LANDSCAPE RESPONSE TO LATE QUATERNARY CLIMATIC CHANGE ON THE SOUTHERN HIGH PLAINS, USA

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APPENDIX A

Summary data for Southern High Plains samples

Appendix A. Summary data for Southern High Plains samples

Sample ID	Latitude	Longitude	Location	Depositional environment	Depth (m)	Colour
Small playa lunettes						
98/1/1	33°56'49"N	102°45'46"W	White Lake, Texas	Lunette (inner)	1	2.5YR 6/2 light brownish grey
98/1/2	33°56'49"N	102°45'46"W	White Lake, Texas	Lunette (inner)	3	2.5YR 6/2 light brownish grey
98/3/1	33°47'47"N	102°36'29"W	Silver Lake, Texas	Lunette (inner)	1	2.5Y 6/2 light brownish grey
98/3/2	33°47'47"N	102°36'29"W	Silver Lake, Texas	Lunette (inner)	2	10YR 7/2 light brown grey
98/5/1	34°39'43"N	101°32'23"W	Jackson Hill, Texas	Lunette (single)	1.8	10YR 4/4 dark yellowish brown
98/5/2	34°39'43"N	101°32'23"W	Jackson Hill, Texas	Lunette (single)	3.1	5YR 6/6 reddish yellow
98/5/3	34°39'43"N	101°32'23"W	Jackson Hill, Texas	Lunette (single)	4.6	5YR 5/6 yellowish red
98/6/1	33°59'24"N	101°43'53"W	Julia Lake, Texas	Lunette (single)	0.4	10YR 6/3 pale brown
98/6/2	33°59'24"N	101°43'53"W	Julia Lake, Texas	Lunette (single)	0.75	10YR 6/2 light brownish grey
98/6/3	33°59'24"N	101°43'53"W	Julia Lake, Texas	Lunette (single)	2	10YR 7/3 very pale brown
98/9/1	32°10'27"N	101°39'58"W	Red Lake, Texas near Big Spring, Texas	Lunette (single)	1	10YR 7/2 light grey
98/9/2	32°10'27"N	101°39'58"W	Red Lake, Texas near Big Spring, Texas	Lunette (single)	2	2.5Y 8/2 white
98/9/3	32°10'27"N	101°39'58"W	Red Lake, Texas near Big Spring, Texas	Lunette (single)	3	2.5Y 8/2 white
98/9/4	32°10'27"N	101°39'58"W	Red Lake, Texas near Big Spring, Texas	Lunette (single)	4	2.5Y 7/2 light grey
Large lake lunettes						
99/3/1A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	0.3	2.5YR 7/2 light grey
99/3/1B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	0.9	2.5YR 7/2 light grey
99/3/3A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	1.8	2.5YR 7/2 light grey
99/3/3B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	2.4	2.5YR 7/2 light grey
99/3/4A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	3.4	2.5YR 7/2 light grey
99/3/4B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	4	2.5YR 7/2 light grey
99/3/5A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	5	2.5YR 7/2 light grey
99/3/5B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	5.5	2.5YR 7/2 light grey
99/3/6A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	6.4	2.5YR 7/2 light grey
99/3/6B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	7	2.5YR 7/2 light grey
99/3/7A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	8	2.5YR 7/2 light grey
99/3/7B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	8.5	2.5YR 7/2 light grey
99/3/8A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	9.4	2.5YR 7/2 light grey
99/3/8B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	10	2.5YR 7/2 light grey
99/3/9A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	11	2.5YR 7/2 light grey
99/3/9B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	11.6	2.5YR 7/2 light grey
99/3/10A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	12.5	2.5YR 6/2 light brownish grey
99/3/10B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	13	2.5YR 6/2 light brownish grey
99/3/11A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	14	10YR 7/2 light grey
99/3/11B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	14.6	10YR 7/2 light grey
99/3/12A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	15.5	10YR 6/4 light yellowish brown
99/3/12B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	16	10YR 7/3 very pale brown
99/3/13A	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	17	10YR 7/3 very pale brown
99/3/13B	33°13'15.1"N	101°54'07.6"W	Double Lakes, Texas	Inner lunette	17.7	2.5Y 8/2 pinkish white

Appendix A. Summary data for Southern High Plains samples continued

Sample ID	Latitude	Longitude	Location	Depositional environment	Depth (m)	Colour
Large lake lunettes						
99/12/1A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	0.3	10YR 6/4 light yellowish brown
99/12/1B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	0.6	10YR 8/2 very pale brown
99/12/2A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	1.2	10YR 8/2 very pale brown
99/12/2B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	1.5	10YR 6/4 light yellowish brown
99/12/3A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	2.1	10YR 6/4 light yellowish brown
99/12/3B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	2.4	10YR 6/4 light yellowish brown
99/12/4A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	3.5	10YR 7/4 very pale brown
99/12/4B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	3.8	10YR 7/4 very pale brown
99/12/5A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	4.9	10YR 7/4 very pale brown
99/12/5B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	5	7.5YR 6/6 reddish yellow
99/12/6A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	5.8	7.5YR 6/6 reddish yellow
99/12/6B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	6.1	7.5YR 6/6 reddish yellow
99/12/7A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	7	7.5YR 6/6 reddish yellow
99/12/7B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	7.3	7.5YR 6/6 reddish yellow
99/12/8A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	7.9	7.5YR 6/6 reddish yellow
99/12/8B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	8.2	10YR 7/6 yellow
99/12/9A	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	8.8	7.5YR 7/3 pink
99/12/9B	33°11'59.7"N	101°54'58.8"W	Double Lakes, Texas	Middle Lunette	9	7.5YR 7/3 pink
99/4/1A	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	0.46	5YR 4/6 yellowish red
99/4/1B	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	0.9	5YR 5/8 yellowish red
99/4/2A	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	1.4	5YR 5/8 yellowish red
99/4/2B	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	1.8	5YR 5/8 yellowish red
99/4/3A	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	2.3	7.5YR 5/6 strong brown
99/4/3B	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	2.7	7.5YR 6/6 reddish yellow
99/4/4A	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	3.2	7.5YR 8/2 pinkish white
99/4/4B	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	3.8	7.5YR 6/6 reddish yellow
99/4/5A	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	4.7	7.5YR 7/6 reddish yellow
99/4/5B	33°12'8.7"N	101°53'37.6"W	Double Lakes, Texas	Outer lunette	5.3	7.5YR 7/6 reddish yellow
99/1/1	33°12'05.3"N	101°52'32.4"W	Double Lakes, High Lonesome, Texas	Outermost lunette	0.65	5YR 4/6 Yellowish Red
99/9/1	33°48'16.7"N	102°27'42.6"W	Yellow Lake, Texas	Inner luntte	3	2.5Y 6/3 light reddish brown
98/4/1	33°50'30"N	102°27'10"W	Illusion Lake, Texas	Inner luntte	0.8	10YR 6/2 greyish brown
98/4/2	33°50'30"N	102°27'10"W	Illusion Lake, Texas	Inner luntte	1.8	10YR 6/2 greyish brown

Appendix A. Summary data for Southern High Plains samples continued

Sample ID	Latitude	Longitude	Location	Depositional environment	Depth (m)	Colour
Coversand samples						
98/2/1	34°08'18"N	102°37'01"W	Muleshoe Dunes, Texas	Coversand	1	5YR 6/8 reddish yellow
98/2/2	34°08'18"N	102°37'01"W	Muleshoe Dunes, Texas	Coversand	1.75	2.5YR 4/8 red
99/13/1	34°09'32.8"N	102°54'27.4"W	Sand Hills, 18 km SW of Muleshoe, Texas	Coversand	1.1	5YR 6/6 reddish yellow
99/13/2	34°09'32.8"N	102°54'27.4"W	Sand Hills, 18 km SW of Muleshoe, Texas	Coversand	0.55	5YR 5/6 yellowish red
99/13/3	34°09'32.8"N	102°54'27.4"W	Sand Hills, 18 km SW of Muleshoe, Texas	Coversand	4	7.5YR 6/6 reddish yellow
99/13/4	34°09'32.8"N	102°54'27.4"W	Sand Hills, 18 km SW of Muleshoe, Texas	Coversand	1.3	7.5YR 5/4 brown
99/13/5	34°09'32.8"N	102°54'27.4"W	Sand Hills, 18 km SW of Muleshoe, Texas	Coversand	0.6	7.5YR 6/8 reddish yellow
99/14/1	34°21'33.8"N	103°27'34.9"W	9 km SE of St. Vrain, New Mexico	Coversand	3	5YR 5/8 yellowish red
99/14/2	34°21'33.8"N	103°27'34.9"W	9 km SE of St. Vrain, New Mexico	Coversand	1.7	5YR 4/6 yellowish red
99/14/3	34°21'33.8"N	103°27'34.9"W	9 km SE of St. Vrain, New Mexico	Coversand	0.9	5YR 5/8 yellowish red
99/15/1	34°14'00.9"N	103°19'00.7"W	19.5 km S of Portair, New Mexico	Coversand	1.5	5YR 4/6 yellowish red
99/15/2	34°14'00.9"N	103°19'00.7"W	19.5 km S of Portair, New Mexico	Coversand	2	7.5YR 6/6 reddish yellow
99/15/3	34°14'00.9"N	103°19'00.7"W	19.5 km S of Portair, New Mexico	Coversand	1	7.5YR 7/6 reddish yellow
99/16/1	34°09'30.7"N	102°54'31.9"W	Muleshoe Dunes, Texas	Coversand	1	5YR 5/8 yellowish red
99/17/1	34°08'40.7"N	102°54'32.8"W	Muleshoe Dunes, Texas	Coversand	1	5YR 5/8 yellowish red
99/18/3	33°33'00.5"N	103°04'18.2"W	Lea-Yoakum Dunes, Texas	Coversand	1	5YR 5/8 yellowish red
99/18/2	33°33'00.5"N	103°04'18.2"W	Lea-Yoakum Dunes, Texas	Coversand	1.6	7.5YR 5/6 strong brown
99/18/1	33°33'00.5"N	103°04'18.2"W	Lea-Yoakum Dunes, Texas	Coversand	2.5	2.5YR 4/8 red
99/19/1	33°23'50.4"N	103°51'30.2"W	Mescalero Dunes State Park, Texas	Coversand	5.5	5YR 5/6 yellowish red
99/19/2A	33°23'50.4"N	103°51'30.2"W	Mescalero Dunes State Park, Texas	Coversand	2	7.5YR 6/6 reddish yellow
99/19/2B	33°23'50.4"N	103°51'30.2"W	Mescalero Dunes State Park, Texas	Coversand	3	7.5YR 6/6 reddish yellow
99/19/3	33°23'50.4"N	103°51'30.2"W	Mescalero Dunes State Park, Texas	Coversand	1	7.5YR 7/3 pink
99/19/4	33°23'50.4"N	103°51'30.2"W	Mescalero Dunes State Park, Texas	Coversand	0.5	7.5YR 7/3 pink
99/23/1	32°03'57" N	103° 09' 54" W	Toboso Flats, 10 km south of Jal, Texas (Mescalero)	Coversand	1	5YR 5/8 yellowish red
99/23/2	32°03'57" N	103° 09' 54" W	Toboso Flats, 10 km south of Jal, Texas (Mescalero)	Coversand	1	5YR 5/8 yellowish red
99/24/1	32°18'40.3"N	103°11'08.8"W	15 km south of Eunice, Texas (Mescalero)	Coversand	2.5	5YR 6/8 reddish yellow
99/20/1	31°38'32.9"N	102°49'03.8"W	Monahans Sandhills State Park , Texas	Coversand	1.45	10YR 7/4 very pale yellow
99/20/2	31°38'32.9"N	102°49'03.8"W	Monahans Sandhills State Park , Texas	Coversand	0.5	7.5YR 5/8 strong brown
99/21/1	31°37'18.8"N	102°48'41"W	Monahans Sandhills State Park , Texas	Coversand	2.75	10YR 6/6 brownish yellow
99/21/2	31°37'18.8"N	102°48'41"W	Monahans Sandhills State Park , Texas	Coversand	0.75	10YR 6/4 Lt. brownish yellow
99/22/1	31°44'40.8"N	103°02'51.2"W	21 km northwest of Monahans, Texas (Monahans)	Coversand	1.2	7.5YR 6/6 reddish yellow
99/22/2	31°44'40.8"N	103°02'51.2"W	21 km northwest of Monahans, Texas (Monahans)	Coversand	0.6	7.5YR 6/6 reddish yellow

