SMOOTH	NOT MEASURED	11.7	276.6
PMB BS233 C1	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	1.2	109.8
PMB BS233 C2	SPHALERITE	SECONDARY	IRREG., ANGLR	NOT MEASURED	0.7	106.0
PMB BS233 C3	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	0.7	107.7
PMB BS233 C4	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	0.2	108.5
PMB BS233 C5	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	0.4	111.7
PMB BS233 D1	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	9.2	260.7
PMB BS233 D2	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	9.3	260.1
PMB BS233 D3	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	9.2	260.0
NJPX A1	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	6.1	190.5
NJPX A2	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	4.6	192.6
NJPX A3	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	8.5	191.5
NJPX A4	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	4.6	192.1
NJPX A5	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	5.2	193.2

TABLE 1 (cont)

INCLUSION NUMBER	HOST MINERAL	INCLUSION ORIGIN	INCLUSION SHAPE	INCLUSION SIZE VOL(V) in μm^3 VB DIAM(D) in μm	SALINITY (Wt % NaCl equiv)	HOMOGENIZATION TEMPERATURE(°C)
NJPX A6	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	5.5	193.6
NJPX A7	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	5.4	196.4
NJPX B1	SPHALERITE	PRIMARY	REG., ANGLR	35.0 D	6.4	201.5
NJPX B2	SPHALERITE	PRIMARY	REG., ANGLR	65.0 D	6.3	191.6
NJPX B3	SPHALERITE	PRIMARY	REG., ANGLR	40.0 D	6.1	193.2
NJPX C1	SPHALERITE	SECONDARY	REG., SMOOTH	10.0 D	5.5	204.5
NJPX C2	SPHALERITE	SECONDARY	REG., SMOOTH	10.0 D	5.5	207.2
NJPX C3	SPHALERITE	SECONDARY	REG., SMOOTH	15.0 D	5.5	200.6
NJPX C4	SPHALERITE	SECONDARY	REG., ANGLR	25.0 D	5.5	203.0
NJPX C5	SPHALERITE	SECONDARY	REG., SMOOTH	8.0 D	5.5	206.0
NJPX C6	SPHALERITE	SECONDARY	REG., SMOOTH	5.0 D	5.7	203.5
NJPX C7	SPHALERITE	SECONDARY	REG., SMOOTH	15.0 D	5.8	202.4
NJPX C8	SPHALERITE	SECONDARY	REG., ANGLR	15.0 D	5.5	203.6
NJPX C9	SPHALERITE	SECONDARY	REG., SMOOTH	5.0 D	5.5	204.2
NJPX C10	SPHALERITE	SECONDARY	REG., ANGLR	35.0 D	5.5	196.0
NJPX C11	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	5.7	199.5
NJPX C12	SPHALERITE	SECONDARY	REG., SMOOTH	20.0 D	5.5	200.5
NJPX C14	SPHALERITE	SECONDARY	REG., ANGLR	15.0 D	5.5	208.5
NJPX C17	SPHALERITE	SECONDARY	REG., ANGLR	5.0 D	5.5	206.0
NJPX D1	SPHALERITE	SECONDARY	NOT MEASURED	NOT MEASURED	6.7	202.5
NJPX D2	SPHALERITE	SECONDARY	IRREG., ANGLR	45.0 D	6.7	205.9
NJPX D3	SPHALERITE	SECONDARY	REG., ANGLR	20.0 D	6.9	204.0
NJPX D5	SPHALERITE	SECONDARY	REG., ANGLR	8.0 D	6.9	201.3
NJPX D5	SPHALERITE	SECONDARY	IRREG., ANGLR	60.0 D	6.7	211.1
NJPX D6	SPHALERITE	SECONDARY	REG., SMOOTH	35.0 D	6.7	212.3
NJPX D7	SPHALERITE	SECONDARY	IRREG., ANGLR	110.0 D	6.7	206.8
NJPX D8	SPHALERITE	SECONDARY	IRREG., ANGLR	80.0 D	6.7	216.3
NJPX D9	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	8.0	227.8
NJPX D10	SPHALERITE	SECONDARY	REG., ANGLR	15.0 D	8.0	227.9
NJPX AM1	SPHALERITE	PRIMARY	REG., ANGLR	77.0 D	NOT MEASURED	229.1
NJPX AM2	SPHALERITE	PRIMARY	REG., SMOOTH	11.0 D	NOT MEASURED	228.2
NJPX AM3	SPHALERITE	PRIMARY	REG., ANGLR	12.5 D	NOT MEASURED	228.8
NJPX AM4	SPHALERITE	PRIMARY	REG., ANGLR	28.6 D	NOT MEASURED	229.0
NJPX AM5	SPHALERITE	PRIMARY	REG., ANGLR	46.4 D	NOT MEASURED	228.3
NJPX BM1	SPHALERITE	SECONDARY	IRREG., ANGLR	58.9 D	8.8	250.3
NJPX BM2	SPHALERITE	SECONDARY	REG., ANGLR	55.3 D	8.9	250.3
NJPX BM3	SPHALERITE	SECONDARY	REG., SMOOTH	23.2 D	8.9	250.5
NJPX BM4	SPHALERITE	SECONDARY	REG., SMOOTH	14.3 D	9.1	250.2
NJPX BM5	SPHALERITE	SECONDARY	REG., ANGLR	26.8 D	8.9	250.2
NJPX BM6	SPHALERITE	SECONDARY	REG., ANGLR	30.4 D	8.9	250.7
NJPX BM7	SPHALERITE	SECONDARY	REG., ANGLR	16.1 D	8.9	250.2
NJPX BM8	SPHALERITE	SECONDARY	REG., ANGLR	21.4 D	8.9	250.2
NJPX BM9	SPHALERITE	SECONDARY	REG., ANGLR	23.2 D	8.9	250.5
NJPX CM1	SPHALERITE	SECONDARY	REG., ANGLR	10.7 D	6.7	225.5
NJPX CM2	SPHALERITE	SECONDARY	REG., SMOOTH	5.4 D	6.7	226.2
NJPX CM3	SPHALERITE	SECONDARY	REG., SMOOTH	3.6 D	6.7	227.4
NJPX CM4	SPHALERITE	SECONDARY	IRREG., SMOOTH	12.5 D	NOT MEASURED	225.9
NJPX CM6	SPHALERITE	SECONDARY	REG., SMOOTH	7.1 D	NOT MEASURED	226.4
NJPX CM7	SPHALERITE	SECONDARY	REG., SMOOTH	8.0 D	6.7	227.6
NJPX DM1	SPHALERITE	SECONDARY	REG., SMOOTH	8.9 D	7.3	203.6

