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Data for the *GSA Data Repository*

Richards, B. W.M., Benn, D.I., Owen, L.A., Rhodes, E.J. and Spencer, J.Q. Timing of Late Quaternary glaciations south of Mount Everest in the Khumbu Himal, Nepal.

Appendix 1

Growth curves used for the generation of dates in this study. Error bars represent one standard error of the data at each dose point. (SK04 to SK18 - sample numbers; CGQ – coarse grained quartz; FGQ – fine grained quartz).

TABLE 1. BENTHIC FORAMINIFERAL BIOFACIES FROM PEKAR AND KOMINZ (2000)*

Biofacies	Dominant Species	References	Depth[1]	Depth[2]	Depth[3]
A	Cibicides primulus Hanzawaia prona	Murray (1991); Walton (1964) Schnitker (1970)	Inner Neritic	15 0 - 30	20 10 - 30
B	Rectobulimna spp. Cibicides ornatus	Schnitker (1970)	Inner Neritic	15 0 - 30	25 15 - 35
C	Nonionellina spp.	Walton (1964); Schnitker (1971)	Inner Neritic	15 0 - 30	30 20 - 40
D	Bulimina gracilis	observed facies associations	Middle Neritic	65 30 - 100	45 30 - 60
E	Buliminella elangantissima	Walton (1964); Schnitker (1970)	Middle Neritic	65 30 - 100	50 35 - 65
F	Epistominella pontoni Buliminella curta; Buliminella paula	Walton (1964); Pekar (1999)	Middle Neritic	65 30 - 100	75 55 - 95
G	Trifarina bradyi Globocassidulaina california	Phleger and Parker (1951) Pekar, 1999	Middle Neritic to Outer Neritic	90 30 - 150	85 60 - 110
H	Uvigerina spp.	Sen Gupta (1971); Kafescioglu (1975)	Outer Middle Neritic to Outer Neritic	110 65 - 155	100 70 - 130
I	Globocassidulaina subglobosa	observed facies associations	Middle Neritic to Outer Neritic	90 30 - 150	105 75 - 135
J	Trifarina angulosa Globocassidulaina auriculata Globocassidulina spp.	Kafescioglu (1975), Schnitker (1971)	Outer Neritic	150 100 - 200	115 85 - 145

* Pekar and Kominz (2000)

1 Inferred by cited refernces or by observed facies associations and species abundance trends.

2 Inferred mean depth and depth range implied by 1.

3 Mean depth and depth ranges derived in this paper.

TABLE 2. EUSTASY*

Seq.	Approx.†	High-Porosity vs. Depth			Low-Porosity vs. Depth			Eustasy#		
	Age	minimum	mean	maximum	minimum	mean	maximum	minimum	mean	maximum
E11	34.2	70.7	91.0	111.3	70.9	91.2	111.4	70.7	91.1	111.4
ML	33.5	23.4	36.9	50.4	23.6	37.1	50.6	23.4	37.0	50.6
ML	33.4	52.3	65.8	79.4	52.5	66.1	79.6	52.3	66.0	79.6
ML	33.1	36.3	49.8	63.3	36.4	49.9	63.4	36.3	49.9	63.4
O1	32.9	29.0	35.7	42.5	28.7	35.5	42.2	28.7	35.6	42.5
O1	32.7	29.3	36.1	42.8	29.1	35.9	42.6	29.1	36.0	42.8
O1	32.6	60.2	80.5	100.7	60.2	80.5	100.8	60.2	80.5	100.8
O1	32.5	59.0	72.5	86.0	58.8	72.3	85.8	58.8	72.4	86.0
O1	32.4	61.5	75.0	88.6	61.4	75.0	88.5	61.4	75.0	88.6
O1	32.3	37.0	43.8	50.6	36.9	43.7	50.5	36.9	43.7	50.6
O1	32.1	41.9	48.7	55.5	41.9	48.7	55.4	41.9	48.7	55.5
O2	31.6	35.1	54.7	74.2	34.7	54.1	73.4	34.7	54.5	74.2
O2	31.3	35.3	55.3	75.3	34.9	54.8	74.7	34.9	55.1	75.3
O2	31.1	35.4	55.7	76.0	35.0	55.3	75.6	35.0	55.5	76.0
O2	31.0	54.4	60.3	66.1	55.1	60.5	65.8	54.4	60.3	66.1
O2	30.9	53.4	59.8	66.3	54.7	60.4	66.0	53.4	59.8	66.3
O2	30.4	37.9	44.7	51.4	42.7	49.4	56.2	37.9	47.1	56.2
O2	30.1	27.9	48.2	68.5	27.8	48.1	68.4	27.8	48.2	68.5
O2.5	29.4	25.4	35.5	45.7	24.8	34.9	45.1	24.8	35.2	45.7
O2.5	29.3	26.7	36.8	46.9	26.2	36.4	46.5	26.2	36.6	46.9
O2.5	29.1	34.8	48.3	61.8	33.6	47.2	60.7	33.6	47.7	61.8
O2.5	29.0	36.8	50.4	63.9	39.8	53.3	66.8	36.8	51.8	66.8
O3	28.9	26.7	36.8	46.9	26.3	36.4	46.5	26.3	36.6	46.9
O3	28.7	46.5	62.9	79.2	46.1	62.6	79.1	46.1	62.6	79.2
O3	28.6	46.8	63.3	79.7	46.4	63.1	79.7	46.4	63.1	79.7
O3	28.5	46.3	62.4	78.5	46.4	62.4	78.4	46.3	62.4	78.5
O3	28.3	47.6	63.6	79.6	47.4	63.5	79.6	47.4	63.5	79.6
O4	27.9	12.2	17.6	22.9	12.2	17.2	22.2	12.2	17.6	22.9
O4	27.8	12.8	19.5	26.3	12.9	19.7	26.4	12.8	19.6	26.4
O4	27.7	13.3	20.1	26.8	13.7	20.5	27.2	13.3	20.3	27.2
O4	27.5	41.6	58.5	75.4	41.4	58.3	75.2	41.4	58.4	75.4
O4	27.4	39.6	59.9	80.2	40.0	60.3	80.6	39.6	60.1	80.6
O4	27.3	41.2	61.4	81.7	41.9	62.2	82.5	41.2	61.8	82.5
O4	27.2	25.2	32.0	38.7	28.3	35.1	41.9	25.2	33.5	41.9
O4	27.1	37.4	39.8	42.2	38.9	42.6	46.2	37.4	41.8	46.2
O5	27.0	19.6	29.8	39.9	18.9	29.1	39.2	18.9	29.4	39.9
O5	26.9	26.3	46.6	66.8	26.1	46.4	66.7	26.1	46.5	66.8
O5	26.8	58.4	62.6	66.8	57.9	62.3	66.7	57.9	62.4	66.8
O5	26.7	62.3	81.8	101.2	63.5	83.4	103.3	62.3	82.8	103.3
O5	26.6	35.0	45.1	55.2	38.2	48.3	58.5	35.0	46.7	58.5
O5	26.5	56.5	65.9	75.4	60.1	68.9	77.8	56.5	67.1	77.8
O5	26.4	57.6	67.6	77.6	61.0	70.8	80.6	57.6	69.1	80.6
O5	26.2	28.4	38.5	48.7	31.8	42.0	52.1	28.4	40.2	52.1
O5	25.8	22.4	29.2	36.0	28.0	34.7	41.5	22.4	32.0	41.5
O6	25.7	24.4	44.6	64.9	24.0	44.3	64.5	24.0	44.5	64.9
O6	25.5	25.9	46.2	66.5	25.8	46.1	66.4	25.8	46.1	66.5
O6	25.3	18.4	25.2	32.0	23.9	30.6	37.4	18.4	27.9	37.4
O6	25.1	33.0	43.1	53.3	38.6	48.8	58.9	33.0	45.9	58.9
O6	25.0	43.5	53.6	63.8	47.5	57.6	67.7	43.5	55.6	67.7
O6	24.9	44.6	54.7	64.9	48.9	59.0	69.2	44.6	56.9	69.2
O6	24.8	0.0	10.1	20.3	0.0	10.1	20.3	0.0	10.1	20.3
O6	24.7	17.6	31.1	44.7	17.6	31.1	44.6	17.6	31.1	44.7
O6	24.6	18.8	32.3	45.8	18.7	32.2	45.7	18.7	32.3	45.8
O6	24.5	20.0	33.5	47.0	19.7	33.3	46.8	19.7	33.4	47.0
O6	24.4	5.5	15.7	25.8	5.1	15.3	25.4	5.1	15.5	25.8
O6	24.3	1.1	7.9	14.7	1.2	7.9	14.7	1.1	7.9	14.7
O6	24.2	10.2	20.3	30.5	10.8	20.9	31.1	10.2	20.6	31.1
O6	24.1	4.0	10.7	17.5	4.7	11.4	18.2	4.0	11.1	18.2
O6	23.9	5.2	12.0	18.8	6.2	13.0	19.7	5.2	12.5	19.7
KwO	23.8	17.2	23.9	30.7	22.0	28.8	35.6	17.2	26.4	35.6
KwO	23.6	30.6	40.8	50.9	35.5	45.7	55.8	30.6	43.2	55.8

* Eustasy is given in meters. These valuse are not tied to present sea level.

† Age is given in Ma.

Final eustatic values used are the maximum range of those generated with high or low porosity curves.

TABLE A1. INPUT DATA FOR BACKSTRIPPING: AGE, THICKNESS AND LITHOLOGY*

Formation/ Sequence	age (Ma)	depth (ft)	Thick. (m)	Grain Density of Lithology					
				clay	silt-stone	sand-stone	calc-arenite	glauc-onite	mica
				2.72	2.65	2.65	2.71	2.55	2.71
				Percent Lithology					
				clay	silt-stone	sand-stone	calc-arenite	glauc-onite	mica
ACGS#6									
underlying		621.1	189.3	65.0	27.9	5.9	0.4	0.7	0.1
Eocene	34.2								
ML	33.5	615.1	0.2	51.5	22.1	23.3	0.0	2.6	0.5
ML		614.5	0.3	10.2	4.4	1.7	0.0	83.7	0.0
ML		613.5	1.1	56.0	24.0	10.0	0.4	9.0	0.6
ML		610.0	1.3	59.5	25.5	9.3	0.5	4.5	0.8
ML		605.7	1.1	55.3	23.7	15.8	1.1	3.2	1.1
ML		602.1	1.9	53.2	22.8	14.4	2.4	3.6	3.6
ML		596.0	1.3	59.5	25.5	10.2	0.5	3.0	2.3
ML		591.7	3.6	52.5	22.5	15.0	1.3	5.0	3.8
ML		580.0	1.8	45.5	19.5	28.7	1.1	1.8	3.5
ML		574.0	0.7	25.1	10.8	54.5	1.3	6.4	1.9
ML		571.6	2.2	32.9	14.1	45.0	2.6	3.7	1.6
ML	33.2	564.3							
O1	32.8	564.2	1.9	13.9	6.0	76.1	4.0	0.0	0.0
O1		558.0	4.9	21.0	9.0	49.0	7.0	14.0	0.0
O1		542.0	7.6	21.0	9.0	66.6	3.5	0.0	0.0
O1		517.0	2.1	5.4	2.3	72.0	18.5	1.8	0.0
O1		510.0	7.6	5.5	2.4	76.4	13.8	1.8	0.0
O1	32.1	485.0	0.0	5.4	2.3	0.0	0.0	0.0	0.0
	19.8	484.9	0.3	5.5	2.4	0.0	0.0	0.0	0.0
overlying		483.9	147.5	0.0	0.0	0.0	0.0	0.0	0.0
Bass River									
patomac	118		421.8	0.0	0.0	0.0	0.0	0.0	0.0
BRu									
Bass River	91.5	1956.5	21.8	77.6	19.4	0.0	1.0	0.0	2.0
Bass River		1885.0	14.0	66.4	16.6	4.0	4.0	0.0	9.0
Bass River		1839.0	7.3	78.4	19.6	0.0	1.0	0.0	1.0
Bass River		1815.0	2.6	46.4	11.6	37.0	0.0	0.0	5.0
Bass River	90	1806.4							
Mau	88	1806.4	8.0	68.8	17.2	10.0	0.0	0.0	4.0
Magothy		1780.0	6.1	26.4	6.6	54.0	0.0	0.0	13.0
Magothy		1760.0	4.6	18.4	4.6	77.0	0.0	0.0	0.0
Magothy		1745.0	11.0	45.6	11.4	43.0	0.0	0.0	0.0