Appendix A. Summary data for Southern High Plains samples continued

Sample ID	Latitude	Longitude	Location	Depositional environment	Depth (m)	Colour
Lacustrine samples						
98/7/1	33°17'15"N	102°11'23"W	Rich Lake, Texas	Lacustrine deposit in NW draw	1	10YR 7/1 light grey
98/7/2	33°17'15"N	102°11'23"W	Rich Lake, Texas	Lacustrine deposit in NW draw	1.1	10YR 8/1 white
98/7/3	33°17'15"N	102°11'23"W	Rich Lake, Texas	Lacustrine deposit in NW draw	2	10YR 5/1 grey
99/6/1	33°17'15.9"N	102°11'22"W	Rich Lake, Texas	Lacustrine deposit in NW draw	1.5	10YR 6/3 pale brown
99/8/3	33°48'16.4"N	102°27'54.6"W	Yellow Lake, Texas	Deposit near SW shore	5.6	5Y 7/2 light reddish brown
Tufa samples						
98/8/2	33°14'23"N	101°54'21"W	Double Lakes, Texas	Tufa deposit	1.5	10YR 8/1 white
98/8/3	33°14'23"N	101°54'21"W	Double Lakes, Texas	Tufa deposit	2.5	10YR 8/1 white
99/2/1	33°14'25.3"N	101°54'20"W	Double Lakes, Texas	Tufa deposit	1	2.5Y 8/2 white
99/2/2	33°14'25.3"N	101°54'20"W	Double Lakes, Texas	Tufa deposit	1	2.5Y 8/2 white

APPENDIX B

SAR output information

Information resulting from application of SAR was output in spreadsheet format, which listed the sample aliquot D_e. Approximately 1200 data sheets were generated. Appendix B shows a detailed sheet of output information obtained from the SAR protocol and describes the function of each datum. A compilation of the raw data listed on the SAR output is listed in Appendix F.

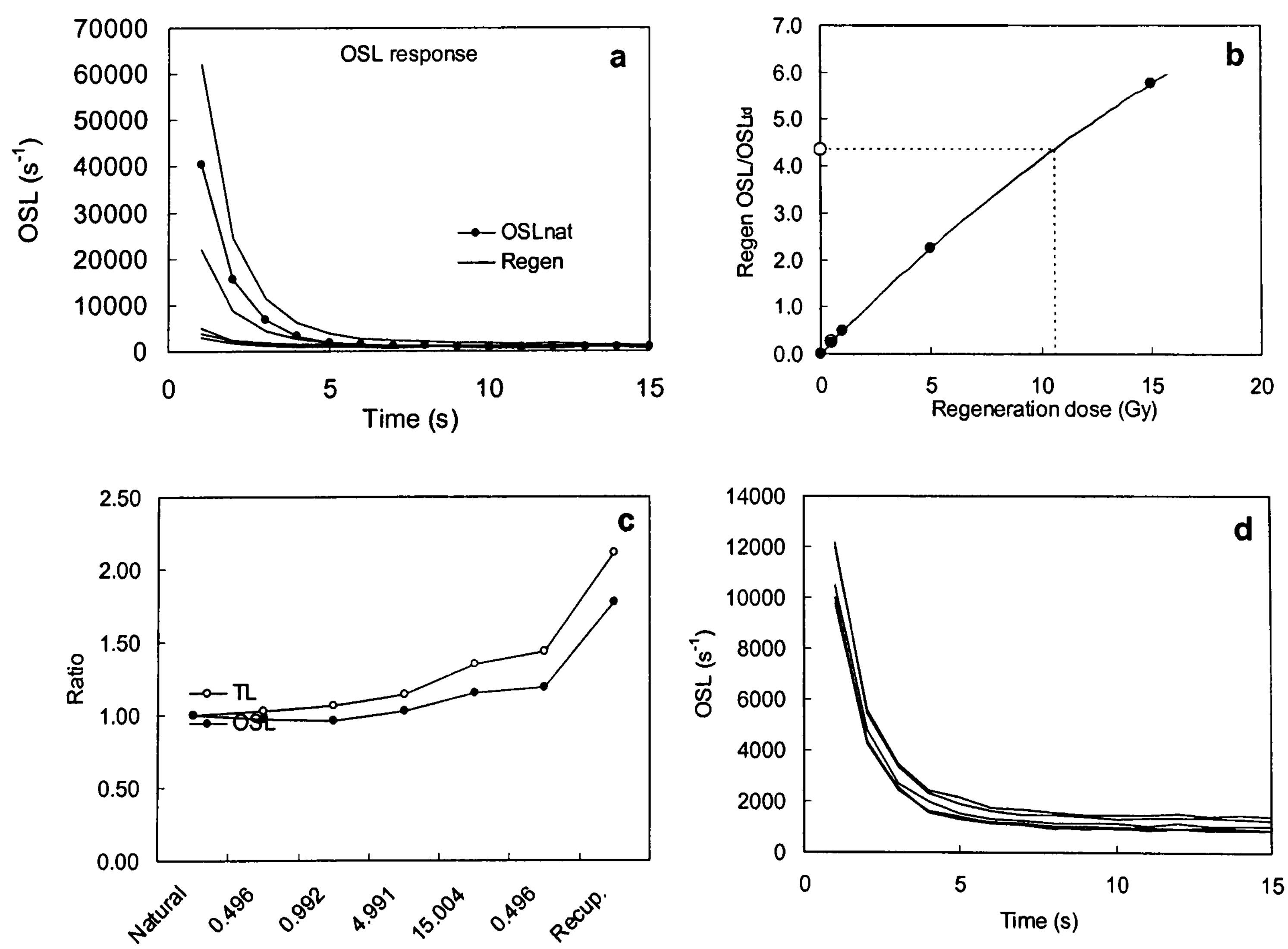
Sample – Sample identification number.

Disc-Aliquot position on the Risø wheel (holds maximum of 48 discs).

Ratio (R_I/R_{end}) (recycling ratio) - Four regeneration dose points were used to construct the growth curve, followed by a repeat of the first regeneration dose. The initial corrected OSL value from the first regeneration (R_I) is divided by the corrected OSL value from the repeat measurement (R_{end}). The purpose is to check the correction. Aliquots with recycling ratios between 0.90 and 1.10 were used in this study.

Reader-The School of Geography luminescence lab has two RISØ readers that have been named Bacchus and Atlas. Radioactive beta source ($^{90}Sr/^{90}Y$) strength listed below in Gy min^{-1}.

Sample:	99/3/9A	*Date:*	19/06/00	**47.3 ±0.5 Gy =**	**D_e**
Disc:	18	*Nat I:*	98351		
Nat I (1s)/BG (11-15s):	147.06	*Recup.(%):*	0.63	*Reader:*	BACCHUS
TD I(1s)/BG (11-15s):	14.38	*Ratio (RI/Rend):*	0.98	1.89	Gy.min^{-1}



Nat I (1s)/BG (11-15s) – Ratio of natural intensity of the aliquot (first second) to the background signal, measured over the last 5 seconds.

TD I (1s)/BG (11-15s) – Ratio of test dose intensity (first second) to the last five seconds of the measurement cycle or background.

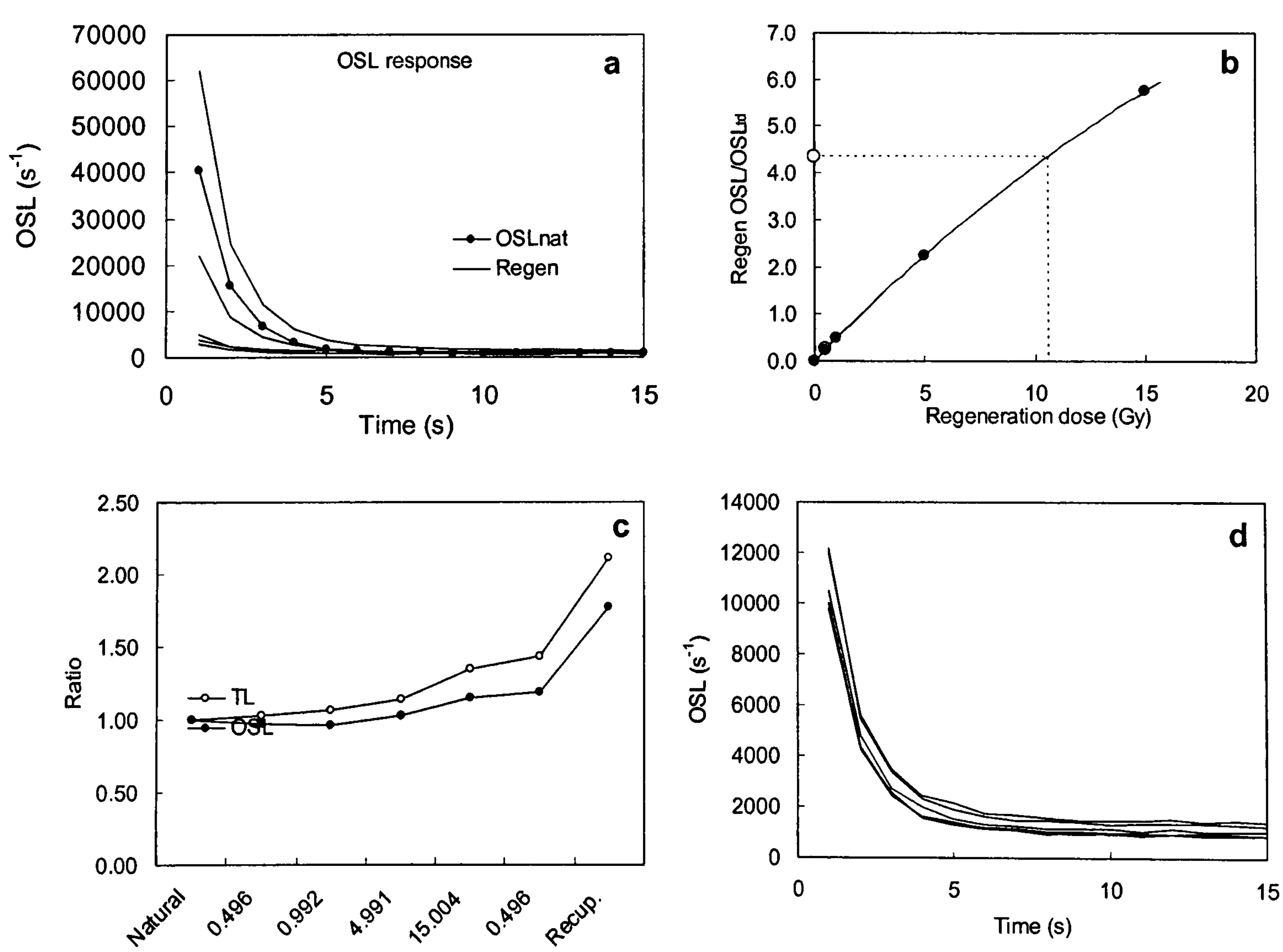
Recuperation - The natural value is divided by the value of the final OSL measurement at the end of the SAR sequence to check the amount (%) of recuperation. The closer the value is to 100% the nearer the final OSL measurement is to the corrected natural value.