TABLE 1 (cont)

INCLUSION NUMBER	HOST MINERAL	INCLUSION ORIGIN	INCLUSION SHAPE	INCLUSION SIZE VOL(V) in μm^3 VB DIAM(D) in μm	SALINITY (Wt % NaCl equiv)	HOMOGENIZATION TEMPERATURE($^{\circ}\text{C}$)
NJPX DM2	SPHALERITE	SECONDARY	REG., SMOOTH	5.4 D	7.6	205.7
NJPX DM3	SPHALERITE	SECONDARY	IRREG., ANGLR	17.9 D	7.3	202.7
NJPX DM4	SPHALERITE	SECONDARY	REG., SMOOTH	8.9 D	7.3	199.1
NJPX DM5	SPHALERITE	SECONDARY	IRREG., ANGLR	16.1 D	7.3	202.6
NJPX DM6	SPHALERITE	SECONDARY	REG., ANGLR	12.5 D	7.3	201.2
NJPX DM7	SPHALERITE	SECONDARY	REG., ANGLR	10.7 D	7.3	201.2
NJPX EM1	SPHALERITE	SECONDARY	REG., SMOOTH	8.9 D	6.4	218.2
NJPX EM2	SPHALERITE	SECONDARY	IRREG., ANGLR	25.0 D	6.3	219.2
NJPX EM3	SPHALERITE	SECONDARY	REG., ANGLR	25.9 D	6.4	218.2
NJPX EM4	SPHALERITE	SECONDARY	REG., ANGLR	21.4 D	6.4	219.7
NJPX EM5	SPHALERITE	SECONDARY	REG., ANGLR	17.0 D	NOT MEASURED	218.2
NJPX EM6	SPHALERITE	SECONDARY	REG., SMOOTH	8.9 D	6.4	217.9
NJPX EM7	SPHALERITE	SECONDARY	REG., ANGLR	7.1 D	6.4	217.7
NJPX EM8	SPHALERITE	SECONDARY	REG., ANGLR	26.8 D	6.4	219.0
NJPX EM9	SPHALERITE	SECONDARY	REG., ANGLR	6.3 D	6.4	218.3
NJPX EM10	SPHALERITE	SECONDARY	REG., ANGLR	19.6 D	6.4	219.6
NJPX FM1	SPHALERITE	SECONDARY	REG., SMOOTH	14.3 D	8.3	225.4
NJPX FM2	SPHALERITE	SECONDARY	REG., SMOOTH	14.3 D	8.3	224.1
NJPX FM3	SPHALERITE	SECONDARY	REG., ANGLR	21.4 D	8.3	223.1
NJPX FM4	SPHALERITE	SECONDARY	REG., ANGLR	12.5 D	8.3	223.5
NJPX FM5	SPHALERITE	SECONDARY	REG., SMOOTH	8.9 D	8.3	221.1
NJPX FM6	SPHALERITE	SECONDARY	IRREG., ANGLR	14.3 D	7.2	223.1
NJPX FM7	SPHALERITE	SECONDARY	REG., SMOOTH	14.3 D	8.3	210.9
NJPX FM8	SPHALERITE	SECONDARY	REG., SMOOTH	10.7 D	8.3	226.5
NJPX FM9	SPHALERITE	SECONDARY	IRREG., ANGLR	32.1 D	6.7	199.0
NJPX FM10	SPHALERITE	SECONDARY	REG., ANGLR	14.3 D	8.3	221.2
NJPX GM1	SPHALERITE	SECONDARY	REG., ANGLR	10.7 D	NOT MEASURED	202.4
NJPX GM2	SPHALERITE	SECONDARY	REG., SMOOTH	8.9 D	NOT MEASURED	204.6
NJPX GM3	SPHALERITE	SECONDARY	REG., ANGLR	13.4 D	NOT MEASURED	202.8
NJPX GM4	SPHALERITE	SECONDARY	REG., ANGLR	7.1 D	NOT MEASURED	201.5