Magothy	87	1709.0							
Cheesequake	85	1709.0	7.9	28.0	7.0	39.0	0.0	26.0	0.0
Cheesequake	84.5	1683.2							
LEWMu	84	1683.2	4.0	35.2	8.8	3.0	0.0	53.0	0.0
Woodbury		1670.0	4.6	66.4	16.6	0.0	15.0	2.0	0.0
Woodbury		1655.0	25.9	75.2	18.8	1.0	5.0	0.0	0.0
Woodbury		1570.0	10.7	70.4	17.6	9.0	0.0	1.0	2.0
Woodbury		1535.0	19.0	41.6	10.4	41.0	0.0	0.0	7.0
Woodbury	78	1472.6							
UEu	77.3	1472.6	3.8	26.4	6.6	27.0	0.0	40.0	0.0
Englishtown		1460.0	5.9	36.0	9.0	53.0	0.0	2.0	0.0
Englishtown	76.75	1440.5							
Wu	76	1440.5	3.2	29.6	7.4	6.0	3.0	54.0	0.0
Wenonah		1430.0	3.0	52.8	13.2	19.0	1.0	14.0	0.0
Wenonah		1420.0	25.9	32.0	8.0	51.0	0.0	9.0	0.0
Wenonah		1335.0	12.3	23.2	5.8	46.0	0.0	25.0	0.0
Wenonah	74	1294.5							
Neu	67.5	1294.5	5.9	36.8	9.2	0.0	27.0	27.0	0.0
NewEgypt		1275.0	5.0	56.8	14.2	1.0	3.0	25.0	0.0
NewEgypt	64.7	1258.7							
Pa1u	62.9	1258.7	0.7	28.0	7.0	25.0	6.0	34.0	0.0
Pa1	61.3	1256.5							
Pa2u	59.5	1256.5	3.5	30.4	7.6	29.0	2.0	31.0	0.0
Pa2a		1245.0	1.2	52.8	13.2	20.0	1.0	13.0	0.0
Pa2b	57.3	1241.0							
Pa3u	56.5	1241.0	4.9	57.6	14.4	11.0	10.0	7.0	0.0
Pa3a		1225.0	6.1	77.6	19.4	1.0	1.0	1.0	0.0
Pa3b		1205.0	10.7	72.0	18.0	5.0	0.0	5.0	0.0
Pa3c		1170.0	9.4	79.2	19.8	0.0	1.0	0.0	0.0
Pa3d	55.4	1139.0							
E1u	54.1	1139.0	1.2	53.6	13.4	0.0	10.0	23.0	0.0
E1	54	1135.0							
E2u	53.4	1135.0	8.2	72.0	18.0	1.0	9.0	0.0	0.0
E2	52.9	1108.0							
E3u	52.3	1108.0	28.0	64.0	16.0	6.0	14.0	0.0	0.0
E3	50.9	1016.0							
E4u	49.9	1016.0	17.1	73.6	18.4	6.0	2.0	0.0	0.0
E4	49.6	960.0							
E5u	48.6	960.0	1.5	70.4	17.6	1.0	9.0	1.0	1.0
E5	48.3	955.0							
E6u	47.9	955.0	7.0	68.0	17.0	4.0	4.0	7.0	0.0
E6	47	932.0							
E7u	44.5	932.0	5.2	72.0	18.0	0.5	9.0	0.5	0.0
E7		915.0	8.8	54.4	13.6	1.0	30.0	1.0	0.0
E7	43.4	886.0							
E8u	41.2	886.0	6.7	57.6	14.4	6.0	17.0	5.0	0.0
E8	40.5	864.0							
E9u	37	864.0	5.2	39.2	9.8	10.0	3.0	38.0	0.0
E9	36.5	847.0							

E10u	35.7	847.0	23.5	69.6	17.4	3.0	0.0	10.0	0.0
E10		770.0	3.0	40.0	10.0	5.0	0.0	45.0	0.0
E10		760.0	22.9	58.4	14.6	8.0	0.0	19.0	0.0
E10	34.8	684.5							
E11u	34	684.5	3.0	78.4	19.6	2.0	0.0	0.0	0.0
e11	33.8	675.5	1.2	19.6	78.4	2.0	0.0	0.0	0.0
e11	33.8	675.0	0.2	96.0	2.0	2.0	0.0	0.0	0.0
O1u	32.7	675.0							
O1	32.6	670.0	1.5	10.0	10.0	16.0	0.0	64.0	0.0
O1		635.0	10.7	15.0	15.0	25.0	0.0	45.0	0.0
O1		625.0	3.0	15.0	15.0	25.0	0.0	45.0	0.0
O1		620.0	1.5	20.0	5.0	71.0	2.0	0.0	2.0
O1		610.0	3.0	20.0	5.0	71.0	2.0	0.0	2.0
O1		605.0	1.5	20.0	5.0	71.0	2.0	0.0	2.0
O1		595.0	3.0	20.0	5.0	71.0	2.0	0.0	2.0
O1		590.0	1.5	20.0	5.0	71.0	2.0	0.0	2.0
O1		580.0	3.0	20.0	5.0	71.0	2.0	0.0	2.0
O1	32.1	555.0	7.6	20.0	5.0	71.0	2.0	0.0	2.0
Kw1au	21	555.0							
Kw1a		545.0	3.0	6.0	24.0	70.0	0.0	0.0	0.0
Kw1a		520.0	7.6	9.0	36.0	55.0	0.0	0.0	0.0
Kw1a		485.0	10.7	19.0	76.0	5.0	0.0	0.0	0.0
Kw1a	20.25	383.0	31.1	5.0	20.0	75.0	0.0	0.0	0.0
Kw1bu	20.2	383.0							
Kw1b	19.8	329.0	16.5	8.0	32.0	60.0	0.0	0.0	0.0
Miocene	17.5	329.0							
Overlying	0.011	0.0	100.3	10.0	40.0	50.0	0.0	0.0	0.0
Island Beach									
underlying			931.0						
Eocene	34.9	710.0	0.6	62.3	26.7	11.0	0.0	0.0	0.0
		708.0	1.5						
E11	34.1	703.0	0.3	37.1	15.9	46.8	0.0	0.0	0.2
E11		702.0	0.6	29.4	12.6	57.7	0.0	0.0	0.3
E11		700.0	0.6	66.5	28.5	5.0	0.0	0.0	0.0
E11	33.8	698.0	0.3	65.1	27.9	7.5	0.0	0.0	0.0
		697.0	0.0						
Eocene		697.0	0.3						
O1	32.7	696.0	4.6	19.3	8.3	14.5	0.7	57.2	0.0
O1		681.0	0.6	32.3	13.8	39.9	0.5	12.9	0.5
O1	32.5	679.0	0.3	32.3	13.8	39.9	0.5	12.9	0.5
O2	31.3	678.0	4.9						
O2		662.0	1.2	28.3	12.1	7.2	0.0	52.5	0.0
O2		658.0	1.5	25.7	11.0	12.7	0.0	47.5	3.2
O2		653.0	4.3	17.3	7.4	22.6	0.0	52.7	0.0
O2		639.0	2.4	16.4	7.0	19.1	0.0	57.4	0.0
O2		631.0	2.4	26.3	11.3	8.7	0.0	53.7	0.0
O2		623.0	1.5	17.3	7.4	4.5	0.0	67.7	3.0
O2		618.0	6.7	27.0	11.6	6.1	0.0	55.3	0.0

O2		596.0	2.4	28.0	12.0	6.0	0.0	54.0	0.0
O2		588.0	3.0	18.7	8.0	11.7	0.0	61.6	0.0
O2		578.0	2.1	25.3	10.8	6.4	0.0	57.5	0.0
O2		571.0	1.8	33.7	14.4	5.2	0.0	46.7	0.0
O2		565.0	2.7	21.9	9.4	4.1	0.0	64.5	0.0
O2		556.0	2.4	12.3	5.3	4.1	0.0	78.3	0.0
O2		548.0	1.8	24.4	10.5	6.5	0.0	58.6	0.0
O2		542.0	2.4	20.9	9.0	8.4	0.0	61.7	0.0
O2		534.0	1.5	17.5	7.5	7.5	0.0	67.4	0.0
O2		529.0	1.2	30.6	13.1	8.4	0.0	47.8	0.0
O2	30.4	525.0	0.3						
O6	24.3	524.0	0.3	12.7	5.4	16.4	2.5	63.1	0.0
O6		523.0	1.8						
O6		517.0	2.4	25.6	11.0	6.3	0.0	57.1	0.0
O6		509.0	1.2	25.4	10.9	6.4	0.0	57.4	0.0
O6	24.1	505.0	0.9						
Miocene		502.0	0.0	50.6	21.7	25.7	0.6	1.4	0.0
overlying			153.0						

<u>AMCOR 6011</u>

underlying			1037.6						
O2b	29.4	849.8	-259.0	50.4	21.6	18.2	0.0	7.0	2.8
O3	28.7	839.9	3.0	50.3	21.6	12.6	2.8	11.2	1.4
O3	28.6	830.1	3.0	49.4	21.2	13.2	2.9	11.7	1.5
O4	27.9	820.3	3.0	25.7	11.0	20.3	5.1	38.0	0.0
O4		794.0	8.0	0.9	0.4	69.1	14.8	14.8	0.0
O4	27.7	790.7	1.0	3.4	1.5	47.6	9.5	38.1	0.0
O4		757.9	10.0	2.7	1.2	52.9	4.8	38.5	0.0
O4	27.2	728.4	9.0	3.5	1.5	63.7	2.9	28.5	0.0
Miocene	19.8	695.6	10.0	10.1	4.3	47.1	4.3	34.2	0.0
overlying	0.1	0.0	212.0						

<u>Jobs Point</u>

Underlying			1037.6						
Eocene		1002.0	10.0	49.9	0.0	45.1	0.0	5.0	0.0
Eocene		969.2	0.0						
O2b	29.2	969.2	8.2	20.0	5.0	67.5	0.0	7.5	0.0
O3	28.7	942.2	0.0						
O4	27.9	942.1	24.1	20.0	5.0	67.5	0.0	7.5	0.0
O4	27.5	863.1	0.0						
O5	27	863.1	7.9	27.0	8.0	58.5	0.0	6.5	0.0
O5	26.8	837.1	16.5	27.0	8.0	58.5	0.0	6.5	0.0
O5	25.9	783.1	0.0						
Overlying		783.1	238.7						

<u>Great Bay</u>

underlying			306.3						
O4	27.5	1005.0	0.0	67.9	29.1	1.9	0.0	0.4	0.6

O4		985.0	6.1	61.7	26.4	4.4	0.0	7.1	0.4
O4	27.1	965.0	6.1	30.1	12.9	12.5	0.0	45.6	0.0
O5		945.0	6.1	46.6	20.0	17.7	0.0	13.0	2.7
O5		925.0	6.1	34.4	14.8	30.5	0.0	18.8	1.5
O5	26.8	905.0	6.1	42.8	18.3	23.4	0.0	15.6	0.0
O5		865.0	12.2	23.7	10.1	53.0	0.0	9.9	3.3
O5	26.6	845.0	6.1	24.5	10.5	42.3	0.0	6.5	16.3
O5	26.5	825.0	6.1	25.6	11.0	24.1	0.0	39.3	0.0
Miocene	23.3	805.0	6.1	21.7	9.3	4.8	0.0	64.1	0.0
Overlying	0.1	0.0	245.4						
Site 1073									
underlying	31	40253	11624						
O2	31								
O2	30	2116.9	9	30	30	40	0.0	0.0	0.0
O6	27								
O6	26	2114.2	9	30	30	40	0.0	0.0	0.0
Overlying	0.1	2084.6	635.4						
Site 906									
underlying	28.9	39817	11602						
O2	28.9								
O2	28	1753	25	5	65	30	0.0	0.0	0.0
O4	27.3								
O4	27	1745.4	55	5	65	30	0.0	0.0	0.0
Overlying	0.1	1565	477						
Site 903									
underlying	27.9	41425	11593						
O4	27.9								
O4	27.1	3389.9	35	70	30	0	0.0	0.0	0.0
O5	27								
O5	26.5	3379.3	20	70	30	0	0.0	0.0	0.0
Overlying	0.1	3313.6	1010						
Site 902									
underlying	29	39317	11624						
O4	29								
O4	28	1180.6	20	75	20	5	0.0	0.0	0.0
O5	27.4								
O5	25.8	1174.5	50	75	20	5	0.0	0.0	0.0
Overlying	0.1	1010.5	308						

* Ages not given were interpolated based on decompacted sediment thickness.
Data is in order of wells in cross section (Fig. 1)
Only new data is given.