Nat I - The natural intensity of the aliquot.

Date – Day, month, and year sample was analysed

D_e – Equivalent dose estimate calculated from SAR methodology, following Murray and Wintle (2000b).

Sample:	99/3/9A	*Date:*	19/06/00	**47.3**	**±0.5 Gy = D_e**
Disc:	18	*Nat I:*	98351		
Nat I (1s)/BG (11-15s):	147.06	*Recup.(%):*	0.63	*Reader:*	BACCHUS
TD I(1s)/BG (11-15s):	14.38	*Ratio (RI/Rend):*	0.98	1.89	$Gy.min^{-1}$

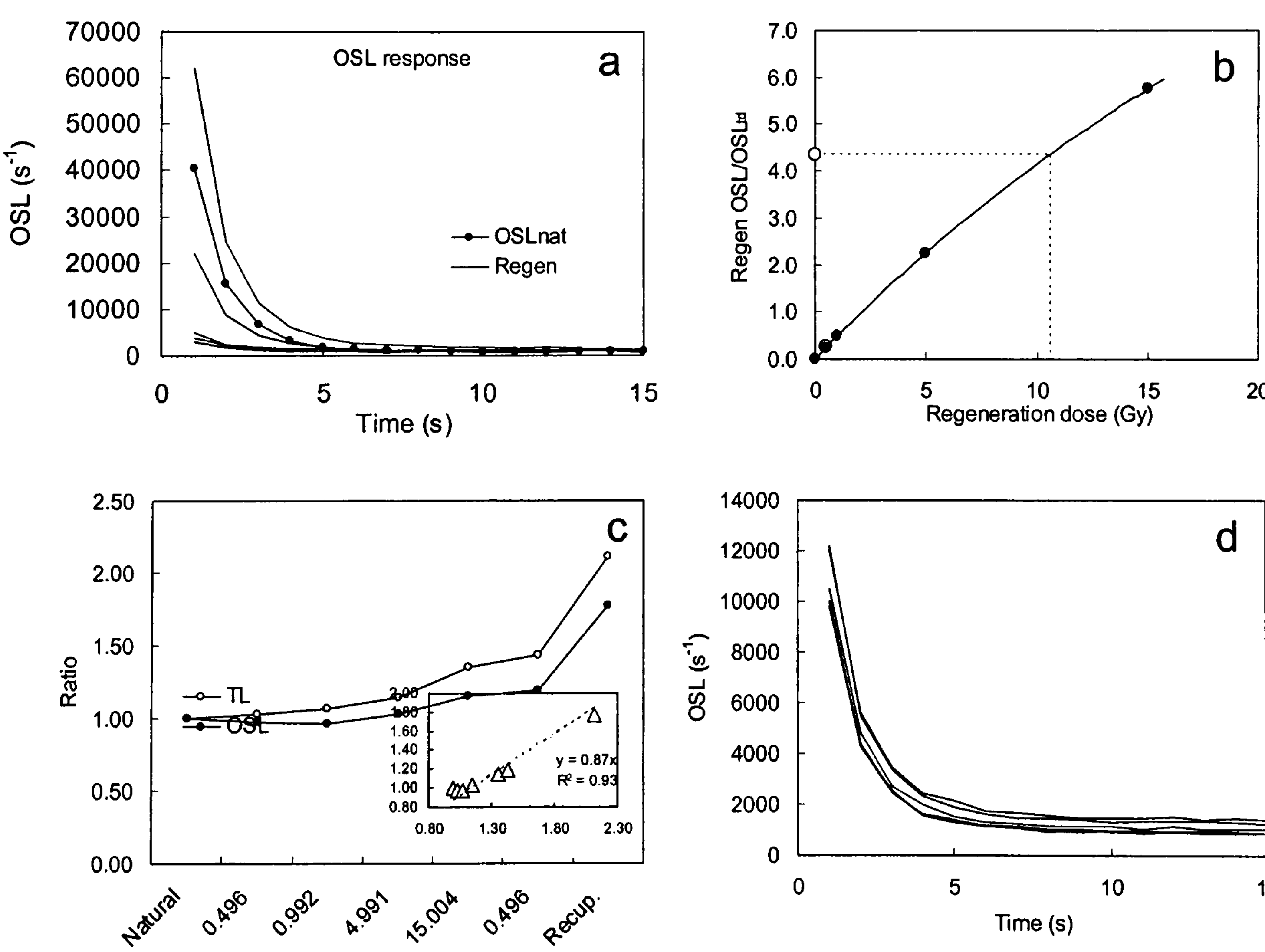


SAR OSL response decay curve (**graph a**)-multiple decay curves represent the various OSL measurements taken throughout the SAR sequence over a measurement cycle of 15 s. The natural OSL is represented as a line with closed circles while the regenerated signal is the line without circles.

SAR growth curve (**graph b**)-four dose points were used to establish growth curve. Natural intensity of sample is show as open circle on x-axis of chart. D_e interpolated from intersection of natural intensity with regenerated curve and y-axis.

Test dose response (**graph c**)-Illustrates TL and OSL response over entire measurement cycle. Closed circle line represents ratio of corrected OSL (following test dose) to natural value. Open circle line plots ratio of TL response (after test dose), with the initial TL measurement. Inset for graph c is a summary plot of the ratio of TL to OSL values used for monitoring sensitivity changes.

Test dose response (**graph d**)-Plot of OSL decay curve following a small (c. 3-5 Gy) test dose, over a measurement cycle of 15 s. Six test doses, per aliquot, were administered during the SAR sequence.

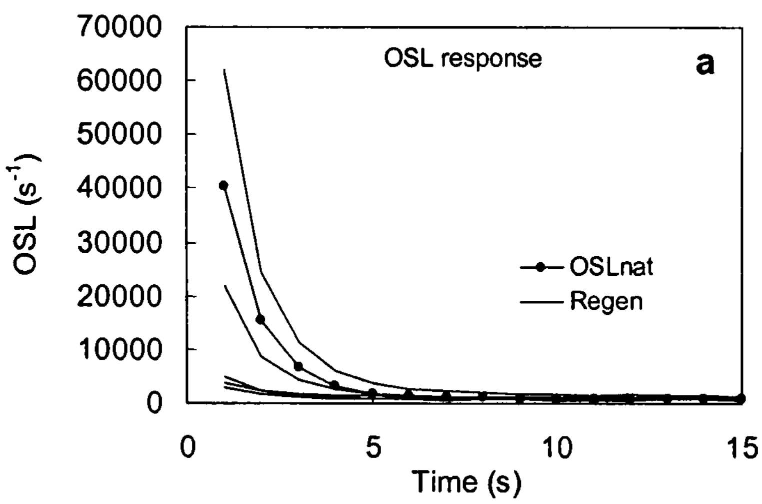


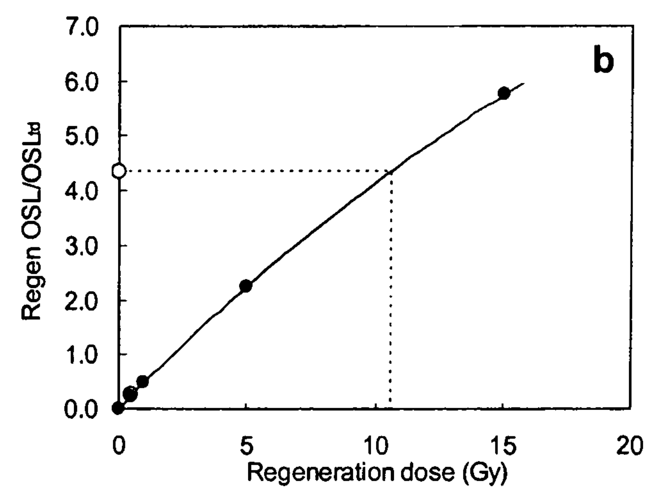
APPENDIX C

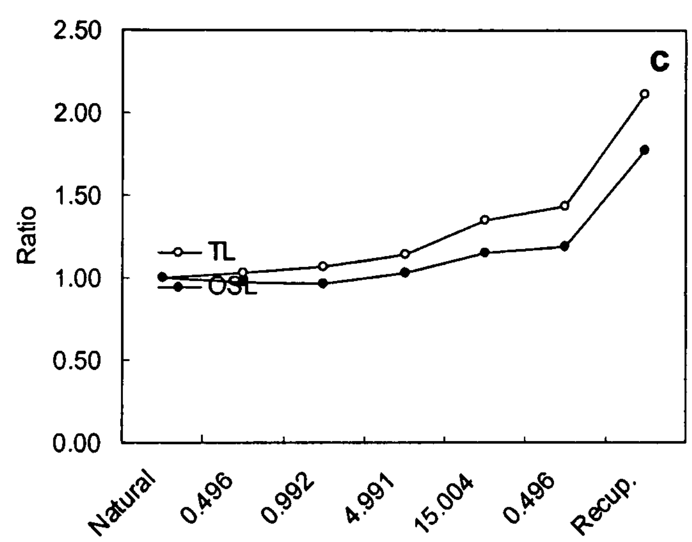
Summary SAR data and D_e spreadsheet

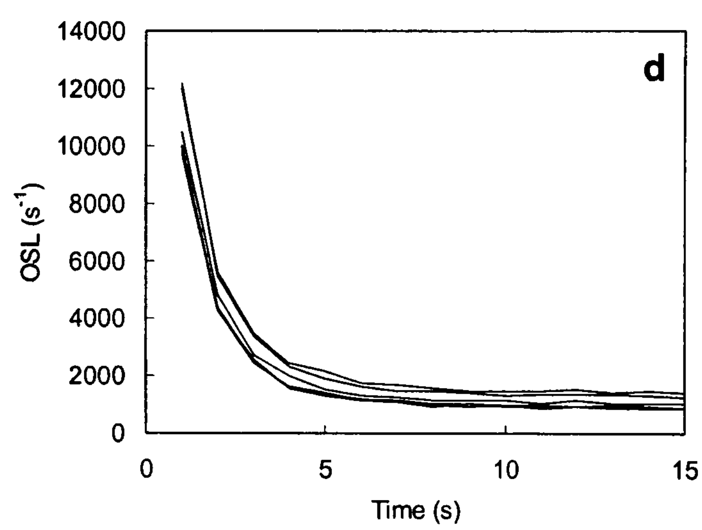
This appendix provides and example of the SAR summary data and D_e spreadsheets for Southern High Plains samples. Approximate 1200 data sheets were generated and the following is an example of the output. The bottom left hand plot consists of a histogram comprised of the individual single aliquot D_e estimates (open circles plotted beneath x-axis), and an unweighted mean value (filled circle above curve). Inset diagram are standardised equivalent dose (D_e) values vs. intensity (I_{nat}). The SAR data table is a summary of information listing the recycling (R) ratio, D_e value, and natural intensity of each aliquot, derived from the SAR protocol. Summary statistics provide the unweighted mean, standard error, and other data. The upper section of the summary data sheet are the plots and SAR data that were previously discussed in Appendix B.