NJPX GM5	SPHALERITE	SECONDARY	REG., ANGLR	7.1 D	NOT MEASURED	204.0
NJPX GM6	SPHALERITE	SECONDARY	REG., SMOOTH	4.5 D	NOT MEASURED	201.1
NJPX HM1	SPHALERITE	PRIMARY	REG., SMOOTH	2.7 D	NOT MEASURED	225.5
NJPX HM2	SPHALERITE	PRIMARY	REG., ANGLR	19.6 D	NOT MEASURED	230.4
NJPX HM3	SPHALERITE	PRIMARY	IRREG., ANGLR	28.6 D	NOT MEASURED	229.8
NJPX HM4	SPHALERITE	PRIMARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	229.6
NJPX JM1	SPHALERITE	SECONDARY	REG., ANGLR	10.0 D	NOT MEASURED	201.3
NJPX JM2	SPHALERITE	SECONDARY	REG., SMOOTH	5.0 D	NOT MEASURED	201.2
NJPX JM3	SPHALERITE	SECONDARY	REG., SMOOTH	NOT MEASURED	NOT MEASURED	201.1
NJPX JM4	SPHALERITE	SECONDARY	REG., SMOOTH	10.0 D	NOT MEASURED	201.1
NJPX JM5	SPHALERITE	SECONDARY	REG., SMOOTH	15.0 D	NOT MEASURED	201.5
NJPX JM6	SPHALERITE	SECONDARY	NOT MEASURED	NOT MEASURED	NOT MEASURED	198.6
NJPX JM7	SPHALERITE	SECONDARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	197.2
NJPX JM8	SPHALERITE	SECONDARY	REG., SMOOTH	8.0 D	NOT MEASURED	200.4
NJPX JM9	SPHALERITE	SECONDARY	NOT MEASURED	NOT MEASURED	NOT MEASURED	197.2
NJPX JM10	SPHALERITE	SECONDARY	NOT MEASURED	NOT MEASURED	NOT MEASURED	196.0
NJPX KM1	SPHALERITE	PRIMARY	NOT MEASURED	30.4 D	NOT MEASURED	225.8
NJPX KM2	SPHALERITE	PRIMARY	NOT MEASURED	82.1 D	NOT MEASURED	228.7
NJPX KM3	SPHALERITE	PRIMARY	NOT MEASURED	267.8 D	NOT MEASURED	227.4
TMI 1	SPHALERITE	PRIMARY	IRREG., ANGLR	26.8 D	5.1	229.6

TABLE 1 (cont)

INCLUSION NUMBER	HOST MINERAL	INCLUSION ORIGIN	INCLUSION SHAPE	INCLUSION SIZE VOL(V) in μm^3 VB DIAM(D) in μm	SALINITY (Wt % NaCl equiv)	HOMOGENIZATION TEMPERATURE($^{\circ}\text{C}$)
TMI 2	SPHALERITE	PRIMARY	REG., ANGLR	32.1 D	5.1	232.0
DH49 211-212 A1	BARITE	SECONDARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	144.5
DH49 211-212 A2	BARITE	SECONDARY	IRREG., ANGLR	NOT MEASURED	NOT MEASURED	144.5
DH49 211-212 A3	BARITE	SECONDARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	121.2
DH49 211-212 A4	BARITE	SECONDARY	REG., ANGLR	NOT MEASURED	NOT MEASURED	121.0

FOOTNOTES TO TABLE 1

* salinity not measured; a value of 19.0 wt. % NaCl assumed.