TABLE A2A. PROFILES CALCULATED WITH HIGH POROSITY CURVES

Sequence	Age	Depth at Borehole (m)							
		ACGS#4	Bass R.	Is. Beach	AMCOR	Jobs Pt.	Great Bay	At. City	Cape May
E11	34.2	-35.0	-39.0	-49.0	-65.0	-67.0	-71.0	-83.0	-99.0
ML	33.5	-35.0	-39.0	-49.0	-65.0	-67.0	-71.0	-83.0	-99.0
ML	33.4	-32.2	-39.6	-49.5	-65.6	-67.2	-71.1	-83.3	-99.4
ML	33.1	-25.9	-41.8	-51.7	-67.5	-69.0	-72.8	-84.9	-100.8
O1	32.9	-26.7	-41.7	-51.8	-67.5	-69.4	-73.3	-85.1	-100.85
O1	32.7	-26.7	-41.2	-51.8	-67.5	-69.4	-73.3	-85.1	-100.9
O1	32.6	-25.5	-41.3	-50.6	-67.9	-69.6	-73.4	-85.3	-101.1
O1	32.5	-23.1	-37.4	-49.8	-68.8	-70.1	-73.9	-85.9	-101.7
O1	32.4	-21.3	-33.6	-50.8	-69.7	-71.0	-74.7	-86.7	-102.3
O1	32.3	-19.6	-29.8	-51.8	-70.6	-71.9	-75.5	-87.4	-103.0
O1	32.2	-17.8	-26.1	-53.0	-71.7	-72.8	-76.4	-88.3	-103.0
O1	32.1	-16.2	-22.6	-54.1	-72.8	-73.9	-77.4	-89.3	-103.1
O1	32.0	-17.4	-22.9	-54.5	-72.9	-74.5	-78.2	-89.8	-102.6
O2	31.6	-17.6	-22.9	-54.5	-72.9	-74.6	-78.4	-89.8	-102.63
O2	31.3	-17.6	-23.0	-53.9	-73.0	-74.7	-78.5	-88.2	-102.35
O2	31.1	-17.7	-23.1	-52.4	-73.2	-74.9	-78.6	-87.2	-102.2
O2	30.9	-18.0	-23.4	-45.7	-73.1	-75.0	-78.9	-87.5	-101.5
O2	30.4	-18.7	-24.2	-28.5	-71.5	-75.0	-79.8	-88.4	-99.6
O2	30.1	-19.0	-24.5	-28.8	-70.4	-74.8	-80.1	-88.8	-98.2
O2b	29.4	-19.1	-24.5	-28.8	-67.0	-73.6	-80.2	-88.8	-98.3
O2b	29.3	-19.1	-24.5	-28.8	-65.2	-73.5	-80.2	-88.9	-98.3
O2b	29.1	-19.2	-24.5	-28.8	-65.2	-73.2	-80.2	-88.9	-98.3
O2b	29.0	-19.2	-24.5	-28.8	-65.1	-70.1	-80.2	-88.9	-98.3
O3	28.9	-19.2	-24.5	-28.8	-65.1	-70.1	-80.2	-88.9	-98.3
O3	28.7	-19.2	-24.6	-28.9	-62.4	-70.2	-80.3	-85.8	-98.4
O3	28.6	-19.3	-24.6	-28.9	-61.6	-70.2	-80.4	-85.4	-98.4
O3	28.5	-19.3	-24.6	-28.9	-61.0	-70.2	-80.4	-84.9	-98.4
O3	28.3	-19.4	-24.9	-29.2	-61.4	-70.5	-79.5	-84.2	-96.9
O4	27.9	-19.6	-25.0	-29.4	-61.6	-70.6	-77.4	-84.5	-97.2
O3	27.8	-19.7	-25.2	-29.6	-60.7	-70.0	-77.1	-84.8	-97.5
O4	27.7	-19.9	-25.4	-29.8	-59.9	-69.3	-76.8	-85.1	-97.9
O4	27.5	-20.3	-25.9	-30.3	-58.2	-68.1	-76.3	-82.4	-98.6
O4	27.4	-20.6	-26.1	-30.5	-57.4	-67.6	-76.1	-81.0	-99.0
O4	27.3	-20.8	-26.4	-30.9	-52.4	-63.4	-75.8	-78.7	-99.5
O4	27.2	-21.1	-26.8	-31.3	-47.3	-59.2	-73.0	-76.5	-100.0
O4	27.1	-21.5	-27.2	-31.7	-42.2	-55.0	-70.2	-74.2	-100.6
O5	27.0	-21.9	-27.2	-31.8	-42.2	-55.3	-70.6	-74.4	-100.7
O5	26.9	-21.9	-27.3	-31.8	-42.3	-55.3	-68.2	-74.4	-100.7
O5	26.8	-21.9	-27.4	-32.0	-42.5	-51.8	-66.0	-74.6	-99.9
O5	26.7	-22.1	-27.6	-32.2	-42.7	-49.8	-62.4	-74.9	-100.2
O5	26.6	-22.3	-27.9	-32.5	-43.1	-47.9	-57.5	-71.5	-100.6
O5	26.5	-22.6	-28.2	-32.8	-43.5	-46.0	-50.9	-68.1	-101.1
O5	26.4	-22.9	-28.6	-33.2	-43.9	-44.1	-44.3	-64.8	-101.6
O5	26.2	-23.5	-29.0	-33.6	-44.3	-44.6	-45.0	-60.4	-102.2
O5	25.8	-24.2	-29.7	-34.5	-45.3	-45.7	-46.0	-51.4	-103.5
O6	25.7	-24.4	-29.8	-34.5	-45.3	-45.8	-46.2	-51.5	-103.6
O6	25.5	-24.6	-30.1	-34.9	-45.8	-46.1	-46.5	-51.9	-101.2
O6	25.3	-25.0	-30.4	-35.2	-46.0	-46.5	-47.0	-52.3	-100.0
O6	25.1	-25.1	-30.4	-35.3	-46.1	-46.6	-47.0	-50.8	-99.8
O6	25.0	-25.1	-30.5	-35.3	-46.1	-46.6	-47.1	-50.8	-99.7
O6	24.9	-25.1	-30.5	-33.6	-46.2	-46.7	-47.1	-50.9	-99.7
O6	24.8	-25.2	-30.6	-32.0	-46.3	-46.7	-47.2	-50.9	-99.6
O6	24.6	-25.3	-30.9	-32.3	-46.7	-47.0	-47.4	-51.3	-96.8
O6	24.5	-25.6	-31.1	-32.6	-46.9	-47.3	-47.7	-51.6	-95.0
O6	24.4	-25.8	-31.5	-33.0	-47.5	-47.7	-48.0	-52.1	-91.4
O6	24.3	-26.2	-32.0	-33.6	-48.1	-48.3	-48.6	-52.7	-87.9
O6	24.2	-26.8	-32.6	-34.2	-48.8	-49.0	-49.3	-53.5	-84.5
O6	24.1	-27.4	-32.8	-34.5	-49.0	-49.5	-50.0	-53.9	-83.7
Kw0	23.8	-27.8	-33.2	-34.8	-49.3	-49.9	-50.5	-54.2	-81.9
Kw0	23.6	-28.0	-33.5	-35.2	-49.9	-50.4	-50.9	-54.3	-82.6

TABLE A2B. PROFILES CALCULATED WITH LOW POROSITY CURVES

Sequence	Age	Depth at Borehole (m)							
		ACGS#4	Bass R.	Is. Beach	AMCOR	Jobs Pt.	Great Bay	At. City	Cape May
E11	34.2	-35.0	-39.0	-49.0	-65.0	-67.0	-71.0	-83.0	-99.0
ML	33.5	-35.0	-39.0	-49.0	-65.0	-67.0	-71.0	-83.0	-99.0
ML	33.4	-32.1	-39.7	-49.7	-65.7	-67.3	-71.1	-83.4	-99.4
ML	33.1	-26.1	-42.4	-52.2	-68.0	-69.4	-73.2	-85.3	-101.1
O1	32.9	-27.1	-42.4	-52.4	-68.0	-69.9	-73.8	-85.6	-101.24
O1	32.7	-27.1	-41.8	-52.4	-68.0	-69.9	-73.8	-85.6	-101.2
O1	32.6	-25.7	-42.0	-50.8	-68.5	-70.1	-73.9	-85.8	-101.5
O1	32.5	-23.3	-37.9	-49.7	-69.6	-70.8	-74.5	-86.5	-102.3
O1	32.4	-21.4	-34.0	-50.9	-70.7	-71.8	-75.5	-87.5	-103.1
O1	32.3	-19.6	-30.2	-52.1	-71.8	-72.9	-76.5	-88.4	-103.9
O1	32.1	-16.1	-22.9	-54.9	-74.4	-75.3	-78.7	-90.6	-104.0
O1	32.0	-17.6	-23.3	-55.3	-74.5	-76.1	-79.8	-91.2	-103.5
O2	31.6	-17.7	-23.3	-55.3	-74.5	-76.2	-79.9	-91.3	-103.49
O2	31.3	-17.8	-23.4	-54.5	-74.7	-76.4	-80.0	-89.3	-103.16
O2	31.1	-17.9	-23.6	-52.6	-74.9	-76.5	-80.2	-88.0	-103.0
O2	30.9	-18.3	-24.0	-43.9	-74.9	-76.8	-80.6	-88.5	-102.2
O2	30.4	-19.5	-25.2	-21.7	-73.4	-77.1	-81.9	-89.9	-100.2
O2	30.1	-19.9	-25.6	-22.1	-72.1	-76.9	-82.4	-90.3	-98.7
O2b	29.4	-20.0	-25.6	-22.1	-68.2	-75.6	-82.5	-90.4	-98.7
O2b	29.3	-20.0	-25.6	-22.1	-66.0	-75.5	-82.6	-90.4	-98.7
O2b	29.1	-20.1	-25.6	-22.2	-66.0	-75.1	-82.6	-90.4	-98.7
O2b	29.0	-20.1	-25.6	-22.2	-66.0	-71.2	-82.6	-90.4	-98.7
O3	28.9	-20.1	-25.6	-22.2	-66.0	-71.2	-82.6	-90.4	-98.7
O3	28.7	-20.2	-25.8	-22.3	-62.8	-71.4	-82.7	-86.7	-98.9
O3	28.6	-20.2	-25.8	-22.3	-61.9	-71.4	-82.8	-86.2	-98.9
O3	28.5	-20.2	-25.8	-22.3	-61.2	-71.4	-82.8	-85.6	-98.9
O3	28.3	-20.4	-26.1	-22.7	-61.6	-71.7	-81.8	-84.7	-97.1
O4	27.9	-20.6	-26.3	-22.9	-61.9	-71.9	-79.4	-85.0	-97.4
O4	27.8	-20.8	-26.5	-23.1	-60.8	-71.1	-79.1	-85.3	-97.7
O4	27.7	-21.0	-26.7	-23.3	-59.6	-70.2	-78.7	-85.6	-98.1
O4	27.5	-21.4	-27.2	-23.8	-57.3	-68.6	-78.1	-82.3	-98.9
O4	27.4	-21.7	-27.4	-24.1	-56.1	-67.8	-77.8	-80.7	-99.3
O4	27.3	-21.9	-27.8	-24.5	-49.5	-62.6	-77.5	-77.8	-99.8
O4	27.2	-22.3	-28.3	-25.0	-42.9	-57.4	-74.5	-75.0	-100.5
O4	27.1	-22.8	-28.7	-25.5	-36.5	-52.2	-71.4	-72.2	-101.1
O5	27.0	-23.2	-28.8	-25.6	-36.5	-52.5	-71.8	-72.5	-101.2
O5	26.9	-23.2	-28.9	-25.6	-36.5	-52.6	-69.2	-72.5	-101.2
O5	26.8	-23.3	-29.1	-25.8	-36.8	-48.3	-66.4	-72.7	-100.3
O5	26.7	-23.5	-29.3	-26.1	-37.1	-45.9	-62.1	-73.0	-100.7
O5	26.6	-23.8	-29.6	-26.4	-37.5	-43.4	-56.2	-68.9	-101.1
O5	26.5	-24.1	-30.0	-26.8	-37.9	-41.0	-47.8	-64.8	-101.7
O5	26.4	-24.5	-30.4	-27.3	-38.4	-38.6	-39.7	-60.6	-102.2
O5	26.2	-25.1	-30.8	-27.8	-38.9	-39.3	-40.4	-54.9	-102.9
O5	25.8	-26.0	-31.7	-28.7	-40.0	-40.4	-41.6	-43.5	-104.3
O6	25.7	-26.2	-31.7	-28.7	-40.0	-40.6	-41.8	-43.6	-104.4
O6	25.5	-26.4	-32.2	-29.2	-40.5	-41.0	-42.1	-44.1	-101.7
O6	25.3	-26.9	-32.5	-29.5	-40.8	-41.5	-42.7	-44.6	-100.3
O6	25.1	-27.0	-32.6	-29.6	-40.9	-41.5	-42.8	-42.7	-100.1
O6	25.0	-27.0	-32.6	-29.6	-41.0	-41.6	-42.8	-42.7	-100.0
O6	24.9	-27.0	-32.7	-27.5	-41.1	-41.6	-42.9	-42.8	-99.9
O6	24.8	-27.1	-32.7	-25.4	-41.1	-41.7	-43.0	-42.9	-99.9
O6	24.6	-27.3	-33.2	-25.8	-41.7	-42.1	-43.3	-43.4	-97.3
O6	24.5	-27.6	-33.4	-26.2	-42.0	-42.5	-43.7	-43.8	-95.7
O6	24.4	-27.9	-34.0	-26.7	-42.8	-43.0	-44.1	-44.4	-92.3
O6	24.3	-28.5	-34.7	-27.5	-43.6	-43.8	-44.9	-45.3	-88.1
O6	24.2	-29.3	-35.5	-28.3	-44.5	-44.7	-45.8	-46.3	-83.9
O6	24.1	-30.1	-35.8	-28.7	-44.8	-45.4	-46.7	-46.9	-82.9
Kw0	23.8	-30.6	-36.2	-29.1	-45.3	-46.0	-47.4	-47.3	-80.7
Kw0	23.6	-30.9	-36.6	-29.6	-45.8	-46.4	-47.8	-47.3	-81.4

TABLE A3. CONSTRAINTS ON R2 AND EUSTASY. HIGH POROSITY CURVES.