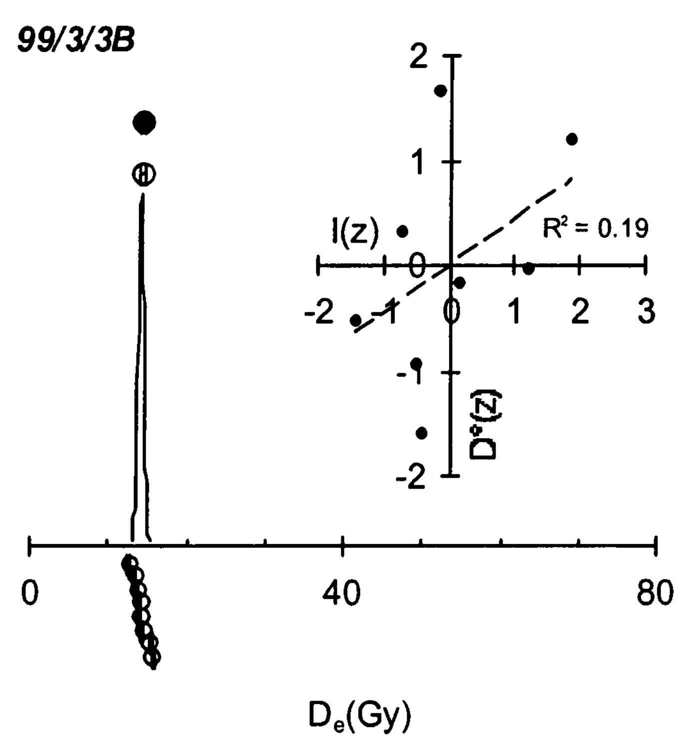
Sample: 99/3/9A	*Date:* 19/06/00		**47.3 ±0.5 Gy = D_e**
Disc: 18	*Nat I:* 98351		
Nat I (1s)/BG (11-15s): 147.06	*Recup.(%):* 0.63		*Reader:* BACCHUS
TD I(1s)/BG (11-15s): 14.38	*Ratio (RI/Rend):* 0.98		1.89 Gy.min^{-1}











SAR Data

R-ratio	*D_e*	*Nat I*
1.00	12.77 ±0.15	49516
0.95	13.40 ±0.16	47579
0.95	13.80 ±0.21	29332
0.94	14.15 ±0.15	60760
0.99	14.25 ±0.13	81317
1.01	14.61 ±0.19	43403
0.97	15.46 ±0.15	93734
0.97	15.91 ±0.19	54284

SAR protocol data sheet

Appendix D. Moisture data

Sample ID	Wet (g)	Dry (g)	Diff. (g)	%	W	F	WF
			Small playa lunettes				
			White Lake				
98/1/1	24.82	24.20	0.62	2.56	0.87	0.03	0.03
98/1/2	49.51	47.29	2.22	4.69	0.26	0.18	0.05
			Silver Lake				
98/3/1	49.54	43.19	6.35	14.70	0.32	0.45	0.15
98/3/2	34.09	32.31	1.78	5.51	0.56	0.10	0.06
			Jackson Hill Playa				
98/5/1	39.50	35.16	4.34	12.34	0.48	0.26	0.12
98/5/2	46.17	41.82	4.35	10.40	0.35	0.30	0.10
98/5/3	52.74	47.50	5.24	11.03	0.26	0.42	0.11
			Julia Lake				
98/6/1	43.34	41.35	1.99	4.81	0.36	0.14	0.05
98/6/2	26.83	25.57	1.26	4.93	0.80	0.06	0.05
98/6/3	46.00	43.39	2.61	6.02	0.32	0.19	0.06
			Red Lake				
98/9/1	27.69	26.29	1.40	5.33	0.77	0.07	0.05
98/9/2	29.31	28.01	1.30	4.64	0.70	0.07	0.05
98/9/3	32.21	30.09	2.12	7.05	0.63	0.11	0.07
98/9/4	34.93	31.74	3.19	10.05	0.57	0.17	0.10
			Large lake lunettes				
			Double Lakes inner lunette				
99/3/1A	20.56	18.64	1.92	10.30	0.43	0.24	0.10
99/3/1B	15.27	14.22	1.05	7.38	0.68	0.11	0.07
99/3/3A	23.98	21.47	2.51	11.69	0.33	0.36	0.12
99/3/3B	16.94	16.21	0.73	4.50	0.55	0.08	0.05
99/3/4A	21.90	19.75	2.15	10.89	0.39	0.28	0.11
99/3/4B	16.22	14.84	1.38	9.30	0.64	0.15	0.09
99/3/5A	13.99	12.37	1.62	13.10	0.84	0.16	0.13
99/3/5B	17.37	16.31	1.06	6.50	0.55	0.12	0.06
99/3/6A	27.70	23.97	3.73	15.56	0.26	0.61	0.16
99/3/6B	14.64	13.26	1.38	10.41	0.76	0.14	0.10
99/3/7A	35.54	31.96	3.58	11.20	0.57	0.20	0.11
99/3/7B	17.82	15.74	2.08	13.21	0.58	0.23	0.13
99/3/8A	26.41	23.05	3.36	14.58	0.28	0.52	0.15
99/3/8B	15.84	13.27	2.57	19.37	0.76	0.25	0.19
99/3/9A	29.91	25.57	4.34	16.97	0.22	0.78	0.17
99/3/9B	14.99	12.49	2.50	20.02	0.83	0.24	0.20
99/3/10A	26.82	23.91	2.91	12.17	0.26	0.47	0.12
99/3/10B	16.54	14.46	2.08	14.38	0.67	0.22	0.14
99/3/11A	29.04	27.34	1.70	6.22	0.18	0.35	0.06
99/3/11B	18.42	17.23	1.19	6.91	0.50	0.14	0.07
99/3/12A	35.69	31.32	4.37	13.95	0.59	0.24	0.14
99/3/12B	15.05	14.43	0.62	4.30	0.67	0.06	0.04
99/3/13A	18.81	16.92	1.89	11.17	0.52	0.22	0.11
99/3/13B	15.19	13.28	1.91	14.38	0.76	0.19	0.14

Appendix D. Moisture data continued

Sample ID	Wet (g)	Dry (g)	Diff. (g)	%	W	F	WF
			Large lake lunettes				
			Double Lakes middle lunette				
99/12/1A	18.98	17.51	1.47	8.40	0.49	0.17	0.08
99/12/1B	12.10	11.39	0.71	6.23	0.95	0.07	0.06
99/12/2A	31.75	30.20	1.55	5.13	0.62	0.08	0.05
99/12/2B	14.56	14.02	0.54	3.85	0.70	0.06	0.04
99/12/3A	21.98	21.10	0.88	4.17	0.34	0.12	0.04
99/12/3B	21.79	20.71	1.08	5.21	0.35	0.15	0.05
99/12/4A	25.20	23.36	1.84	7.88	0.27	0.29	0.08
99/12/4B	23.44	21.93	1.51	6.89	0.31	0.22	0.07
99/12/5A	23.38	22.09	1.29	5.84	0.31	0.19	0.06
99/12/5B	22.28	20.81	1.47	7.06	0.35	0.20	0.07
99/12/6A	25.26	23.68	1.58	6.67	0.26	0.25	0.07
99/12/6B	18.76	16.99	1.77	10.42	0.51	0.20	0.10
99/12/7A	34.34	31.33	3.01	9.61	0.59	0.16	0.10
99/12/7B	21.12	18.91	2.21	11.69	0.42	0.28	0.12
99/12/8A	25.99	23.24	2.75	11.83	0.28	0.43	0.12
99/12/8B	18.26	16.68	1.58	9.47	0.53	0.18	0.09
99/12/9A	36.92	33.92	3.00	8.84	0.51	0.17	0.09
99/12/9B	17.39	16.16	1.23	7.61	0.56	0.14	0.08
			Double Lakes outer lunette				
99/4/1A	22.45	20.80	1.65	7.93	0.35	0.23	0.08
99/4/1B	16.81	15.42	1.39	9.01	0.60	0.15	0.09
99/4/2A	19.47	18.81	0.66	3.51	0.43	0.08	0.04
99/4/2B	16.58	15.81	0.77	4.87	0.58	0.08	0.05
99/4/3A	39.09	37.20	1.89	5.08	0.44	0.12	0.05
99/4/3B	17.25	16.32	0.93	5.70	0.55	0.10	0.06
99/4/4A	32.81	31.38	1.43	4.56	0.59	0.08	0.05
99/4/4B	15.46	14.30	1.16	8.11	0.68	0.12	0.08
99/4/5A	34.26	32.77	1.49	4.55	0.55	0.08	0.05
99/4/5B	16.75	15.78	0.97	6.15	0.58	0.11	0.06
			Double Lake High Lonesome lunette				
99/1/1	36.97	34.08	2.89	8.48	0.51	0.17	0.08
			Yellow Lake inner lunette				
99/9/1	37.04	33.72	3.32	9.85	0.52	0.19	0.10
			Illusion Lake inner lunette				
98/4/1	41.44	38.99	2.45	6.28	0.40	0.16	0.06
98/4/2	41.76	39.59	2.17	5.48	0.39	0.14	0.05