Abbreviations: IRREG. = Irregular

REG. = Regular

ANGLR. = Angular

VB. = Vapor Bubble

VOL. = Volume

TABLE 2

INCLUSION NUMBER	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh
PMB B022765 A1	9.7	0.3	19.7	0.3	29.7	0.3	39.7	2.0								
PMB B022765 B1	10.5	0.0	30.5	0.2	40.5	-0.2	50.5	0.4	100.5	14.7						
PMB B022765 B3	20.2	0.0	30.2	0.0	40.2	0.1	50.2	0.5	100.2	12.6						
PMB B022765 B4	10.0	0.0	20.1	0.2	30.1	0.3	40.1	0.1	50.1	0.5	100.1	13.4				
PBB 13-59 A1	12.1	0.1	21.1	-0.7	31.1	-0.9	41.1	-0.2	51.1	-0.1	61.1	2.1	71.1	8.0	81.1	12.0
PBB 13-59 A1	91.1	17.1	101.1	22.6	111.1	27.9	121.1	35.0	131.1	41.4	141.1	47.8				
PBB 13-59 A2	9.0	0.0	18.0	-0.3	28.0	-0.2	38.0	-0.2	48.0	-0.3	58.0	0.2	68.0	-0.4	78.0	4.0
PBB 13-59 A2	88.0	10.7	98.0	14.0	108.0	18.7	118.0	24.2	128.0	29.8	138.0	33.7				
PBB 13-59 A3	10.0	0.0	19.9	-1.2	29.9	-0.8	39.9	-0.6	49.9	0.0	59.9	2.5	69.9	6.9	79.9	10.6
PBB 13-59 A3	89.9	15.7	99.9	21.7	109.9	26.5	119.9	33.5	129.9	40.1	139.9	46.6				
PBB 13-59 A4	9.0	0.0	18.0	-0.5	28.0	-0.5	38.0	-0.5	48.0	-0.3	58.0	2.8	68.0	7.9	78.0	11.0
PBB 13-59 A4	88.0	17.0	98.0	23.3	108.0	28.6	118.0	35.7	128.0	42.7	138.0	49.9				
PBB 13-59 A5	9.0	0.0	18.0	-1.0	28.0	1.0	38.0	1.2	48.0	1.4	58.0	1.6	68.0	8.5	78.0	11.7
PBB 13-59 A5	88.0	16.7	98.0	23.2	108.0	28.2	118.0	34.8	128.0	42.0	138.0	48.2				
PBB 13-59 A6	9.6	0.0	18.6	-0.7	28.6	-0.4	38.6	-0.2	48.6	0.0	58.6	6.0	68.6	10.9	78.6	14.8
PBB 13-59 A6	88.6	21.0	98.6	27.4	108.6	33.4	118.6	40.3	128.6	48.0	138.6	55.1				
PBB 13-59 A7	9.0	0.0	18.0	-0.6	28.0	-0.2	38.0	-0.2	48.0	0.1	58.0	3.6	68.0	7.8	78.0	11.1
PBB 13-59 A7	88.0	17.0	98.0	24.2	108.0	26.8	118.0	34.3	128.0	40.9	138.0	47.6				
PBB 13-59 A8	6.4	0.4	15.4	-0.5	25.4	-0.4	35.4	-0.3	45.4	-0.2	55.4	4.1	65.4	7.8	75.4	11.0
PBB 13-59 A8	85.4	15.6	95.4	21.5	105.4	26.2	115.4	33.1	125.4	40.0	135.4	46.1				
PBB 13-59 A9	9.5	0.0	18.5	0.2	28.5	0.4	38.5	0.5	48.5	0.8	58.5	4.1	68.5	7.7	78.5	11.1
PBB 13-59 A9	88.5	15.8	98.5	21.5	108.5	25.9	118.5	32.7	128.5	39.2	138.5	45.8				
PBB 13-59 A10	9.5	0.5	18.5	0.4	28.5	0.7	38.5	0.5	48.5	0.6	58.5	2.5	68.5	8.0	78.5	11.6
PBB 13-59 A10	88.5	14.8	98.5	22.3	108.5	26.8	118.5	34.1	128.5	40.7	138.5	46.7				
PBB 13-59 A11	11.5	-0.1	20.5	-0.9	30.5	-0.9	40.5	-0.7	50.5	0.5	60.5	4.1	70.5	7.5	80.5	10.9
PBB 13-59 A11	90.5	15.3	100.5	20.8	110.5	25.6	120.5	32.7	130.5	38.3	140.5	44.3				
PBB 13-59 A12	10.9	0.0	19.9	-0.4	29.9	-0.8	39.9	-0.7	49.9	0.3	59.9	5.4	69.9	8.9	79.9	12.8
PBB 13-59 A12	89.9	17.8	99.9	23.3	109.9	28.2	119.9	35.5	129.9	41.2	139.9	47.2				
PBB 13-59 A13	9.0	0.0	18.0	-0.8	28.0	-0.8	38.8	-0.6	48.8	1.0	58.8	5.3	68.8	8.4	78.8	12.4
PBB 13-59 A13	88.8	17.6	98.8	22.2	108.8	27.3	118.9	33.2	128.9	38.5	138.9	44.4				
PBB 13-59 B2	99.7	29.3														
PBB 13-59 B3	98.8	25.0														