Sequence	Approx. Age	Primary Constraint on Environment*			Correlative Constraint on Environment†					R2 Primary	R2 With Secondary	Eustasy#
		Borehole1	Biofacies2	WD Range3	Borehole4	Biofacies5	WD Range Biofacies6	WD Range Model7	WD Range Result8			
E11	34.2	ACGS#4	Outer N.	-70						105.0	105.0	69.3
E11	34.2	ACGS#4	Outer N.	-100						135.0	135.0	89.2
E11	34.2	ACGS#4	Outer N.	-130						165.0	165.0	109.0
ML	33.5	ACGS#4	Inner N.	0						35.0	35.0	23.1
ML	33.5	ACGS#4	Inner N.	-20						55.0	55.0	36.3
ML	33.5	ACGS#4	Inner N.	-40						75.0	75.0	49.5
ML	33.4	ACGS#4	Middle N.	-40						77.8	77.8	51.4
ML	33.4	ACGS#4	Middle N.	-60						97.8	97.8	64.6
ML	33.4	ACGS#4	Middle N.	-80						117.8	117.8	77.8
ML	33.1	ACGS#4	Inner N.	-10						54.1	54.1	35.7
ML	33.1	ACGS#4	Inner N.	-30						74.1	74.1	48.9
ML	33.1	ACGS#4	Inner N.	-50						94.1	94.1	62.2
C1	32.9	Bass R.	B	-15						43.3	43.3	28.6
C1	32.9	Bass R.	B	-25						53.3	53.3	35.2
C1	32.9	Bass R.	B	-35						63.3	63.3	41.8
C1	32.7	Bass R.	B	-15						43.8	43.8	28.9
C1	32.7	Bass R.	B	-25						53.8	53.8	35.5
C1	32.7	Bass R.	B	-35						63.8	63.8	42.1
C1	32.6	Is. Beach	H	-70						89.4	89.4	59.1
C1	32.6	Is. Beach	H	-100						119.4	119.4	78.9
C1	32.6	Is. Beach	H	-130						149.4	149.4	98.7
C1	32.5	Bass R.	F	-55						87.6	87.6	57.9
C1	32.5	Bass R.	F	-75						107.6	107.6	71.1
C1	32.5	Bass R.	F	-95						127.6	127.6	84.3
C1	32.4	Bass R.	F	-55						91.4	91.4	60.4
C1	32.4	Bass R.	F	-75						111.4	111.4	73.6
C1	32.4	Bass R.	F	-95						131.4	131.4	86.8
C1	32.3	Bass R.	B	-15	Cape May	I	-75	-88.2	-88.2	55.2	55.2	36.4
C1	32.3	Bass R.	B	-25	Cape May	I	-105	-98.2	-98.2	65.2	65.2	43.1
C1	32.3	Bass R.	B	-35	Cape May	I	-135	-108.2	-108.2	75.2	75.2	49.7
C1	32.1	Bass R.	B	-15	*Cape May*	*I 9*	*-75*	*-95.5*	-95.5	62.4	62.4	41.2
C1	32.1	Bass R.	B	-25	*Cape May*	*I*	*-105*	*-105.5*	-105.5	72.4	72.4	47.8
C1	32.1	Bass R.	B	-35	*Cape May*	*I*	*-135*	*-115.5*	-115.5	82.4	82.4	54.4

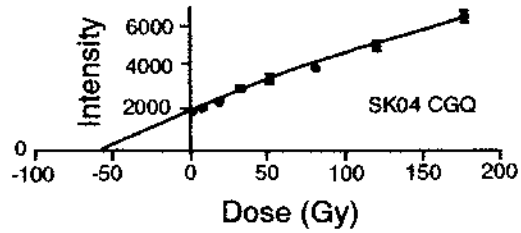
* Primary constraint is the shallowest benthic biofacies tied to this age horizon. It is used to establish the profile depth.
1 The borehole in which the primary benthic biofacies was observed.
2 The benthic biofacies observed there.
3 The depth range (shallowest mean and deepest values) established for that benthic biofacies (Fig. 5).
† In many cases correlative biofacies are present.
4 The borehole in which the correlative benthic biofacies was observed. They do not constrain R2 or eustasy.
5 The benthic biofacies observed there.
6 The depth range (shallowest mean and deepest values) established for that benthic biofacies (Fig. 5).
7 The depth range required by the primary constriant coupled with the geometry of the backstripped profile.
8 The depth range constrained by at this borehole, constrained by both the primary and secondary benthic biofacies.
9 Secondary biofacies reported in italics. The water depth ranges of these biofacies were established here. They do not constrain R2 or eustasy.
Eustasy is only given for the R2 value estimated with both primary and secondary (where present) constraints.

Sequence	Approx. Age	Primary Constraint on Environment			Correlative Constraint on Environment					R2 Primary	R2 With Secondary	Eustasy
		Borehole1	Biofacies2	WD Range3	Borehole4	Biofacies5	WD Range Biofacies6	WD Range Model7	WD Range Result8			
O2	31.6	At. City	H	-70	Cape May	J	-85	-82.8	-85.0	50.2	52.4	34.6
O2	31.6	At. City	H	-100	Cape May	J	-115	-112.8	-113.9	80.2	81.3	53.7
O2	31.6	At. City	H	-130	Cape May	J	-145	-142.8	-142.8	110.2	110.2	72.8
O2	31.3	At. City	H	-70	*Cape May*	*J*	*-85*	*-85.0*	-85.0	52.8	52.8	34.9
O2	31.3	At. City	H	-100	*Cape May*	*J*	*-115*	*-115.0*	-115.0	82.8	82.8	54.7
O2	31.3	At. City	H	-130	*Cape May*	*J*	*-145*	*-145.0*	-145.0	112.8	112.8	74.5
O2	31.1	At. City	H	-70	Cape May	J	-85	-85.0	-85.0	77.6	77.6	51.2
O2	31.1	At. City	H	-100	Cape May	J	-115	-115.0	-115.0	102.6	95.2	62.9
O2	31.1	At. City	H	-130	Cape May	J	-145	-145.0	-145.0	127.6	112.8	74.5
O2	31	Is. Beach	G	-60	Cape May	H	-70	-112.8	-112.8	81.0	81.0	53.5
O2	31	Is. Beach	G	-85	Cape May	H	-100	-137.8	-121.4	106.0	89.6	59.2
O2	31	Is. Beach	G	-110	Cape May	H	-130	-162.8	-130.0	131.0	98.2	64.8
O2	30.9	Is. Beach	F	-55	Cape May	H	-70	-110.8	-110.8	79.3	79.3	52.4
O2	30.9	Is. Beach	F	-75	Cape May	H	-100	-130.8	-120.4	99.3	88.9	58.7
O2	30.9	Is. Beach	F	-95	Cape May	H	-130	-150.8	-130.0	119.3	98.5	65.1
O2	30.4	Is. Beach	B	-15	*Cape May*	*H*	*-70*	*-86.1*	-86.1	56.5	56.5	37.3
O2	30.4	Is. Beach	B	-25	*Cape May*	*H*	*-100*	*-96.1*	-96.1	66.5	66.5	43.9
O2	30.4	Is. Beach	B	-35	*Cape May*	*H*	*-130*	*-106.1*	-106.1	76.5	76.5	50.5
O2	30.1	Cape May	H	-70						41.8	41.8	27.6
O2	30.1	Cape May	H	-100						71.8	71.8	47.4
O2	30.1	Cape May	H	-130						101.8	101.8	67.2
O2b	29.4	AMCOR6011	E?	-35						38.0	38.0	25.1
O2b	29.4	AMCOR6011	E?	-50						53.0	53.0	35.0
O2b	29.4	AMCOR6011	E?	-65						68.0	68.0	44.9
O2b	29.3	AMCOR6011	E?	-35						39.8	39.8	26.3
O2b	29.3	AMCOR6011	E?	-50						54.8	54.8	36.2
O2b	29.3	AMCOR6011	E?	-65						69.8	69.8	46.1
O2b	29.1	Jobs Pt.	F?	-55						51.8	51.8	34.2
O2b	29.1	Jobs Pt.	F?	-75						71.8	71.8	47.4
O2b	29.1	Jobs Pt.	F?	-95						91.8	91.8	60.6
O2b	29	Jobs Pt.	F	-55						54.9	54.9	36.3
O2b	29	Jobs Pt.	F	-75						74.9	74.9	49.5
O2b	29	Jobs Pt.	F	-95						94.9	94.9	62.7

Sequence	Approx. Age	Primary Constraint on Environment			Correlative Constraint on Environment					R2 Primary	R2 With Secondary	Eustasy
		Borehole	Biofacies	WD Range	Borehole	Biofacies	WD Range Biofacies	WD Range Model	WD Range Result			
O3	28.9	AMCOR6011	E	-35	*At. City*	*F*	*-55*	*-58.7*	-58.7	39.9	39.9	26.3
O3	28.9	AMCOR6011	E	-50	*At. City*	*F*	*-75*	*-73.7*	-73.7	54.9	54.9	36.2
O3	28.9	AMCOR6011	E	-65	*At. City*	*F*	*-95*	*-88.7*	-88.7	69.9	69.9	46.1
O3	28.7	AMCOR6011	G	-60	At. City	J	-85	-83.4	-85.0	67.6	69.2	45.7
O3	28.7	AMCOR6011	G	-85	At. City	J	-115	-108.4	-109.2	92.6	93.4	61.7
O3	28.7	AMCOR6011	G	-110	At. City	J	-145	-133.4	-133.4	117.6	117.6	77.7
O3	28.6	AMCOR6011	G	-60	At. City	J	-85	-83.7	-85.0	68.4	69.6	46.0
O3	28.6	AMCOR6011	G	-85	At. City	J	-115	-108.7	-109.4	93.4	94.0	62.1
O3	28.6	AMCOR6011	G	-110	At. City	J	-145	-133.7	-133.7	118.4	118.4	78.2
O3	28.5	AMCOR6011	G	-60	Cape May	J (J@AC)	-85	-97.4	-97.4	69.0	69.0	45.5
O3	28.5	AMCOR6011	G	-85	Cape May	J (J@AC)	-115	-122.4	-121.2	94.0	92.8	61.3
O3	28.5	AMCOR6011	G	-110	Cape May	J (J@AC)	-145	-147.4	-145.0	119.0	116.6	77.0
O3	28.3	Cape May	J	-85	At. City	J	-85	-72.3	-85.0	58.1	70.8	46.7
O3	28.3	Cape May	J	-115	At. City	J	-115	-102.3	-108.7	88.1	94.4	62.4
O3	28.3	Cape May	J	-145	At. City	J	-145	-132.3	-132.3	118.1	118.1	78.0
O4	27.9	AMCOR6011	A	-10	Jobs Pt.	B	-15	-19.1	-19.1	18.4	18.4	12.2
O4	27.9	AMCOR6011	A	-20	Jobs Pt.	B	-25	-29.1	-27.0	28.4	26.4	17.4
O4	27.9	AMCOR6011	A	-30	Jobs Pt.	B	-35	-39.1	-35.0	38.4	34.4	22.7
O4	27.8	AMCOR6011	A	-10	*Jobs Pt.*	*B*	*-15*	*-19.3*	-19.3	19.3	19.3	12.7
O4	27.8	AMCOR6011	A	-20	*Jobs Pt.*	*B*	*-25*	*-29.3*	-29.3	29.3	29.3	19.3
O4	27.8	AMCOR6011	A	-30	*Jobs Pt.*	*B*	*-35*	*-39.3*	-35.0	39.3	35.0	23.1
O4	27.7	AMCOR6011	A	-10	*Jobs Pt.*	*C*	*-20*	*-19.5*	-19.5	20.1	20.1	13.3
O4	27.7	AMCOR6011	A	-20	*Jobs Pt.*	*C*	*-30*	*-29.5*	-29.5	30.1	30.1	19.9
O4	27.7	AMCOR6011	A	-30	*Jobs Pt.*	*C*	*-40*	*-39.5*	-39.5	40.1	40.1	26.5
O4	27.7	AMCOR6011	A	-10	*At. City*	*D*	*-30*	*-34.2*	-34.2	20.1	20.1	13.3
O4	27.7	AMCOR6011	A	-20	*At. City*	*D*	*-45*	*-44.2*	-44.2	30.1	30.1	19.9
O4	27.7	AMCOR6011	A	-30	*At. City*	*D*	*-60*	*-54.2*	-54.2	40.1	40.1	26.5
O4	27.5	Jobs Pt.	G	-110						61.9	61.9	40.9
O4	27.5	Jobs Pt.	G	-60						86.9	86.9	57.4
O4	27.5	Jobs Pt.	G	-85						111.9	111.9	73.9
O4	27.4	At. City	H	-70						59.0	59.0	39.0
O4	27.4	At. City	H	-100						89.0	89.0	58.8
O4	27.4	At. City	H	-130						119.0	119.0	78.6
O4	27.3	At. City	H	-70	*Jobs Pt.*	*G*	*-60*	*-54.7*	-54.7	61.3	61.3	40.5
O4	27.3	At. City	H	-100	*Jobs Pt.*	*G*	*-85*	*-84.7*	-84.7	91.3	91.3	60.3
O4	27.3	At. City	H	-130	*Jobs Pt.*	*G*	*-110*	*-114.7*	-114.7	121.3	121.3	80.1
O4	27.2	AMCOR6011	B	-15	*Great Bay*	*E*	*-35*	*-40.7*	-40.7	37.7	37.7	24.9
O4	27.2	AMCOR6011	B	-25	*Great Bay*	*E*	*-50*	*-50.7*	-50.7	47.7	47.7	31.5
O4	27.2	AMCOR6011	B	-35	*Great Bay*	*E*	*-65*	*-60.7*	-65.0	57.7	57.7	38.1
O4	27.1	AMCOR6011	B	-15	At. City	G (&E@GB)	-60	-47.0	-60.0	42.8	55.8	36.8
O4	27.1	AMCOR6011	B	-25	At. City	G (&E@GB)	-85	-57.0	-63.5	52.8	59.3	39.1
O4	27.1	AMCOR6011	B	-35	At. City	G (&E@GB)	-110	-67.0	-67.0	62.8	62.8	41.5