APPENDIX D

Moisture data

Appendix D. Moisture data continued

Sample ID	Wet (g)	Dry (g)	Diff. (g)	%	W	F	WF
			Coversand samples				
			Muleshoe Dunes				
98/2/1	44.02	41.49	2.53	6.10	0.35	0.17	0.06
98/2/2	43.10	42.30	0.80	1.89	0.34	0.06	0.02
99/13/1	37.17	35.02	2.15	6.14	0.49	0.13	0.06
99/13/2	41.01	39.58	1.43	3.61	0.39	0.09	0.04
99/13/3	36.76	35.11	1.65	4.70	0.48	0.10	0.05
99/13/4	38.96	38.11	0.85	2.23	0.42	0.05	0.02
99/13/5	38.95	38.24	0.71	1.86	0.41	0.04	0.02
99/14/1	34.52	32.55	1.97	6.05	0.55	0.11	0.06
99/14/2	31.85	30.99	0.86	2.78	0.60	0.05	0.03
99/14/3	35.84	35.27	0.57	1.62	0.48	0.03	0.02
99/15/1	59.13	54.46	4.67	8.58	0.18	0.48	0.09
99/15/2	37.69	37.48	0.21	0.56	0.43	0.01	0.01
99/15/3	38.77	38.56	0.21	0.54	0.41	0.01	0.01
99/16/1	42.94	42.70	0.24	0.56	0.33	0.02	0.01
99/17/1	40.91	40.51	0.40	0.99	0.37	0.03	0.01
99/18/1	29.56	27.39	2.17	7.92	0.72	0.11	0.08
99/18/3	41.70	39.96	1.74	4.35	0.38	0.11	0.04
99/18/2	37.76	36.55	1.21	3.31	0.45	0.07	0.03
			Mescalero Dunes				
99/19/1	35.01	32.98	2.03	6.16	0.54	0.11	0.06
99/19/2A	39.26	38.23	1.03	2.69	0.41	0.07	0.03
99/19/2B	12.20	11.95	0.25	2.09	0.88	0.02	0.02
99/19/3	37.50	37.24	0.26	0.70	0.44	0.02	0.01
99/19/4	37.71	37.20	0.51	1.37	0.44	0.03	0.01
99/22/1	48.03	47.81	0.22	0.46	0.26	0.02	0.005
99/22/2	48.78	48.63	0.15	0.31	0.25	0.01	0.003
			Monahans Dunes				
99/20/1	51.36	50.52	0.84	1.66	0.22	0.07	0.02
99/20/2	39.79	38.90	0.89	2.29	0.40	0.06	0.02
99/21/1	36.24	36.03	0.21	0.58	0.46	0.01	0.01
99/21/2	38.29	38.18	0.11	0.29	0.42	0.01	0.003
99/23/1	33.98	33.45	0.53	1.58	0.53	0.03	0.02
99/23/2	30.04	29.66	0.38	1.28	0.64	0.02	0.01
99/24/1	35.77	35.65	0.12	0.34	0.47	0.01	0.003

Appendix D. Moisture data continued

Sample ID	Wet (g)	Dry (g)	Diff. (g)	%	W	F	WF
			Lacustrine samples				
			Rich Lake				
98/7/1	32.69	25.83	6.86	26.56	0.79	0.34	0.27
98/7/2	47.08	45.32	1.76	3.88	0.29	0.13	0.04
98/7/3	34.74	25.25	9.49	37.58	0.82	0.46	0.38
99/6/1	37.70	28.96	8.74	30.18	0.67	0.45	0.30
Yellow Lake							
99/8/3	45.90	32.64	13.26	40.63	0.55	0.74	0.41
			Tufa samples				
			Double Lakes				
98/8/2	45.58	45.29	0.29	0.64	0.29	0.02	0.01
98/8/3	44.38	44.12	0.26	0.59	0.31	0.02	0.01
99/2/1	43.97	43.84	0.13	0.30	0.31	0.01	0.003
99/2/2	42.15	42.04	0.11	0.26	0.34	0.01	0.003

D_e, dose rate, and age data

The following is a key to the headings for the following tables in Appendix E.

α atten.	Alpha (α) attenuation
β atten.	Beta (β) attenuation
W	Saturation water content
F	Fraction of saturation
WF	Water content
Dosim	Technique used to assess the dose rate
ID	Sample identification (ID) number
Depth (m)	Depth in metres (m) below surface where sample was taken
K (ppm)	Potassium (K) content in parts per million (ppm)
K (%)	Concentration of potassium (K) in percentage (%)
β	Effective beta (β) contribution to dose rate from potassium
γ	Effective gamma (γ) contribution to dose rate from potassium
K (Gy ka^{-1})	Potassium (K) contribution to dose given in grays per thousand years (Gy ka^{-1}
Th (ppm)	Thorium (Th) content in parts per million (ppm)
Effect. α_{Th}	Effective dose rate from alpha (α) particles for thorium (Th)
β + IC_{Th}	Internal conversion (IC) electrons added to the beta (β) contribution from thori
γ + X_{Th}	X-ray emission added to the gamma (γ) contribution from thorium (Th)
Th (Gy ka^{-1})	Thorium (Th) contribution to dose given in grays per thousand years (Gy ka^{-1})
U (ppm)	Uranium (U) content in parts per million
Effect. α_U	Effective dose rate from alpha (α) particles for uranium (U)
β + IC_U	Internal conversion (IC) electrons added to the beta (β) contribution from uran
γ + X_U	X-ray emission added to the gamma (γ) contribution from uranium (U)
U (Gy ka^{-1})	Uranium (U) contribution to dose given in grays per thousand years (Gy ka^{-1})
Cosmic (Gy ka^{-1})	Cosmic contribution to dose given in grays per thousand years (Gy ka^{-1})
Total dose rate (Gy ka^{-1})	Combined dose contribution of potassium, thorium, uranium, and cosmic, given in grays per thousand years (Gy ka^{-1})
D_e (Gy)	Estimated D_e (measured in grays (Gy) derived from SAR protocol
Age (ka)	Age of sample in kiloan (ka), 1 ka=1000 years