TABLE 2 cont.

[illegible]

TABLE 2 cont.

INCLUSION NUMBER	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh
PBB 13-59 L2	65.7	12.5	70.7	14.9	75.7	17.6								
PBB 13-59 L3	15.3	-0.2	25.3	0.1	35.3	0.8	40.3	0.6	45.3	0.8	50.3	0.5	55.3	1.2
PBB 13-59 L3	65.3	2.5	70.3	7.0	75.3	10.9								60.3
PBB 13-59 L4	13.5	0.2	23.5	0.0	33.5	-0.1	38.5	-0.1	43.5	-0.1	48.5	-0.4	53.5	0.5
PBB 13-59 L4	63.5	35.7	68.5	37.7	73.5	46.5								58.5
PBB 13-59 L5	14.8	0.4	24.8	-0.1	34.8	0.3	39.8	-0.8	44.8	-0.6	49.8	0.4	54.8	0.6
PBB 13-59 L5	64.8	8.5	69.8	10.8	74.8	13.9								59.8
PBB 13-59 L7	15.5	0.1	25.5	0.8	35.5	1.0	40.5	1.3	45.5	0.8	50.5	3.8	55.5	6.5
PBB 13-59 L7	65.5	10.4	70.5	12.5	75.5	14.9								60.5
PBB 13-59 L8	14.5	0.1	24.5	-0.8	34.5	0.3	39.5	3.7	44.5	5.8	49.5	8.1	54.5	10.1
PBB 13-59 L8	64.5	15.7	69.5	18.3	74.5	20.6								59.5
PBB 13-59 L9	14.7	0.2	24.7	0.2	34.7	0.5	39.7	0.7	44.7	0.9	49.7	7.0	54.7	9.0
PBB 13-59 L10	14.7	0.2	24.7	0.2	34.7	0.0	39.7	0.7	44.7	0.7	49.7	0.5	54.7	0.4
PBB 13-59 L10	64.7	36.7	69.7	40.2	74.7	43.6								59.7
PBB 13-59 L11	15.9	0.0	25.9	-1.1	35.9	0.7	40.9	1.3	45.9	1.7	50.9	1.0	55.9	1.7
PBB 13-59 L11	65.9	4.2	70.9	8.1	75.9	11.6								60.9
PBB 13-59 M1	7.3	0.4	15.7	0.5	20.7	0.4	25.7	0.7	30.7	0.8	35.7	1.6	40.7	3.7
PBB 13-59 M1	50.7	5.7	55.7	7.6										45.7
Pbb 13-59 M2	4.3	0.4	12.7	-0.1	17.7	0.3	22.7	0.7	27.7	0.1	32.7	0.8	37.7	0.8
PBB 13-59 M2	47.7	4.7	52.7	5.8										42.7
PBB 13-59 M3	6.7	-0.8	15.1	0.4	20.1	0.3	25.1	0.6	30.1	0.5	35.1	1.0	40.1	0.6
PBB 13-59 M3	50.1	4.8	55.1	6.9										45.1
PBB 13-59 M4	0.8	1.2	9.2	0.9	14.2	0.8	19.2	0.9	24.2	0.8	29.2	1.2	34.2	2.1
PBB 13-59 M4	44.2	4.2	49.2	5.2										39.2
PBB 13-59 M5	0.0	0.0	8.4	0.2	13.4	0.3	18.4	0.4	23.4	0.3	28.4	1.1	33.4	2.4
PBB 13-59 M5	43.4	4.8	48.4	6.8										38.4
PBB 13-59 M6	8.8	-0.1	17.2	0.6	22.2	0.5	27.2	0.8	32.2	1.0	37.2	2.3	42.2	4.3
PBB 13-59 M6	52.2	7.9	57.2	9.7										47.2
PBB 13-59 M7	4.6	0.5	13.0	0.4	18.0	-0.8	23.0	0.9	28.2	0.9	33.0	1.5	38.2	3.6
PBB 13-59 M7	48.2	6.7	53.2	8.1										43.2
PBB 13-59 N1	11.4	0.6	26.4	1.0	36.4	0.0	46.4	-0.1	56.4	DEC				
PBB 13-59 N2	10.2	0.0	25.1	-0.1	35.1	-0.3	45.1	-0.4						
PBB 13-59 N3	11.2	0.1	26.2	0.1	36.2	-0.2	46.2	0.2						

TABLE 2 (cont.)