Sequence	Approx. Age	Primary Constraint on Environment			Correlative Constraint on Environment					R2 Primary	R2 With Secondary	Eustasy
		Borehole	Biofacies	WD Range	Borehole	Biofacies	WD Range Biofacies	WD Range Model	WD Range Result			
O5	27	Great Bay	D	-30						29.4	29.4	19.4
O5	27	Great Bay	D	-45						44.4	44.4	29.3
O5	27	Great Bay	D	-60						59.4	59.4	39.2
O5	26.9	Cape May	H	-70						39.3	39.3	25.9
O5	26.9	Cape May	H	-100						69.3	69.3	45.8
O5	26.9	Cape May	H	-130						99.3	99.3	65.6
O5	26.8	Cape May	H	-70	Great Bay	J	-85	-37.5	-85.0	39.3	54.3	35.9
O5	26.8	Cape May	H	-100	Great Bay	J	-115	-67.5	-91.3	69.3	76.8	50.7
O5	26.8	Cape May	H	-130	Great Bay	J	-145	-97.5	-97.5	99.3	99.3	65.6
O5	26.7	Jobs Pt.	H	-70	Great Bay	J	-85	-82.6	-85.0	90.2	92.6	61.2
O5	26.7	Jobs Pt.	H	-100	Great Bay	J	-115	-112.6	-113.8	120.2	121.4	80.2
O5	26.7	Jobs Pt.	H	-130	Great Bay	J	-145	-142.6	-142.6	150.2	150.2	99.2
O5	26.6	At. City	D	-30						52.1	52.1	34.4
O5	26.6	At. City	D	-45						67.1	67.1	44.3
O5	26.6	At. City	D	-60						82.1	82.1	54.2
O5	26.5	Jobs Pt.	G	-60	At. City	G	-60	-82.2	-82.2	84.0	84.0	55.5
O5	26.5	Jobs Pt.	G	-85	At. City	G	-85	-107.2	-96.1	109.0	98.0	64.7
O5	26.5	Jobs Pt.	G	-110	At. City	G	-110	-132.2	-110.0	134.0	111.9	73.9
O5	26.4	Great Bay	G	-60	At. City	G	-60	-80.5	-80.5	85.7	85.7	56.6
O5	26.4	Great Bay	G	-85	At. City	G	-85	-105.5	-95.2	110.7	100.5	66.3
O5	26.4	Great Bay	G	-110	At. City	G	-110	-130.5	-110.0	135.7	115.2	76.1
O5	26.2	At. City	E	-35						42.4	42.4	28.0
O5	26.2	At. City	E	-50						57.4	57.4	37.9
O5	26.2	At. City	E	-65						72.4	72.4	47.8
O5	25.8	At. City	B?	-15						33.6	33.6	22.2
O5	25.8	At. City	B?	-25						43.6	43.6	28.8
O5	25.8	At. City	B?	-35						53.6	53.6	35.4
KwO	23.8	At. City	A	-10						25.8	25.8	17.0
KwO	23.8	At. City	A	-20						35.8	35.8	23.7
KwO	23.8	At. City	A	-30						45.8	45.8	30.3
KwO	23.6	At. City	D	-30	Cape May	F	-55	-58.3	-58.3	45.7	45.7	30.2
KwO	23.6	At. City	D	-45	Cape May	F	-75	-73.3	-73.3	60.7	60.7	40.1
KwO	23.6	At. City	D	-60	Cape May	F	-95	-88.3	-88.3	75.7	75.7	50.0

Sequence	Approx. Age	Primary Constraint on Envt. Borehole	Biofacies	WD Range	R2	Eustasy
O6	25.7	Cape May	H	-70	36.4	24.1
O6	25.7	Cape May	H	-100	66.4	43.9
O6	25.7	Cape May	H	-130	96.4	63.7
O6	25.5	Cape May	H	-70	38.8	25.6
O6	25.5	Cape May	H	-100	68.8	45.4
O6	25.5	Cape May	H	-130	98.8	65.2
O6	25.3	At. City	A	-10	27.7	18.3
O6	25.3	At. City	A	-20	37.7	24.9
O6	25.3	At. City	A	-30	47.7	31.5
O6	25.1	At. City	D	-30	49.2	32.5
O6	25.1	At. City	D	-45	64.2	42.4
O6	25.1	At. City	D	-60	79.2	52.3
O6	25	Is. Beach	D	-30	64.7	42.7
O6	25	Is. Beach	D	-45	79.7	52.7
O6	25	Is. Beach	D	-60	94.7	62.6
O6	24.9	Is. Beach	D	-30	66.4	43.8
O6	24.9	Is. Beach	D	-45	81.4	53.7
O6	24.9	Is. Beach	D	-60	96.4	63.6
O6	24.8	Cape May	D	-30	0.4	0.3
O6	24.8	Cape May	D	-45	15.4	10.2
O6	24.8	Cape May	D	-60	30.4	20.1
O6	24.6	Cape May	F	-55	28.2	18.6
O6	24.6	Cape May	F	-75	48.2	31.9
O6	24.6	Cape May	F	-95	68.2	45.1
O6	24.5	Cape May	F	-55	30.0	19.8
O6	24.5	Cape May	F	-75	50.0	33.0
O6	24.5	Cape May	F	-95	70.0	46.2
O6	24.4	Cape May	D	-30	8.6	5.7
O6	24.4	Cape May	D	-45	23.6	15.6
O6	24.4	Cape May	D	-60	38.6	25.5
O6	24.3	Cape May	C	-20	2.1	1.4
O6	24.3	Cape May	C	-30	12.1	8.0
O6	24.3	Cape May	C	-40	22.1	14.6
O6	24.2	Cape May	D	-30	15.5	10.2
O6	24.2	Cape May	D	-45	30.5	20.1
O6	24.2	Cape May	D	-60	45.5	30.0
O6	24.1	Cape May	C	-20	6.3	4.2
O6	24.1	Cape May	C	-30	16.3	10.8
O6	24.1	Cape May	C	-40	26.3	17.4
O6	23.9	Cape May	C	-20	8.2	5.4
O6	23.9	Cape May	C	-30	18.2	12.0
O6	23.9	Cape May	C	-40	28.2	18.6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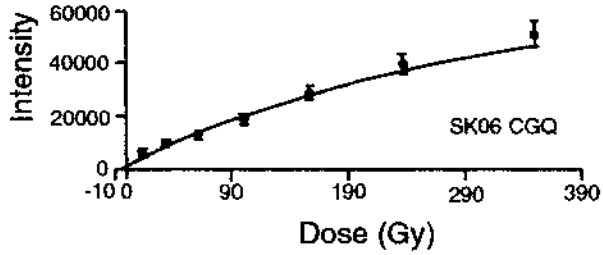
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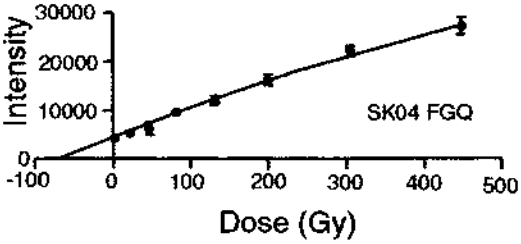
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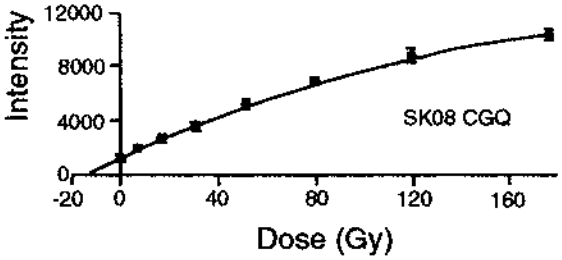
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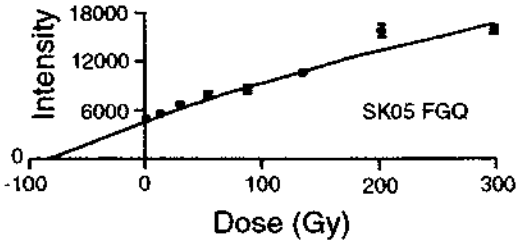
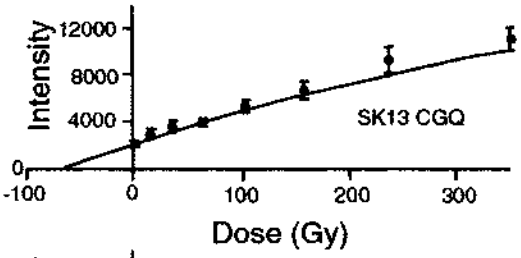
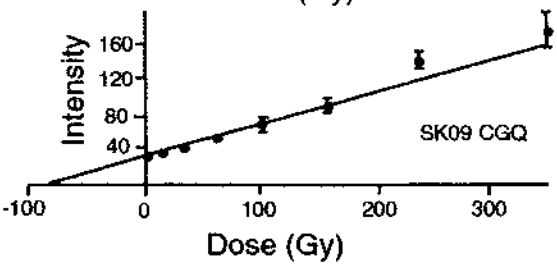
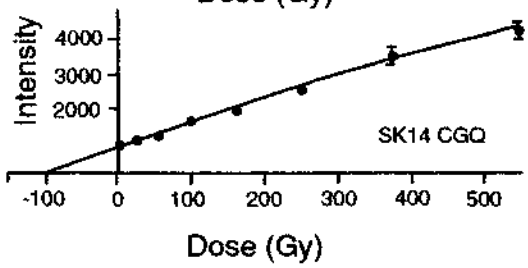
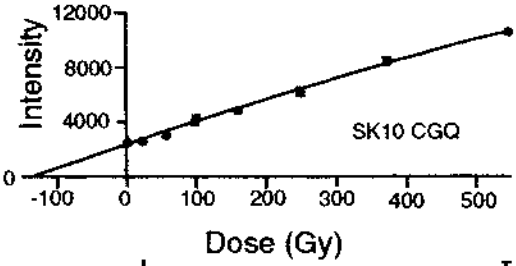
Dose (Gy)
SK08 CGQ