Appendix E. De, dose rate, and age data

α atten.	β atten.	W	F	WF	Dosim	ID	Depth (m)	K (ppm)	K (%)	β	γ	K (Gy ka^{-1})	Th (ppm)	Effect. α_{Th}	$\beta + IC_{Th}$	$\gamma + X_{Th}$	Th (Gy ka^{-1})	U (ppm)	Effect. α_U	$\beta + IC_U$	$\gamma + X_U$	U (Gy ka^{-1})	Cosmic (Gy ka^{-1})	Total dose rate (Gy ka^{-1})	D_e (Gy)	Age (ka)
Small playa lunettes																										
White Lake																										
0.04	0.95	0.87	0.03	0.03	PgS	98/1/1	1	13449	1.34 ±0.05	1.02	0.32	1.29	5.90 ±0.21	0.37	0.16	0.27	0.44	3.97 ±0.14	0.88	0.56	0.44	1.00	0.18	2.91 ±0.18	0.85 ±0.04	0.29 ±0.11
0.04	0.95	0.26	0.18	0.05	PgS	98/1/2	3	10499	1.05 ±0.04	0.78	0.24	0.98	4.28 ±0.17	0.26	0.11	0.19	0.31	4.86 ±0.19	1.05	0.67	0.52	1.20	0.14	2.62 ±0.18	4.6 ±0.1	1.73 ±0.24
Silver Lake																										
0.04	0.95	0.32	0.45	0.15	PgS	98/3/1	1	5181	0.52 ±0.02	0.34	0.11	0.43	2.75 ±0.12	0.15	0.06	0.11	0.18	7.07 ±0.31	1.34	0.87	0.68	1.56	0.18	2.36 ±0.18	0.73 ±0.03	0.31 ±0.11
0.04	0.95	0.56	0.10	0.06	PgS	98/3/2	2	7065	0.71 ±0.03	0.52	0.16	0.65	2.41 ±0.11	0.14	0.06	0.11	0.17	8.44 ±0.38	1.80	1.15	0.90	2.06	0.16	3.04 ±0.24	1.22 ±0.06	0.40 ±0.16
Jackson Hill																										
0.04	0.95	0.48	0.26	0.12	PgS	98/5/1	1.8	14116	1.41 ±0.06	0.96	0.30	1.21	5.83 ±0.23	0.32	0.14	0.24	0.39	1.59 ±0.06	0.31	0.20	0.16	0.36	0.16	2.12 ±0.15	116 ±1	55 ±4
0.04	0.95	0.35	0.30	0.10	PgS	98/5/2	3.1	10177	1.02 ±0.04	0.70	0.22	0.89	5.19 ±0.22	0.29	0.13	0.22	0.35	1.58 ±0.07	0.32	0.20	0.16	0.36	0.14	1.75 ±0.13	184 ±11	105 ±10
0.04	0.95	0.26	0.42	0.11	PgS	98/5/3	4.6	11916	1.19 ±0.05	0.82	0.26	1.04	5.75 ±0.22	0.32	0.14	0.24	0.39	2.39 ±0.09	0.47	0.30	0.24	0.55	0.12	2.09 ±0.14	431 ±16	207 ±16
Julia Lake																										
0.04	0.95	0.36	0.14	0.05	PgS	98/6/1	0.4	9889	0.99 ±0.05	0.73	0.23	0.92	4.48 ±0.20	0.27	0.12	0.20	0.32	1.23 ±0.06	0.26	0.17	0.13	0.30	0.20	1.74 ±0.14	0.12 ±0.01	0.07 ±0.01
0.04	0.95	0.80	0.06	0.05	PgS	98/6/2	0.75	11800	1.18 ±0.05	0.87	0.27	1.10	5.61 ±0.23	0.34	0.14	0.25	0.40	1.67 ±0.07	0.36	0.23	0.18	0.41	0.19	2.10 ±0.15	43 ±1	21 ±1
0.04	0.95	0.32	0.19	0.06	PgS	98/6/3	2	8683	0.87 ±0.04	0.63	0.20	0.80	4.03 ±0.19	0.24	0.10	0.18	0.29	1.45 ±0.07	0.31	0.20	0.15	0.35	0.16	1.60 ±0.13	37 ±1	23 ±2
Red Lake																										
0.04	0.95	0.77	0.07	0.05	PgS	98/9/1	1	9015	0.90 ±0.03	0.66	0.21	0.83	4.57 ±0.16	0.27	0.12	0.21	0.33	11.32 ±0.39	2.42	1.54	1.21	2.76	0.18	4.11 ±0.25	64 ±4	16 ±1
0.04	0.95	0.70	0.07	0.05	PgS	98/9/2	2	6875	0.69 ±0.03	0.51	0.16	0.64	3.25 ±0.13	0.20	0.08	0.15	0.23	10.19 ±0.40	2.20	1.40	1.09	2.51	0.16	3.55 ±0.25	123 ±4	35 ±3
0.04	0.95	0.63	0.11	0.07	PgS	98/9/3	3	1178	0.12 ±0.00	0.08	0.03	0.11	10.76 ±0.28	0.63	0.27	0.48	0.76	12.38 ±0.32	2.59	1.65	1.30	2.97	0.14	3.97 ±0.18	160 ±15	40 ±4
0.04	0.95	0.57	0.17	0.10	PgS	98/9/4	4	6556	0.66 ±0.03	0.46	0.14	0.58	3.30 ±0.13	0.18	0.08	0.14	0.23	13.70 ±0.52	2.75	1.77	1.39	3.18	0.12	4.10 ±0.27	151 ±5	37 ±3
Large lake lunettes																										
Double Lakes inner lunette																										
0.04	0.95	0.43	0.24	0.10	NAA	99/3/1A	0.3	13400	1.34 ±0.07	0.93	0.29	1.17	6.24 ±0.31	0.35	0.15	0.27	0.42	6.09 ±0.30	1.22	0.78	0.62	1.41	0.20	3.21 ±0.28	1.61 ±0.1	0.5 ±0.1
0.04	0.95	0.68	0.11	0.07	NAA	99/3/1B	0.9	12500	1.25 ±0.06	0.89	0.28	1.13	5.04 ±0.25	0.29	0.13	0.22	0.35	10.30 ±0.52	2.14	1.37	1.07	2.46	0.19	4.13 ±0.36	21 ±1	5.1 ±0.5
0.04	0.95	0.33	0.36	0.12	NAA	99/3/3A	1.8	11000	1.10 ±0.06	0.75	0.24	0.95	4.11 ±0.21	0.23	0.10	0.17	0.28	28.5 ±1.43	5.60	3.61	2.84	6.49	0.16	7.88 ±0.68	24 ±1	3.0 ±0.3
0.04	0.95	0.55	0.08	0.05	NAA	99/3/3B	2.4	5240	0.52 ±0.03	0.39	0.12	0.49	1.72 ±0.09	0.10	0.04	0.08	0.12	9.13 ±0.46	1.98	1.25	0.98	2.25	0.15	3.02 ±0.26	14 ±0.3	4.7 ±0.4
0.04	0.95	0.39	0.28	0.11	NAA	99/3/4A	3.4	9600	0.96 ±0.05	0.66	0.21	0.84	3.54 ±0.18	0.20	0.09	0.15	0.24	12.5 ±0.63	2.48	1.60	1.26	2.87	0.13	4.08 ±0.35	30 ±1	7.4 ±0.7
0.04	0.95	0.64	0.15	0.09	NAA	99/3/4B	4	7240	0.72 ±0.04	0.51	0.16	0.64	2.55 ±0.13	0.14	0.06	0.11	0.18	14.00 ±0.70	2.84	1.82	1.43	3.27	0.12	4.21 ±0.36	30 ±1	7.2 ±0.6
0.04	0.95	0.84	0.16	0.13	NAA	99/3/5A	5	12000	1.20 ±0.06	0.81	0.25	1.02	3.73 ±0.19	0.20	0.09	0.16	0.25	39.9 ±2.00	7.70	4.97	3.92	8.95	0.11	10.33 ±0.89	41 ±1	3.9 ±0.3
0.04	0.95	0.55	0.12	0.06	NAA	99/3/5B	5.5	4590	0.46 ±0.02	0.33	0.10	0.42	1.84 ±0.09	0.11	0.05	0.08	0.13	13.30 ±0.67	2.80	1.78	1.40	3.21	0.10	3.86 ±0.33	27 ±0	7.0 ±0.6
0.04	0.95	0.26	0.61	0.16	NAA	99/3/6A	6.4	12900	1.29 ±0.06	0.84	0.27	1.07	4.95 ±0.25	0.26	0.11	0.20	0.32	23.6 ±1.18	4.42	2.86	2.26	5.16	0.09	6.64 ±0.58	39 ±1	5.9 ±0.5
0.04	0.95	0.76	0.14	0.10	NAA	99/3/6B	7	7190	0.72 ±0.04	0.50	0.16	0.63	2.52 ±0.13	0.14	0.06	0.11	0.17	16.50 ±0.83	3.30	2.12	1.67	3.81	0.09	4.70 ±0.41	33 ±0.5	7.0 ±0.6
0.04	0.95	0.57	0.20	0.11	NAA	99/3/7A	8	6550	0.66 ±0.03	0.45	0.14	0.57	2.86 ±0.14	0.16	0.07	0.12	0.19	27.5 ±1.38	5.44	3.50	2.76	6.30	0.08	7.13 ±0.62	42 ±1	5.8 ±0.5
0.04	0.95	0.58	0.23	0.13	NAA	99/3/7B	8.5	7840	0.78 ±0.04	0.53	0.17	0.67	2.69 ±0.13	0.14	0.06	0.11	0.18	23.70 ±1.19	4.57	2.95	2.33	5.31	0.07	6.23 ±0.54	37 ±1	6.0 ±0.5
0.04	0.95	0.28	0.52	0.15	NAA	99/3/8A	9.4	10100	1.01 ±0.05	0.67	0.21	0.85	3.72 ±0.19	0.20	0.09	0.15	0.24	29.2 ±1.46	5.53	3.58	2.83	6.45	0.07	7.61 ±0.66	47 ±1	6.1 ±0.6
0.04	0.95	0.76	0.25	0.19	NAA	99/3/8B	10	10900	1.09 ±0.05	0.69	0.22	0.87	3.87 ±0.19	0.19	0.09	0.15	0.24	33.30 ±1.67	5.96	3.89	3.08	7.01	0.06	8.19 ±0.71	52 ±1	6.4 ±0.6
0.04	0.95	0.22	0.78	0.17	NAA	99/3/9A	11	9490	0.95 ±0.05	0.61	0.19	0.77	3.82 ±0.19	0.20	0.09	0.15	0.24	38.8 ±1.94	7.14	4.64	3.67	8.37	0.06	9.44 ±0.82	48 ±1	5.1 ±0.4
0.04	0.95	0.83	0.24	0.20	NAA	99/3/9B	11.6	13500	1.35 ±0.07	0.84	0.27	1.07	4.64 ±0.23	0.23	0.10	0.18	0.29	31.50 ±1.58	5.60	3.65	2.90	6.59	0.05	8.00 ±0.69	49 ±1	6.1 ±0.5
0.04	0.95	0.26	0.47	0.12	NAA	99/3/10A	12.5	11700	1.17 ±0.06	0.79	0.25	1.00	4.7 ±0.24	0.26	0.11	0.20	0.31	15 ±0.75	2.93	1.89	1.49	3.40	0.05	4.77 ±0.41	31 ±1	6.6 ±0.6
0.04	0.95	0.67	0.22	0.14	NAA	99/3/10B	13	10900	1.09 ±0.05	0.72	0.23	0.91	4.04 ±0.20	0.21	0.09	0.17	0.26	18.20 ±0.91	3.46	2.24	1.77	4.03	0.05	5.26 ±0.46	35 ±1	6.6 ±0.6
0.04	0.95	0.18	0.35	0.06	NAA	99/3/11A	14	10500	1.05 ±0.05	0.76	0.24	0.96	3.02 ±0.15	0.18	0.08	0.13	0.21	4.55 ±0.23	0.96	0.61	0.48	1.10	0.04	2.32 ±0.20	27 ±1	11 ±1
0.04	0.95	0.50	0.14	0.07	NAA	99/3/11B	14.6	7150	0.72 ±0.04	0.51	0.16	0.65	2.93 ±0.15	0.17	0.07	0.13	0.21	2.69 ±0.13	0.56	0.36	0.28	0.65	0.04	1.54 ±0.13	180 ±12	117 ±13
0.04	0.95	0.59	0.24	0.14	NAA	99/3/12A	15.5	12600	1.26 ±0.06	0.84	0.26	1.06	4.86 ±0.24	0.26	0.11	0.20	0.32	4.48 ±0.22	0.86	0.55	0.44	1.00	0.04	2.41 ±0.21	235 ±12	98 ±10
0.04	0.95	0.67	0.06	0.04	NAA	99/3/12B	16	6880	0.69 ±0.03	0.51	0.16	0.64	2.62 ±0.13	0.16	0.07	0.12	0.19	1.89 ±0.09	0.41	0.26	0.20	0.47	0.04	1.34 ±0.12	151 ±8	113 ±11
0.04	0.95	0.52	0.22	0.11	NAA	99/3/13A	17	13100	1.31 ±0.07	0.90	0.28	1.14	4.69 ±0.23	0.26	0.11	0.20	0.32	4.07 ±0.20	0.81	0.52	0.41	0.93	0.03	2.42 ±0.21	230 ±3	95 ±8
0.04	0.95	0.76	0.19	0.14	NAA	99/3/13B	17.7	10500	1.05 ±0.05	0.70	0.22	0.88	3.86 ±0.19	0.20	0.09	0.16	0.25	5.93 ±0.30	1.13	0.73	0.58	1.31	0.03	2.48 ±0.21	304 ±11	122 ±12