INCLUSION NUMBER	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh
PBB 13-59 N5	11.1	0.8	26.1	0.8	36.1	0.2	46.1	0.1						
PBB 13-59 N6	10.3	0.0	25.3	0.0	35.3	0.0	45.3	-0.3						
PBB 13-59 N7	10.9	0.5	25.9	0.2	35.9	0.3	45.9	0.0						
PBB 13-59 N8	10.3	-0.3	25.3	-0.5	35.3	-0.2	45.3	0.2						
PBB 13-59 N9	11.0	0.0	26.0	0.0	36.0	0.0	46.0	-0.5						
PBB 13-59 N10	10.2	0.0	25.2	-0.4	35.2	-0.1	45.2	0.0						
PBB 13-59 P1	14.0	0.0	24.0	0.1	34.0	0.0	44.0	0.0	49.0	0.1	54.0	0.0	59.0	0.4
PBB 13-59 P1	69.0	0.2	74.0	7.5	79.0	9.4								
PBB 13-59 P2	14.0	0.1	24.0	0.1	34.0	0.0	44.0	0.3	49.0	0.1	54.0	0.3	59.0	0.0
PBB 13-59 P2	69.0	0.1	74.0	4.3	79.0	7.3								
PBB 13-59 P3	14.9	-0.2	24.9	-0.1	34.9	0.2	44.9	-0.2	49.9	0.0	54.9	-0.2	59.9	-0.1
PBB 13-59 P3	69.9	-0.1	74.9	3.8	79.9	8.2								
PBB 13-59 P4	14.9	0.5	24.9	0.4	34.9	0.5	44.9	0.2	49.9	0.1	54.9	-0.1	59.9	-0.1
PBB 13-59 P4	69.9	-0.1	74.9	0.0	79.9	7.4								
PBB 13-59 T1	35.3	0.5	65.3	DEC										
PBB 13-59 T4	35.3	0.5	65.3	4.3										
PBB 13-59 T5	32.4	0.0	62.4	0.9										
PBB 13-59 T6	31.9	0.1	61.9	6.6										
PBB 13-59 T7	33.9	0.3	63.9	7.4										
PBB 13-59 T8	35.9	0.4	65.9	3.4										
PBB 13-59 T9	35.6	0.1	65.6	6.9										
PBB 13-59 T10	33.5	-0.1	63.5	8.7										
PBB 13-59 T11	36.3	0.3	66.3	18.8										
PBB 13-59 T12	36.3	0.2	66.3	5.8										
PBB 13-59 T13	35.6	-0.2	65.6	2.1										
PBB 13-59 T14	35.7	-0.8	65.7	20.8										
PBB 13-59 T15	35.4	-0.2	65.4	4.1										

TABLE 2 cont.

INCLUSION NUMBER	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh
PBB 13-59 U1	94.6	39.3																		
PBB 13-59 U2	93.9	23.4																		
PBB 13-59 U3	94.9	41.9																		
PBB 13-59 U4	94.9	20.0																		
PBB 13-59 U5	94.8	50.7																		
PBB 13-59 U7	94.8	49.4																		
PBB 13-59 U8	95.3	23.7																		
PBB 13-59 U9	95.1	52.9																		
PBB 13-59 U10	94.8	50.8																		
PBB 13-59 V1	47.6	-0.1																		
PBB 13-59 V2	49.1	0.6																		
PBB 13-59 V3	48.4	43.4																		
PBB 13-59 V5	46.1	43.9																		
PBB 13-59 V7	47.7	44.2																		
PBB 13-59 V9	48.5	43.5																		
PBB 13-59 W3	81.4	DEC																		
PBB 13-59 W4	82.9	DEC																		
PBB 13-59 W8	83.8	-0.2																		
PBB 13-59 W10	83.3	100.*																		
PBB 13-59 W11	83.0	DEC																		
PBB 13-59 W12	82.9	DEC																		
PBB 13-59 X1	8.0	0.0	13.0	0.1	18.0	0.6	23.0	2.1	28.0	2.4	33.0	4.4	38.0	6.6	43.0	7.9				
PBB 13-59 X2	4.0	0.8	9.0	1.0	14.0	1.4	19.0	1.9	24.0	2.9	29.0	4.6	34.0	5.9	39.0	7.2				
PBB 13-59 X3	7.1	0.0	12.1	0.0	17.1	-0.1	22.1	0.0	27.1	0.3	32.1	1.3	37.1	2.3	42.1	2.9				
PBB 13-59 X4	6.5	0.2	11.5	0.2	16.5	0.4	21.5	0.9	26.5	1.4	31.5	2.2	36.5	3.7	41.5	4.3				
PBB 13-59 X5	8.4	-0.3	13.4	-0.3	18.4	0.0	23.5	DEC												

TABLE 2 cont.