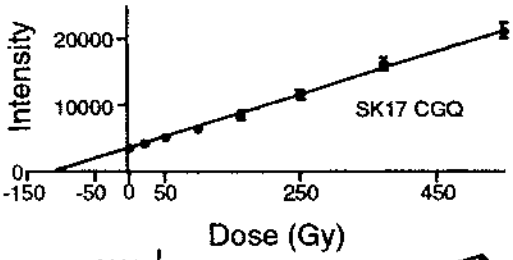

Intensity
18000
12000
6000
0
-100
0
100
200
300
Dose (Gy)
SK05 FGQ

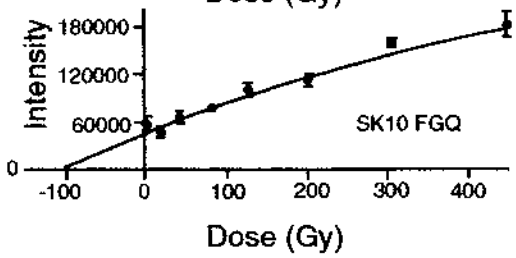

Intensity
12000
8000
4000
0
-100
0
100
200
300
Dose (Gy)
SK13 CGQ

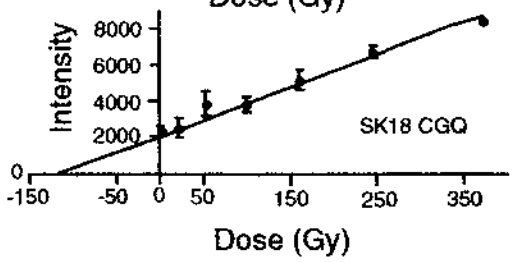

Intensity
160
120
80
40
-100
0
100
200
300
Dose (Gy)
SK09 CGQ

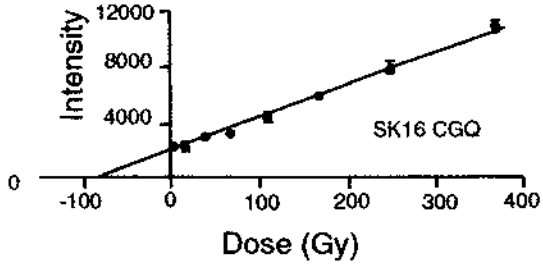

Intensity
4000
3000
2000
-100
0
100
200
300
400
500
Dose (Gy)
SK14 CGQ


Intensity
12000
8000
4000
0
-100
0
100
200
300
400
500
Dose (Gy)
SK10 CGQ


Intensity
20000
10000
0
-150
-50
0
50
250
450
Dose (Gy)
SK17 CGQ


Intensity
180000
120000
60000
0
-100
0
100
200
300
400
Dose (Gy)
SK10 FGQ

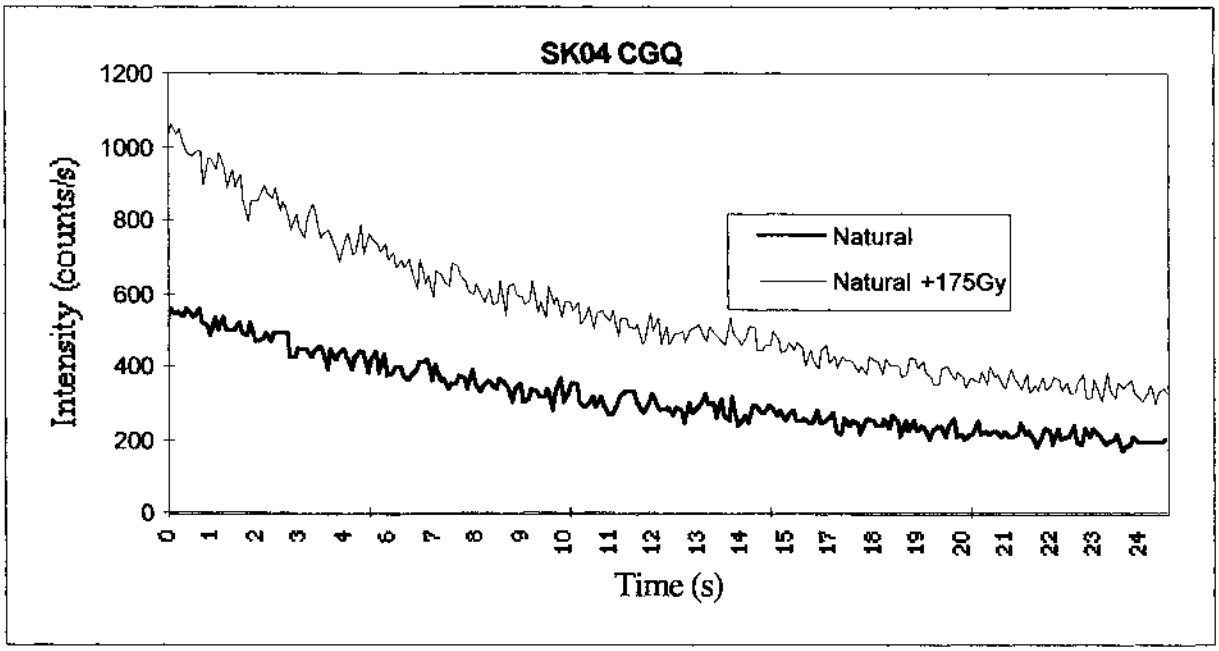

Intensity
8000
6000
4000
2000
0
-150
-50
0
50
150
250
350
Dose (Gy)
SK18 CGQ

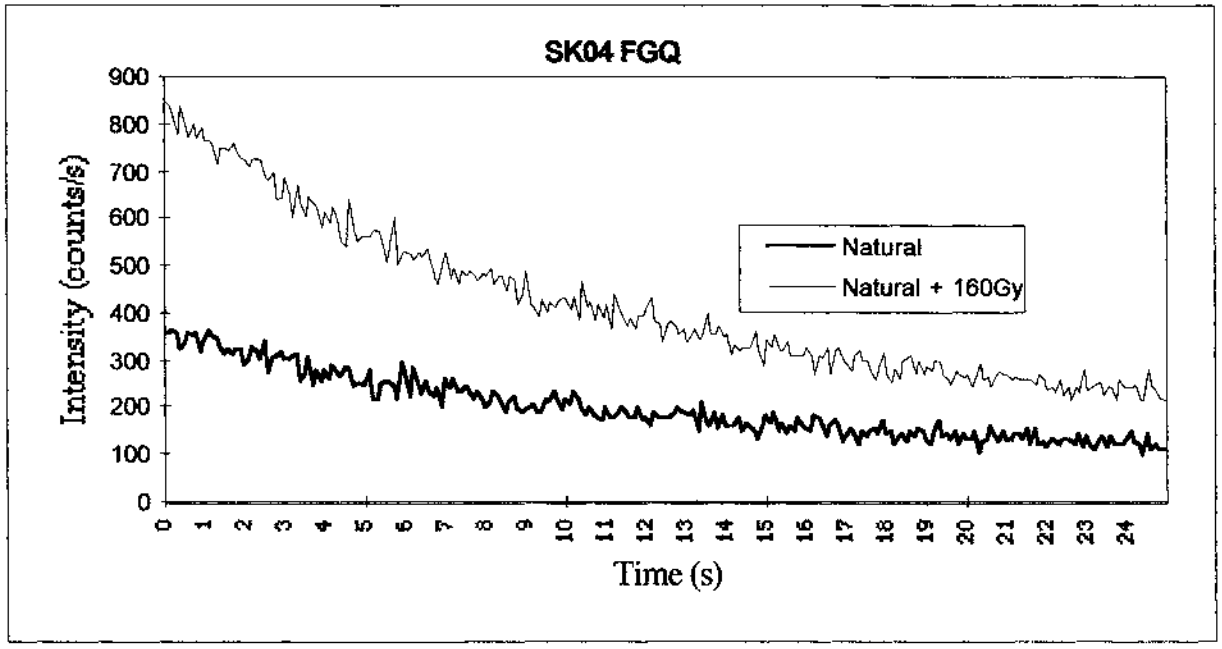

Intensity
12000
8000
4000
0
-100
0
100
200
300
400
Dose (Gy)
SK16 CGQ

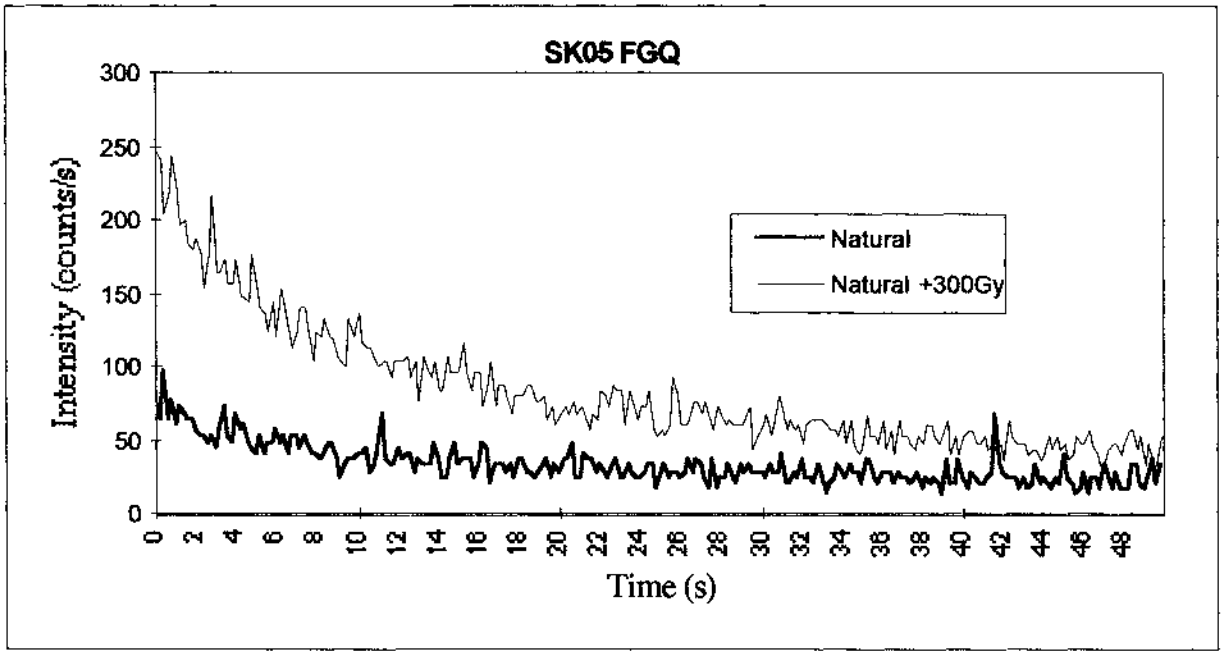
APPENDIX 1

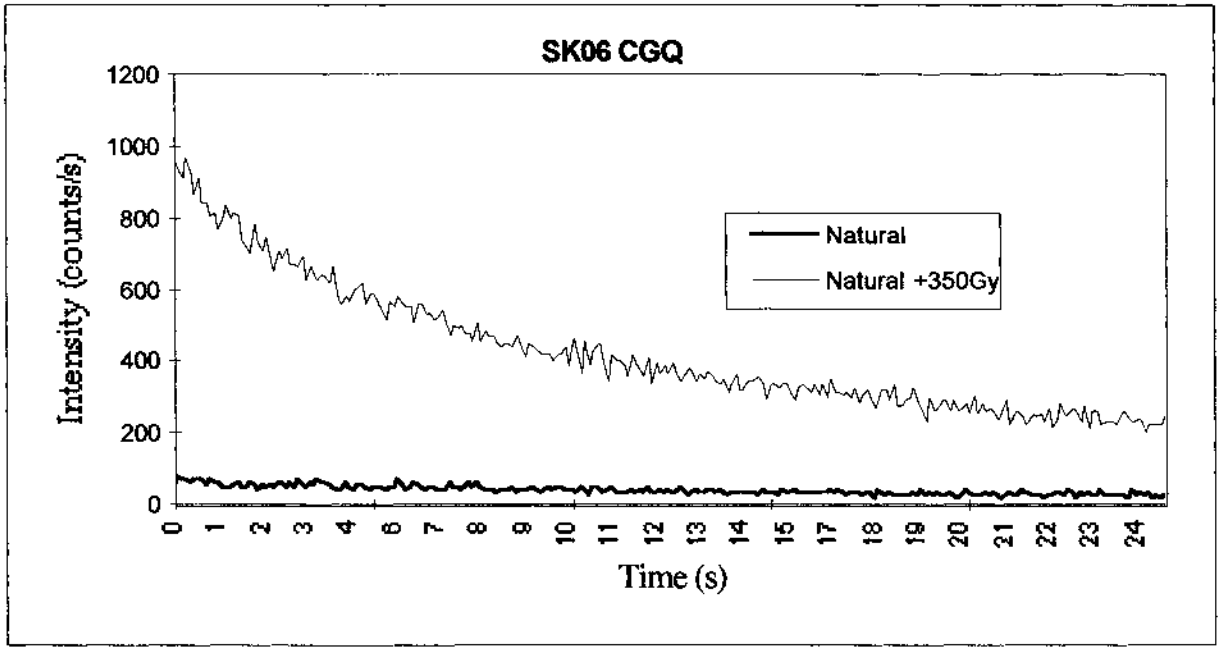
Appendix 2

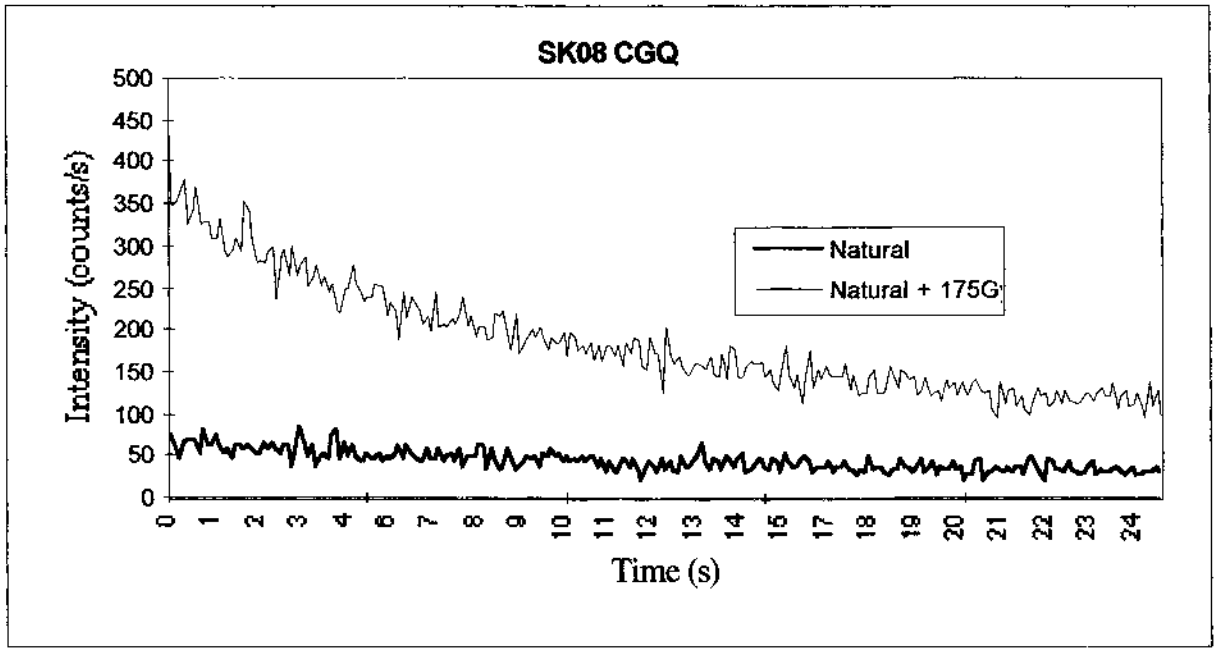
Typical shine-down curves for each of the samples (SK04 – SK18) that were dated in this study. Aliquots shown are a natural and natural plus maximum added dose, following preheating. No background has been subtracted. (CGQ – coarse grained quartz; FGQ – fine grained quartz).