Appendix E. De, dose rate, and age data continued

α atten.	β atten.	W	F	WF	Dosim	ID	Depth (m)	K (ppm)	K (%)	β	γ	K (Gy ka^{-1})	Th (ppm)	Effect. α_{Th}	$\beta + IC_{Th}$	$\gamma + X_{Th}$	Th (Gy ka^{-1})	U (ppm)	Effect. α_U	$\beta + IC_U$	$\gamma + X_U$	U (Gy ka^{-1})	Cosmic (Gy ka^{-1})	Total dose rate (Gy ka^{-1})	D_e (Gy)	Age (ka)
Large lake lunettes																										
Double Lakes middle lunette																										
0.04	0.95	0.49	0.17	0.08	NAA	99/12/1A	0.3	11900	1.19 ±0.06	0.84	0.26	1.06	5.79 ±0.29	0.33	0.14	0.25	0.40	1.85 ±0.09	0.38	0.24	0.19	0.44	0.20	2.10 ±0.18	12 ±1	5.6 ±0.6
0.04	0.95	0.95	0.07	0.06	NAA	99/12/1B	0.6	9370	0.94 ±0.05	0.68	0.21	0.86	4.99 ±0.25	0.29	0.13	0.22	0.35	1.58 ±0.08	0.33	0.21	0.17	0.38	0.19	1.79 ±0.15	61 ±4	34 ±4
0.04	0.95	0.62	0.08	0.05	NAA	99/12/2A	1.2	10600	1.06 ±0.05	0.78	0.24	0.98	4.54 ±0.23	0.27	0.12	0.21	0.33	2.35 ±0.12	0.50	0.32	0.25	0.58	0.18	2.06 ±0.18	320 ±15	155 ±15
0.04	0.95	0.70	0.06	0.04	NAA	99/12/2B	1.5	8180	0.82 ±0.04	0.61	0.19	0.77	3.01 ±0.15	0.18	0.08	0.14	0.22	1.57 ±0.08	0.34	0.22	0.17	0.39	0.17	1.55 ±0.13	246 ±7	159 ±15
0.04	0.95	0.34	0.12	0.04	NAA	99/12/3A	2.1	11400	1.14 ±0.06	0.85	0.26	1.07	5.44 ±0.27	0.33	0.14	0.25	0.40	3.29 ±0.16	0.72	0.45	0.35	0.81	0.16	2.44 ±0.21	39 ±2	16 ±2
0.04	0.95	0.35	0.15	0.05	NAA	99/12/3B	2.4	8970	0.90 ±0.04	0.66	0.21	0.83	3.78 ±0.19	0.23	0.10	0.17	0.27	2.36 ±0.12	0.51	0.32	0.25	0.58	0.15	1.83 ±0.16	212 ±9	116 ±11
0.04	0.95	0.27	0.29	0.08	NAA	99/12/4A	3.5	11800	1.18 ±0.06	0.84	0.26	1.06	5.27 ±0.26	0.30	0.13	0.23	0.37	4.41 ±0.22	0.91	0.58	0.46	1.05	0.13	2.61 ±0.23	305 ±11	117 ±11
0.04	0.95	0.31	0.22	0.07	NAA	99/12/4B	3.8	10400	1.04 ±0.05	0.75	0.23	0.95	3.69 ±0.18	0.22	0.09	0.16	0.26	2.43 ±0.12	0.51	0.32	0.25	0.58	0.13	1.92 ±0.17	300 ±27	156 ±20
0.04	0.95	0.31	0.19	0.06	NAA	99/12/5A	4.9	8570	0.86 ±0.04	0.62	0.20	0.79	4.16 ±0.21	0.25	0.11	0.19	0.30	2.97 ±0.15	0.63	0.40	0.31	0.72	0.11	1.92 ±0.17	251 ±10	131 ±12
0.04	0.95	0.35	0.20	0.07	NAA	99/12/5B	5	9850	0.99 ±0.05	0.71	0.22	0.89	5.03 ±0.25	0.29	0.13	0.22	0.35	3.66 ±0.18	0.76	0.49	0.38	0.88	0.11	2.23 ±0.19	162 ±8	73 ±7
0.04	0.95	0.26	0.25	0.07	NAA	99/12/6A	5.8	13300	1.33 ±0.07	0.96	0.30	1.21	5.58 ±0.28	0.33	0.14	0.25	0.39	2.60 ±0.13	0.55	0.35	0.27	0.63	0.10	2.33 ±0.20	285 ±7	122 ±11
0.04	0.95	0.51	0.20	0.10	NAA	99/12/6B	6.1	18300	1.83 ±0.09	1.27	0.40	1.60	9.32 ±0.47	0.52	0.23	0.40	0.63	3.71 ±0.19	0.74	0.48	0.37	0.86	0.10	3.19 ±0.28	367 ±31	115 ±14
0.04	0.95	0.59	0.16	0.10	NAA	99/12/7A	7	17800	1.78 ±0.09	1.24	0.39	1.57	9.17 ±0.46	0.52	0.22	0.40	0.63	2.78 ±0.14	0.56	0.36	0.28	0.65	0.09	2.93 ±0.25	63 ±6	21 ±3
0.04	0.95	0.42	0.28	0.12	NAA	99/12/7B	7.3	18000	1.80 ±0.09	1.23	0.39	1.55	8.66 ±0.43	0.47	0.21	0.37	0.58	3.51 ±0.18	0.69	0.44	0.35	0.80	0.08	3.02 ±0.26	392 ±23	130 ±14
0.04	0.95	0.28	0.43	0.12	NAA	99/12/8A	7.9	16800	1.68 ±0.08	1.14	0.36	1.45	8.56 ±0.43	0.47	0.20	0.36	0.57	2.74 ±0.14	0.54	0.35	0.27	0.62	0.08	2.72 ±0.24	310 ±12	114 ±11
0.04	0.95	0.53	0.18	0.09	NAA	99/12/8B	8.2	10900	1.09 ±0.05	0.76	0.24	0.96	5.01 ±0.25	0.28	0.12	0.22	0.34	2.81 ±0.14	0.57	0.36	0.29	0.66	0.08	2.04 ±0.18	346 ±18	170 ±17
0.04	0.95	0.51	0.17	0.09	NAA	99/12/9A	8.8	11500	1.15 ±0.06	0.81	0.25	1.02	5.48 ±0.27	0.31	0.13	0.24	0.38	2.58 ±0.13	0.53	0.34	0.26	0.61	0.07	2.08 ±0.18	341 ±13	164 ±16
0.04	0.95	0.56	0.14	0.08	NAA	99/12/9B	9	10600	1.06 ±0.05	0.76	0.24	0.96	4.47 ±0.22	0.26	0.11	0.20	0.31	2.37 ±0.12	0.49	0.31	0.25	0.56	0.07	1.90 ±0.16	319 ±20	168 ±18
Double Lakes outer lunette																										
0.04	0.95	0.35	0.23	0.08	NAA	99/4/1A	0.46	13200	1.32 ±0.07	0.94	0.29	1.19	7.93 ±0.40	0.46	0.20	0.35	0.55	1.50 ±0.08	0.31	0.20	0.16	0.36	0.20	2.29 ±0.20	26 ±1	12 ±1
0.04	0.95	0.60	0.15	0.09	NAA	99/4/1B	0.9	14300	1.43 ±0.07	1.01	0.32	1.27	8.39 ±0.42	0.48	0.21	0.36	0.58	1.35 ±0.07	0.27	0.18	0.14	0.32	0.19	2.35 ±0.20	93 ±6	40 ±4
0.04	0.95	0.43	0.08	0.04	NAA	99/4/2A	1.4	11600	1.16 ±0.06	0.87	0.27	1.10	6.12 ±0.31	0.37	0.16	0.28	0.45	1.89 ±0.09	0.41	0.26	0.21	0.47	0.17	2.19 ±0.19	203 ±4	92 ±8
0.04	0.95	0.58	0.08	0.05	NAA	99/4/2B	1.8	12900	1.29 ±0.06	0.95	0.30	1.20	6.07 ±0.30	0.36	0.16	0.27	0.44	1.80 ±0.09	0.39	0.25	0.19	0.44	0.16	2.24 ±0.19	229 ±6	102 ±9
0.04	0.95	0.44	0.12	0.05	NAA	99/4/3A	2.3	12000	1.20 ±0.06	0.88	0.28	1.11	6.21 ±0.31	0.37	0.16	0.28	0.45	2.15 ±0.11	0.46	0.29	0.23	0.53	0.15	2.24 ±0.19	344 ±13	154 ±14
0.04	0.95	0.55	0.10	0.06	NAA	99/4/3B	2.7	11600	1.16 ±0.06	0.85	0.26	1.07	5.56 ±0.28	0.33	0.14	0.25	0.40	1.76 ±0.09	0.37	0.24	0.19	0.43	0.15	2.04 ±0.18	283 ±14	139 ±14
0.04	0.95	0.59	0.08	0.05	NAA	99/4/4A	3.2	9350	0.94 ±0.05	0.69	0.22	0.87	4.11 ±0.21	0.25	0.11	0.19	0.30	1.36 ±0.07	0.29	0.19	0.15	0.34	0.14	1.64 ±0.14	321 ±13	196 ±19
0.04	0.95	0.68	0.12	0.08	NAA	99/4/4B	3.8	9820	0.98 ±0.05	0.70	0.22	0.88	4.48 ±0.22	0.26	0.11	0.20	0.31	1.58 ±0.08	0.33	0.21	0.16	0.37	0.13	1.69 ±0.15	350 ±14	206 ±20
0.04	0.95	0.55	0.08	0.05	NAA	99/4/5A	4.7	8660	0.87 ±0.04	0.64	0.20	0.81	4.26 ±0.21	0.26	0.11	0.19	0.31	1.29 ±0.06	0.28	0.18	0.14	0.32	0.11	1.55 ±0.13	430 ±31	277 ±31
0.04	0.95	0.58	0.11	0.06	NAA	99/4/5B	5.3	13800	1.38 ±0.07	1.00	0.31	1.27	6.45 ±0.32	0.38	0.16	0.29	0.46	1.55 ±0.08	0.33	0.21	0.16	0.38	0.11	2.20 ±0.19	534 ±28	242 ±24
Double Lakes High Lonesome lunette																										
0.04	0.95	0.51	0.17	0.08	NAA	99/1/1	0.65	7440	0.74 ±0.04	0.53	0.16	0.66	4.48 ±0.22	0.26	0.11	0.20	0.31	0.93 ±0.05	0.19	0.12	0.10	0.22	0.19	1.39 ±0.12	323 ±21	233 ±25
Illusion Lake																										
0.04	0.95	0.40	0.16	0.06	PgS	98/4/1	0.8	13235	1.32 ±0.05	0.96	0.30	1.21	5.30 ±0.20	0.31	0.13	0.24	0.38	3.90 ±0.14	0.82	0.52	0.41	0.94	0.19	2.72 ±0.18	1.55 ±0.04	0.57 ±0.04
0.04	0.95	0.39	0.14	0.05	PgS	98/4/2	1.8	10483	1.05 ±0.04	0.77	0.24	0.97	4.23 ±0.16	0.25	0.11	0.19	0.30	5.80 ±0.22	1.24	0.79	0.62	1.41	0.16	2.85 ±0.19	5.5 ±0.1	1.94 ±0.13
Yellow Lake inner lunette																										
0.04	0.95	0.52	0.19	0.10	NAA	99/9/1	3	13800	1.38 ±0.07	0.96	0.30	1.21	4.71 ±0.24	0.26	0.11	0.20	0.32	10.50 ±0.53	2.11	1.36	1.07	2.44	0.14	4.12 ±0.36	3.79 ±0.02	0.92 ±0.08