INCLUSION NUMBER	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh
PBB 13-59 X6	7.3	0.1	12.3	0.0	17.3	0.0	22.3	0.3	27.3	0.8	32.3	1.7	37.3	2.9	42.3	4.0				
PBB 13-59 Y1	81.8	51.0																		
PBB 13-59 Y2	80.7	43.0																		
PBB 13-59 Y6	81.5	54.2																		
PBB 13-59 Y9	81.2	55.2																		
PBB 13-59 Y10	81.5	15.5																		
PBB 13-59 Y3	80.9	30.4																		
PBB 13-59 Y4	80.9	50.9																		
PBB 13-59 Z1	54.3	0.3	114.3	41.3																
PBB 13-59 Z2	53.7	-0.1	113.7	54.3																
PBB 13-59 Z3	53.2	0.2	113.2	50.2																
PBB 13-59 Z4	53.6	-0.3	113.6	27.5																
PBB 13-59 Z5	54.0	0.0	114.0	23.7																
PBB 13-59 Z6	54.0	0.0	114.0	44.7																
PMB BS233 A1	4.7	0.0	14.7	0.2	23.7	0.2	30.7	1.7												
PMB BS233 A2	9.9	0.0	19.9	1.3	28.9	1.7	35.7	DEC												
PMB BS233 B1	15.8	0.8	23.2	0.1	28.2	0.6														
PMB BS233 B2	19.0	0.1	26.4	-0.1	31.4	0.1														
PMB BS233 B3	18.6	0.2	26.0	0.5	31.0	0.0														
PMB BS233 B4	15.6	0.8	23.0	0.2	28.0	0.5														
PMB BS233 B5	15.6	1.1	23.0	0.2	28.0	0.2														
PMB BS233 B6	0.0	1.0	8.4	-0.3	13.4	0.1														
PMB BS233 C1	2.2	0.4	10.2	0.4	20.2	0.5	30.2	0.4	40.2	0.5	50.2	0.5	60.2	0.5	70.2	0.5				
PMB BS233 C1	80.2	0.5	90.2	0.5	100.2	0.2	110.2	0.2	120.2	0.2	130.2	2.3								
PMB BS233 C2	6.0	0.5	14.0	0.6	24.0	0.8	34.0	1.0	44.0	0.9	54.0	0.8	64.0	0.8	74.0	0.9				
PMB BS233 C2	84.0	0.7	94.0	0.8	104.0	0.7	114.0	0.6	124.0	0.7	134.0	0.8	144.0	0.8						

TABLE 2 cont.

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TABLE 2 cont.

INCLUSION NUMBER	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh
NJPX C7	47.6	0.3											
NJPX C8	46.4	1.1											
NJPX C9	45.8	0.3											
NJPX C10	54.0	1.3											
NJPX C11	50.5	0.0											
NJPX C12	49.5	0.2											
NJPX C14	41.5	0.0											
NJPX C17	44.0	1.2											
NJPX D1	67.5	0.3											
NJPX D2	64.1	1.7											
NJPX D3	66.0	3.6											
NJPX D4	68.7	-0.2											
NJPX D5	58.9	-2.1											
NJPX D6	57.7	7.2											
NJPX D7	63.2	DEC											
NJPX D8	53.7	11.1											
NJPX D9	42.2	7.0											
NJPX D10	42.1	0.6											
NJPX AM2	11.8	0.2	21.8	0.3	31.8	0.0	41.8	-0.2	51.8	-0.2	61.8	-0.1	71.8
NJPX AM4	11.0	-0.1	21.0	0.0	31.0	-0.1	41.0	-0.1	51.0	-0.1	61.0	0.7	
NJPX BM1	14.7	0.0	24.7	0.0	34.7	1.4	44.7	3.0	54.7	9.2			
NJPX BM2	14.7	0.0	24.7	0.2	34.7	0.7	44.7	2.4	54.7	8.2			
NJPX BM3	14.5	-0.1	24.5	-0.4	34.5	0.0	44.5	0.0	54.5	1.5			
NJPX BM4	14.8	0.1	24.8	0.1	34.8	0.4	44.8	0.5	54.8	0.5			
NJPX BM5	14.8	0.0	24.8	0.0	34.8	0.3	44.8	0.0	54.8	0.9			
NJPX BM6	14.3	-0.1	24.3	0.0	34.3	0.4	44.3	0.0	54.3	0.1			

TABLE 2 cont.