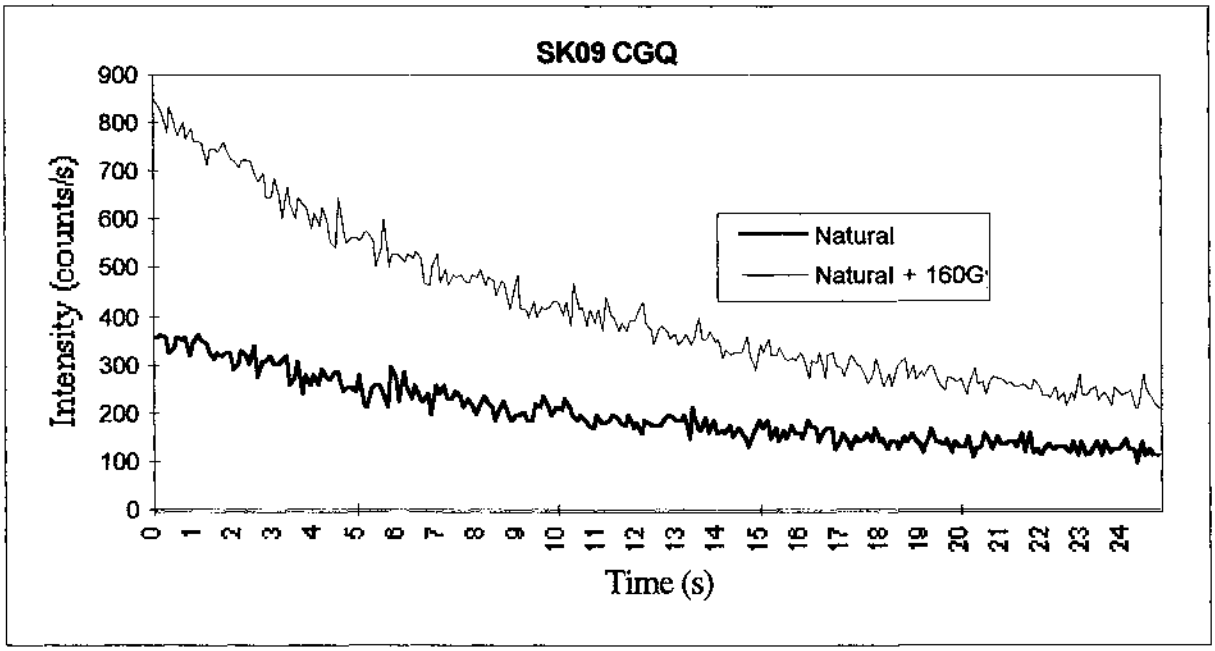

SK04 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural +175Gy

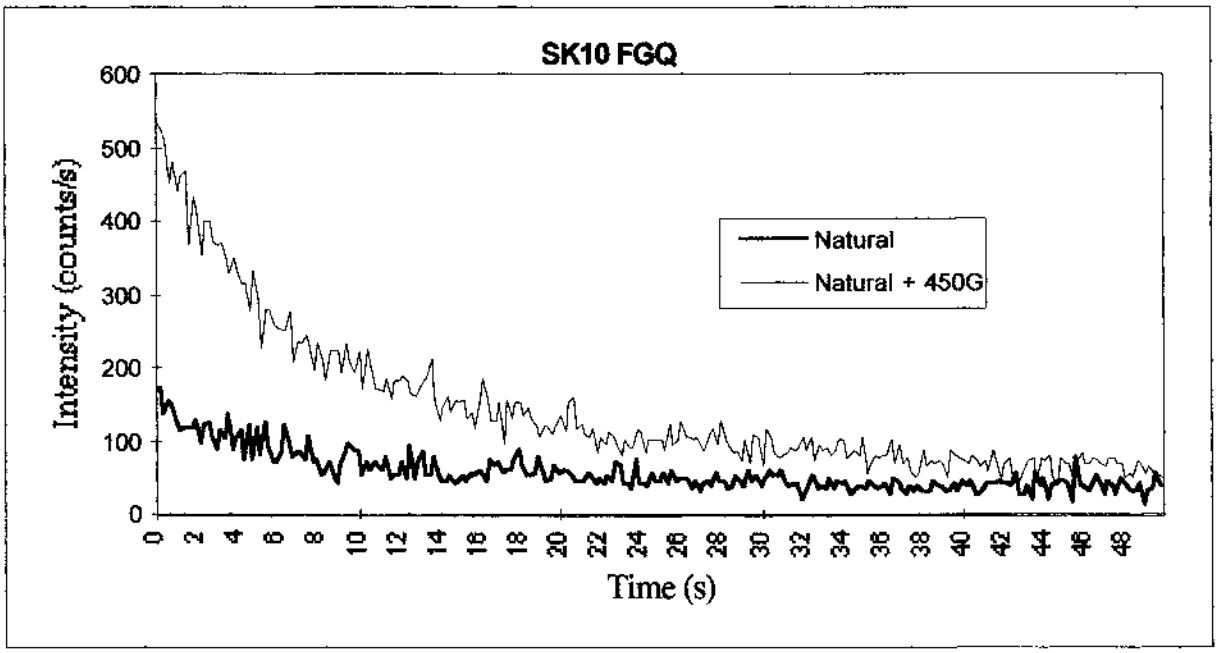

SK04 FGQ
Intensity (counts/s)
Time (s)
Natural
Natural + 160Gy

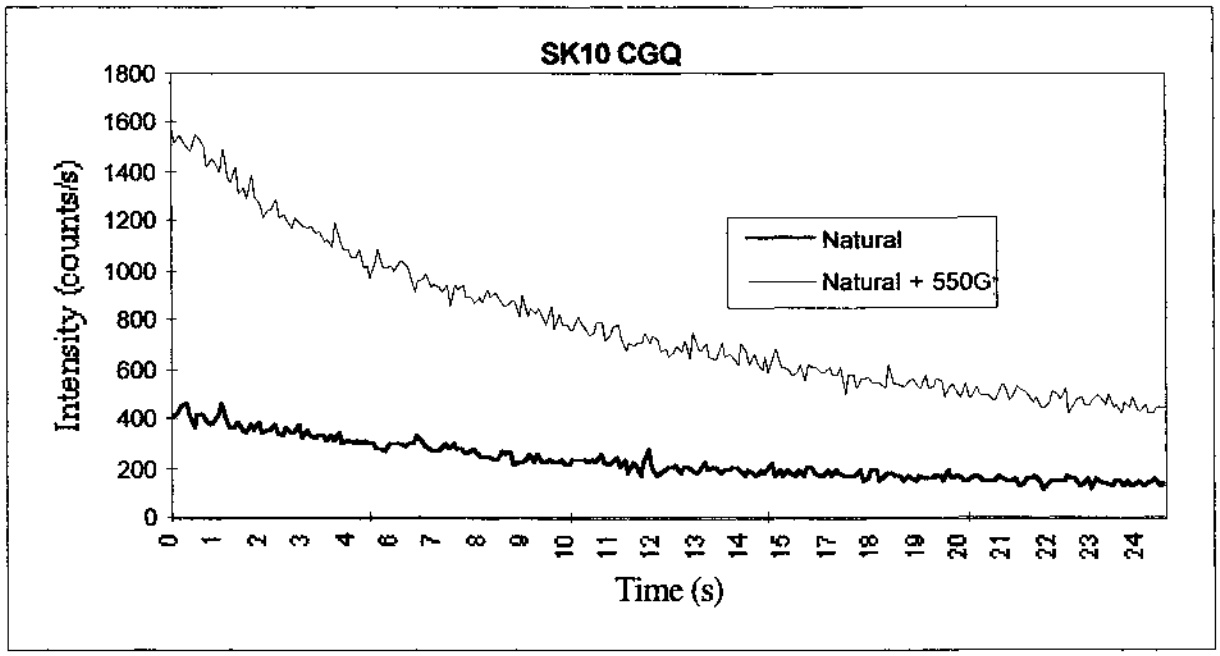

SK05 FGQ
Intensity (counts/s)
Time (s)
Natural
Natural +300Gy

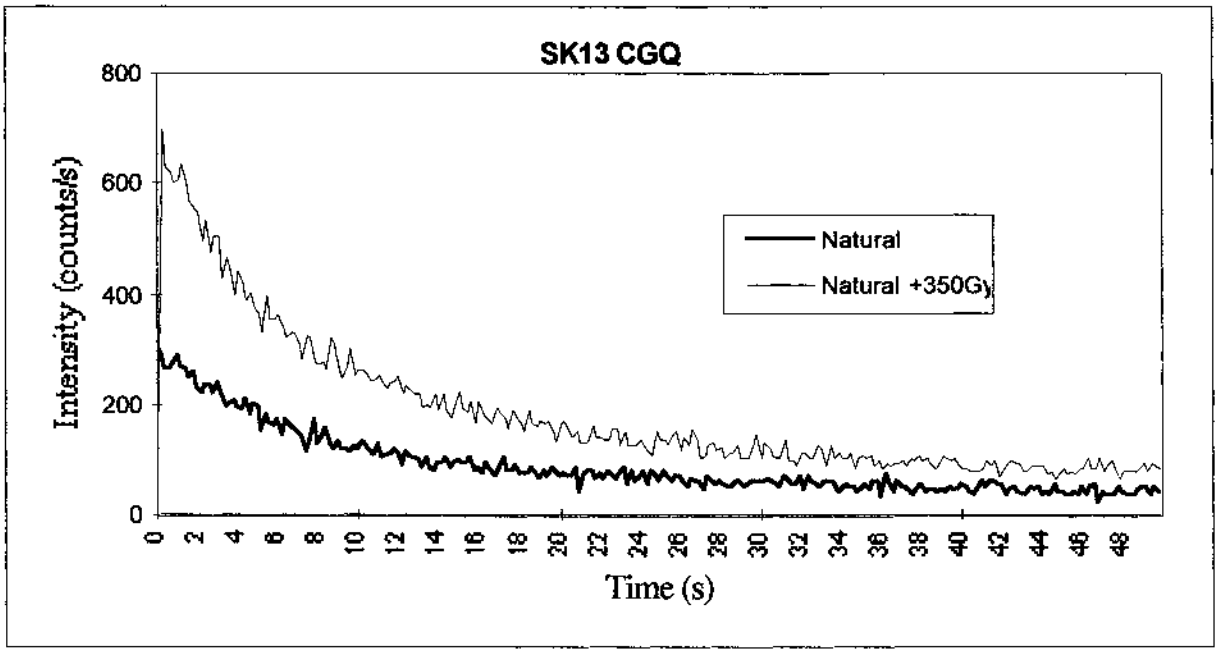

SK06 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural +350Gy

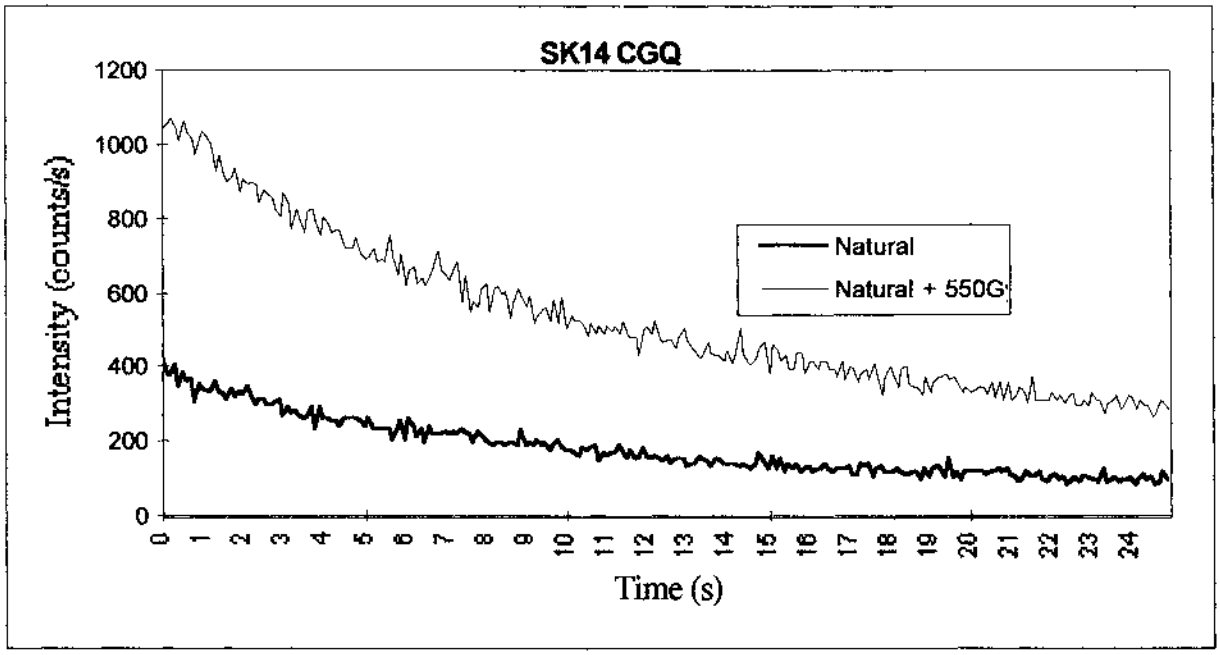

SK08 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural + 175G

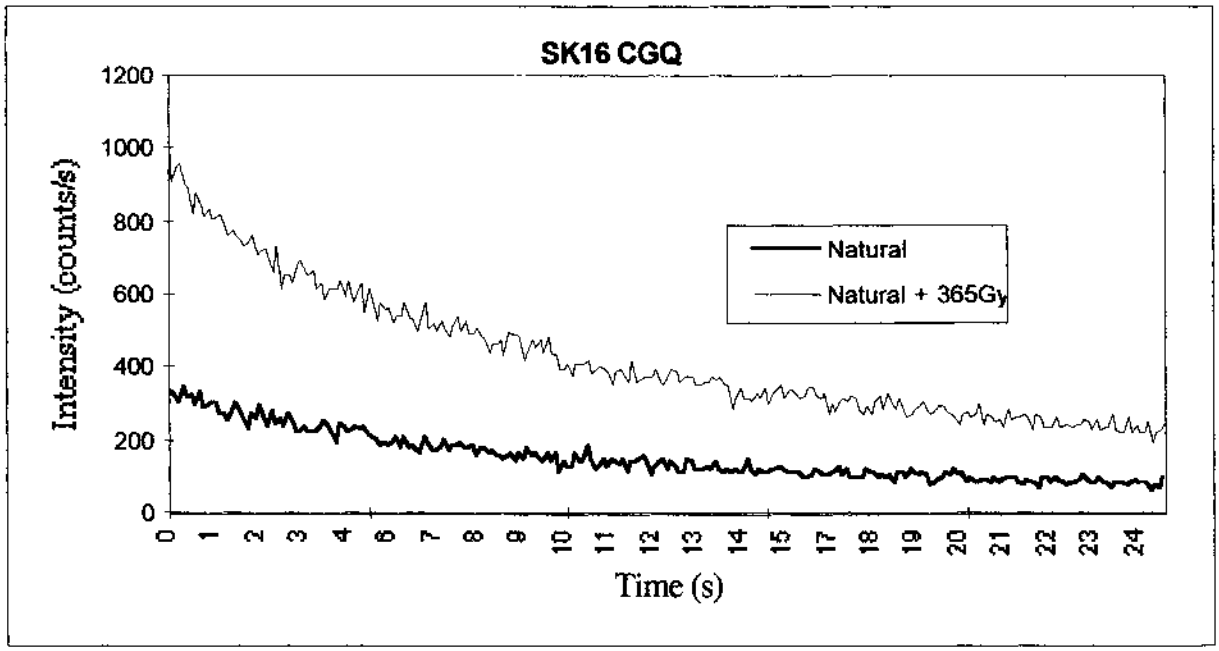

SK09 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural + 160G

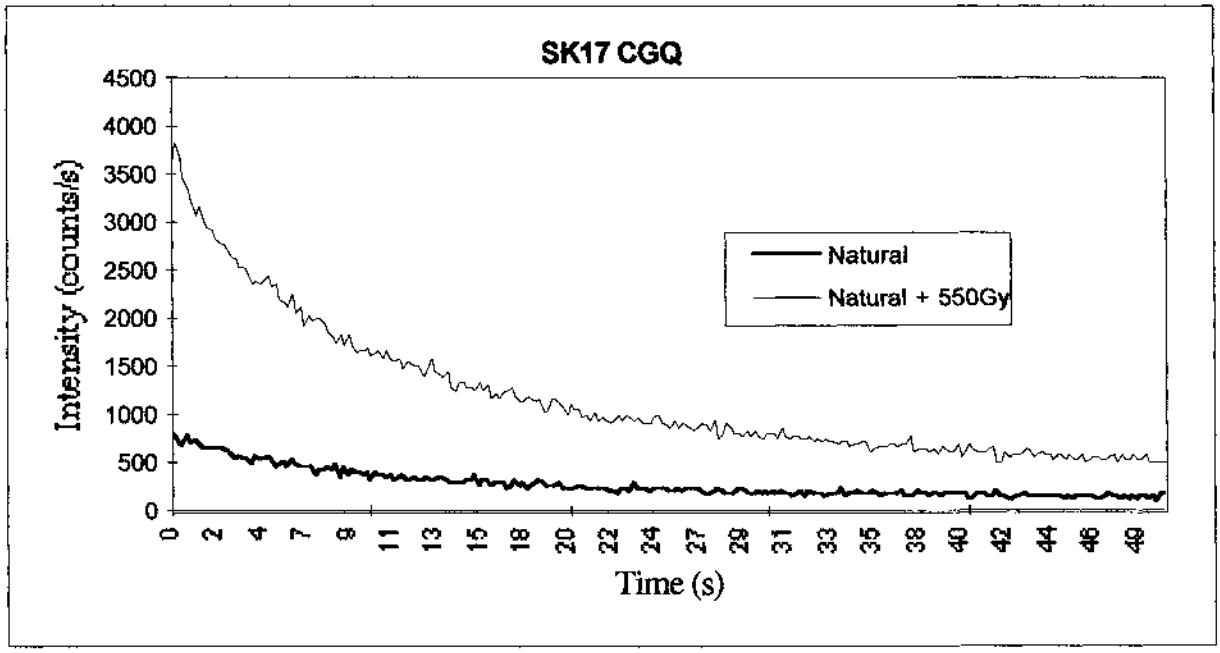

SK10 FGQ
Intensity (counts/s)
Time (s)
Natural