INCLUSION NUMBER						Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh	Toh	dTh
NJPX BM7	14.8	0.0	24.8	0.0	34.8	0.4	44.8	-0.1	54.8	0.4					
NJPX BM8	14.8	0.2	24.8	0.1	34.8	0.0	44.8	-0.1	54.8	0.1					
NJPX BM9	14.5	0.1	24.5	0.2	34.5	0.7	44.5	0.4	54.5	0.4					
NJPX CM1	14.5	-0.4	24.5	-0.3	34.5	-0.4	44.5	-0.3	54.5	-0.4	64.5	-0.4	74.5	-0.4	
NJPX CM2	13.8	-0.1	23.8	-0.3	33.8	-0.3	43.8	-0.1	53.8	-0.2	63.8	-0.2	73.8	-0.2	
NJPX CM3	12.6	-0.1	22.6	-0.1	32.6	-0.1	42.6	-0.1	52.6	-0.2	62.6	-0.1	72.6	0.0	
NJPX CM4	14.1	-0.1	24.1	0.0	34.1	-0.1	44.1	0.0	54.1	1.1	64.1	2.0	74.1	8.6	
NJPX CM6	13.6	0.0	23.6	0.1	33.6	0.0	43.6	0.1	53.6	0.1	63.6	1.3			
NJPX CM7	12.4	0.0	22.4	0.0	32.4	0.0	42.4	0.1	52.4	0.0	62.4	0.0	72.4	0.0	
NJPX DM1 NJPX DM1	2.1 81.4	-0.2 1.8	11.4 91.4	-0.1 3.3	21.4	-0.1	31.4	-0.1	41.4	-0.1	51.4	-0.1	61.4	0.0	71.4 0.8
NJPX DM2 NJPX DM2	9.3 89.3	0.0 3.4	19.3	0.1	29.3	0.1	39.3	0.1	49.3	-0.1	59.3	0.1	69.3	0.1	79.3 1.3
NJPX DM3 NJPX DM3	5.0 82.3	0.0 1.5	12.3 92.3	0.0 2.1	22.3	0.0	32.3	0.0	42.3	0.1	52.3	0.0	62.3	1.5	72.3 2.3
NJPX DM4 NJPX DM4	6.5 85.8	-0.3 7.0	15.8 95.8	0.0 10.7	25.8	0.2	35.8	0.1	45.8	0.1	55.8	0.2	65.8	0.2	75.8 3.0
NJPX DM5 NJPX DM5	3.1 82.4	0.0 2.2	12.4 92.4	-0.1 3.6	22.4	-0.1	32.4	-0.1	42.4	-0.1	52.4	-0.1	62.4	0.3	72.4 1.4
NJPX DM6 NJPX DM6	4.5 83.8	0.0 3.2	13.8 93.8	0.0 3.4	23.8	0.0	33.8	-0.2	43.8	-0.1	53.8	-0.1	63.8	-0.1	73.8 2.2
NJPX DM7 NJPX DM7	4.1 83.8	0.0 3.7	13.8 93.8	0.0 3.6	23.8	0.0	33.8	-0.2	43.8	-0.1	53.8	-0.1	63.8	-0.1	73.8 0.0
NJPX EM1	11.8	0.0	21.8	-0.1	31.8	-0.2	41.8	-0.1	51.8	-0.4	61.8	-0.3	71.8	0.5	81.8 1.1
NJPX EM2	10.8	0.6	20.8	0.6	30.8	0.6	40.8	0.4	50.8	0.4	60.8	0.4	70.8	2.5	80.8 8.1
NJPX EM3	11.8	0.0	21.8	0.0	31.8	-0.1	41.8	0.0	51.8	-0.3	61.8	-0.2	71.8	0.6	81.8 2.0
NJPX EM4	10.3	-0.5	20.3	-0.5	30.3	-0.4	40.3	-0.6	50.3	-0.8	60.3	-0.4	70.3	0.8	80.3 4.2
NJPX EM5	11.8	0.0	21.8	-0.4	31.8	-0.3	41.8	-0.2	51.8	-0.4	61.8	0.8	71.8	-0.8	81.8 0.0
NJPX EM6	12.1	0.2	22.1	-0.4	32.1	-0.2	42.1	-0.4	52.1	-0.4	62.1	-0.3	72.1	-0.5	82.1 2.6

TABLE 2 cont.

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TABLE 2 cont.

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