Natural + 450G

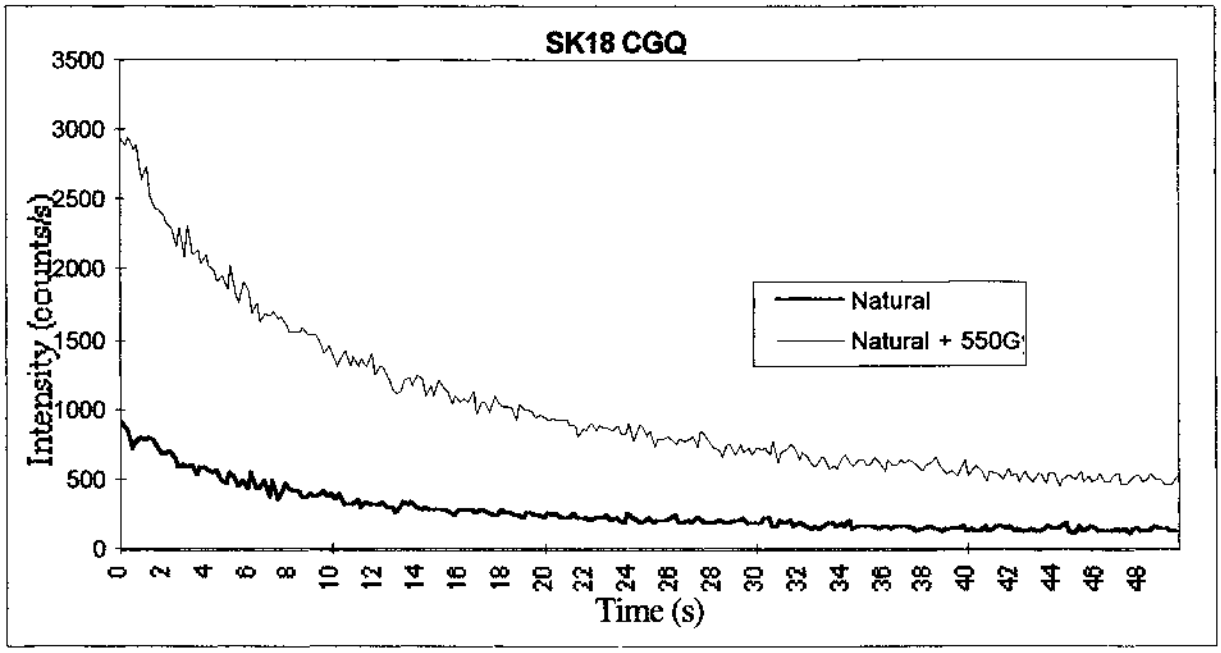

SK10 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural + 550G


SK13 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural +350Gy


SK14 CGQ
Intensity (counts/s)
Time (s)
Natural
Natural + 550G


SK16 CGQ
Intensity (counts/s)
1200
1000
800
600
400
200
0
Natural
Natural + 365Gy
0 1 2 3 4 6 7 8 9 10 11 12 13 14 15 17 18 19 20 21 22 23 24
Time (s)


SK17 CGQ
Intensity (counts/s)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Natural
Natural + 550Gy
0 2 4 7 9 11 13 15 18 20 22 24 27 29 31 33 35 38 40 42 44 46 49
Time (s)


SK18 CGQ
Intensity (counts/s)
3500
3000
2500
2000
1500
1000
500
0
Natural
Natural + 550G
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
Time (s)