Appendix E. De, dose rate, and age data continued

α atten.	β atten.	W	F	WF	Dosim	ID	Depth (m)	K (ppm)	K (%)	β	γ	K (Gy ka^{-1})	Th (ppm)	Effect. α_{Th}	β + IC_{Th}	γ + X_{Th}	Th (Gy ka^{-1})	U (ppm)	Effect. α_U	β + IC_U	γ + X_U	U (Gy ka^{-1})	Cosmic (Gy ka^{-1})	Total dose rate (Gy ka^{-1})	D_e (Gy)	Age (ka)
Coversand samples																										
Muleshoe Dunes																										
0.04	0.95	0.35	0.17	0.06	PgS	98/2/1	1	8300	0.83 ±0.05	0.60	0.19	0.76	2.84 ±0.16	0.17	0.07	0.13	0.20	0.68 ±0.04	0.14	0.09	0.07	0.16	0.18	1.31 ±0.13	0.12 ±0.02	0.09 ±0.02
0.04	0.95	0.34	0.06	0.02	PgS	98/2/2	1.75	11771	1.18 ±0.05	0.90	0.28	1.13	4.80 ±0.21	0.30	0.13	0.22	0.36	1.08 ±0.05	0.24	0.15	0.12	0.27	0.17	1.93 ±0.15	119 ±6	62 ±6
0.04	0.95	0.49	0.13	0.06	NAA	99/13/1	1.1	7480	0.75 ±0.04	0.54	0.17	0.69	2.24 ±0.11	0.13	0.06	0.10	0.16	0.57 ±0.03	0.12	0.08	0.06	0.14	0.18	1.16 ±0.10	31 ±1	27 ±2
0.04	0.95	0.39	0.09	0.04	NAA	99/13/2	0.55	6360	0.64 ±0.03	0.48	0.15	0.60	1.50 ±0.08	0.09	0.04	0.07	0.11	0.49 ±0.02	0.11	0.07	0.05	0.12	0.19	1.03 ±0.09	30 ±1	29 ±3
0.04	0.95	0.48	0.10	0.05	NAA	99/13/3	4	7180	0.72 ±0.04	0.53	0.17	0.67	1.40 ±0.07	0.08	0.04	0.06	0.10	0.37 ±0.02	0.08	0.05	0.04	0.09	0.12	0.99 ±0.09	1.30 ±0.10	1.3 ±0.2
0.04	0.95	0.42	0.05	0.02	NAA	99/13/4	1.3	6520	0.65 ±0.03	0.50	0.15	0.63	1.36 ±0.07	0.08	0.04	0.06	0.10	0.54 ±0.03	0.12	0.08	0.06	0.14	0.18	1.04 ±0.09	0.92 ±0.04	0.89 ±0.09
0.04	0.95	0.41	0.04	0.02	NAA	99/13/5	0.6	5370	0.54 ±0.03	0.41	0.13	0.52	1.54 ±0.08	0.10	0.04	0.07	0.11	0.47 ±0.02	0.11	0.07	0.05	0.12	0.19	0.95 ±0.08	0.08 ±0.01	0.08 ±0.01
0.04	0.95	0.55	0.11	0.06	NAA	99/14/1	3	11300	1.13 ±0.06	0.82	0.26	1.04	5.51 ±0.28	0.33	0.14	0.25	0.39	1.18 ±0.06	0.25	0.16	0.12	0.29	0.14	1.86 ±0.16	135 ±5	73 ±7
0.04	0.95	0.60	0.05	0.03	NAA	99/14/2	1.7	11900	1.19 ±0.06	0.90	0.28	1.13	6.04 ±0.30	0.37	0.16	0.28	0.45	1.79 ±0.09	0.40	0.25	0.20	0.45	0.17	2.20 ±0.19	69 ±2	31 ±3
0.04	0.95	0.48	0.03	0.02	NAA	99/14/3	0.9	7680	0.77 ±0.04	0.59	0.18	0.74	2.64 ±0.13	0.17	0.07	0.12	0.20	0.92 ±0.05	0.21	0.13	0.10	0.23	0.19	1.36 ±0.12	5.4 ±0.9	4.0 ±0.7
0.04	0.95	0.18	0.48	0.09	NAA	99/15/1	1.5	8750	0.88 ±0.04	0.62	0.19	0.78	4.14 ±0.21	0.24	0.10	0.18	0.29	1.05 ±0.05	0.21	0.14	0.11	0.25	0.17	1.49 ±0.13	245 ±23	165 ±21
0.04	0.95	0.43	0.01	0.01	NAA	99/15/2	2	7340	0.73 ±0.04	0.57	0.18	0.72	2.13 ±0.11	0.14	0.06	0.10	0.16	0.83 ±0.04	0.19	0.12	0.09	0.21	0.16	1.25 ±0.11	1.04 ±0.01	0.83 ±0.07
0.04	0.95	0.41	0.01	0.01	NAA	99/15/3	1	6430	0.64 ±0.03	0.50	0.16	0.63	1.78 ±0.09	0.11	0.05	0.08	0.13	0.60 ±0.03	0.14	0.09	0.07	0.15	0.18	1.10 ±0.10	0.08 ±0.01	0.07 ±0.01
0.04	0.95	0.33	0.02	0.01	ICP-OES/MS	99/16/1	1.5	6220	0.62 ±0.03	0.48	0.15	0.61	1.73 ±0.09	0.11	0.05	0.08	0.13	0.45 ±0.02	0.10	0.06	0.05	0.12	0.17	1.03 ±0.09	1.14 ±0.03	1.1 ±0.1
0.04	0.95	0.37	0.03	0.01	NAA	99/17/1	1	7500	0.75 ±0.04	0.58	0.18	0.73	3.47 ±0.17	0.22	0.09	0.16	0.26	0.58 ±0.03	0.13	0.08	0.06	0.15	0.18	1.32 ±0.11	1.56 ±0.03	1.2 ±0.1
Lea-Yoakum																										
0.04	0.95	0.72	0.11	0.08	NAA	99/18/1	2.5	9310	0.93 ±0.05	0.66	0.21	0.84	5.23 ±0.26	0.30	0.13	0.23	0.36	1.32 ±0.07	0.27	0.17	0.14	0.31	0.15	1.66 ±0.14	79 ±3	48 ±5
0.04	0.95	0.45	0.07	0.03	NAA	99/18/2	1.6	6020	0.60 ±0.03	0.45	0.14	0.57	2.61 ±0.13	0.16	0.07	0.12	0.19	0.75 ±0.04	0.17	0.10	0.08	0.19	0.17	1.12 ±0.10	3.98 ±0.21	3.6 ±0.4
0.04	0.95	0.38	0.11	0.04	NAA	99/18/3	1	6570	0.66 ±0.03	0.49	0.15	0.61	2.52 ±0.13	0.15	0.07	0.11	0.18	0.60 ±0.03	0.13	0.08	0.06	0.15	0.18	1.13 ±0.10	0.12 ±0.01	0.11 ±0.01
Mescalero Dunes																										
0.04	0.95	0.54	0.11	0.06	NAA	99/19/1	5.5	10500	1.05 ±0.05	0.76	0.24	0.96	3.56 ±0.18	0.21	0.09	0.16	0.25	1.02 ±0.05	0.22	0.14	0.11	0.25	0.10	1.57 ±0.14	127 ±4	81 ±8
0.04	0.95	0.41	0.07	0.03	ICP-OES/MS	99/19/2A	2	4140	0.41 ±0.02	0.31	0.10	0.40	1 18 ±0.06	0.07	0.03	0.05	0.09	0.35 ±0.02	0.08	0.05	0.04	0.09	0.16	0.73 ±0.06	2.9 ±0.2	3.9 ±0.4
0.04	0.95	0.88	0.02	0.02	NAA	99/19/2B	3	4260	0.43 ±0.02	0.32	0.10	0.41	1.25 ±0.06	0.08	0.03	0.06	0.09	0.28 ±0.01	0.06	0.04	0.03	0.07	0.14	0.71 ±0.06	2.7 ±0.1	3.7 ±0.3
0.04	0.95	0.44	0.02	0.01	ICP-OES/MS	99/19/3	1	3850	0.39 ±0.02	0.30	0.09	0.38	1.08 ±0.05	0.07	0.03	0.05	0.08	0.38 ±0.02	0.09	0.05	0.04	0.10	0.18	0.74 ±0.06	1.7 ±0.2	2.3 ±0.3
0.04	0.95	0.44	0.03	0.01	ICP-OES/MS	99/19/4	0.5	3160	0.32 ±0.02	0.24	0.08	0.31	1.01 ±0.05	0.06	0.03	0.05	0.08	0.35 ±0.02	0.08	0.05	0.04	0.09	0.20	0.67 ±0.06	0.05 ±0.01	0.07 ±0.02
0.04	0.95	0.53	0.03	0.02	NAA	99/23/1	1	4640	0.46 ±0.02	0.36	0.11	0.45	2.20 ±0.11	0.14	0.06	0.10	0.16	0.73 ±0.04	0.16	0.10	0.08	0.19	0.18	0.98 ±0.09	73 ±1	75 ±7
0.04	0.95	0.64	0.02	0.01	NAA	99/23/2	1	6280	0.63 ±0.03	0.48	0.15	0.61	2.39 ±0.12	0.15	0.06	0.11	0.18	0.65 ±0.03	0 15	0.09	0.07	0.17	0.18	1.14 ±0.10	33 ±1	29 ±3
0.04	0.95	0.47	0.01	0.003	NAA	99/24/1	2.5	4050	0.41 ±0.02	0.32	0.10	0.40	2.29 ±0.11	0.15	0.06	0.11	0.17	0.62 ±0.03	0.14	0.09	0.07	0.16	0.15	0.88 ±0.08	41 ±4	47 ±6
Monahans Dunes																										
0.04	0.95	0.22	0.07	0.017	ICP-OES/MS	99/20/1	1.45	1780	0.18 ±0.01	0.14	0.04	0.17	0.83 ±0.04	0.05	0.02	0.04	0.06	0.33 ±0.02	0.07	0.05	0.04	0.08	0.17	0.49 ±0.04	100 ±6	204 ±22
0.04	0.95	0.40	0.06	0.02	NAA	99/20/2	0.5	2640	0.26 ±0.01	0.20	0.06	0.25	1.05 ±0.05	0.07	0.03	0.05	0.08	0.20 ±0.01	0.04	0.03	0.02	0.05	0.20	0.58 ±0.05	58 ±2	100 ±9
0.04	0.95	0.46	0.01	0.01	ICP-OES/MS	99/21/1	2.75	1860	0.19 ±0.01	0.14	0.04	0.18	0.97 ±0.05	0.06	0.03	0.05	0.07	0.35 ±0.02	0.08	0.05	0.04	0.09	0.15	0.49 ±0.04	3.9 ±0.2	7.9 ±0.8
0.04	0.95	0.42	0.01	0.00	ICP-OES/MS	99/21/2	0.75	2960	0.30 ±0.01	0.23	0.07	0.29	1.17 ±0.06	0.08	0.03	0.06	0.09	0.41 ±0.02	0.09	0.06	0.05	0.11	0.19	0.68 ±0.06	1.4 ±0.1	2.0 ±0.2
0.04	0.95	0.26	0.02	0.00	NAA	99/22/1	1.2	6270	0.63 ±0.03	0.49	0.15	0.61	1.82 ±0.09	0.12	0.05	0.09	0.14	0.48 ±0.02	0.11	0.07	0.05	0.12	0.18	1.05 ±0.09	5.4 ±0.2	5.1 ±0.5
0.04	0.95	0.25	0.01	0.00	ICP-OES/MS	99/22/2	0.6	5600	0.56 ±0.03	0.44	0.14	0.55	1.50 ±0.08	0.10	0.04	0.07	0.11	0.43 ±0.02	0.10	0.06	0.05	0.11	0.19	0.97 ±0.08	0.07 ±0.01	0.07 ±0.01

Appendix E. De, dose rate, and age data continued

α atten.	β atten.	W	F	WF	Dosim	ID	Depth (m)	K (ppm)	K (%)	β	γ	K (Gy ka^{-1})	Th (ppm)	Effect. α_{Th}	$\beta + IC_{Th}$	$\gamma + X_{Th}$	Th (Gy ka^{-1})	U (ppm)	Effect. α_U	$\beta + IC_U$	$\gamma + X_U$	U (Gy ka^{-1})	Cosmic (Gy ka^{-1})	Total dose rate (Gy ka^{-1})	D_e (Gy)	Age (ka)
Lacustrine samples																										
Rich Lake																										
0.04	0.95	0.79	0.34	0.27	PgS	98/7/1	1	1795	0.18 ±0.01	0.11	0.03	0.13	9.87 ±0.26	0.45	0.20	0.36	0.57	13.06 ±0.34	2.16	1.42	1.13	2.57	0.18	3.46 ±0.16	138 ±9	40 ±3
0.04	0.95	0.29	0.13	0.04	PgS	98/7/2	1.1	9640	0.18 ±0.01	0.13	0.04	0.17	2.90 ±0.15	0.18	0.08	0.13	0.21	12.40 ±0.62	2.71	1.71	1.34	3.08	0.18	3.64 ±0.28	144 ±13	39 ±5
0.04	0.95	0.82	0.46	0.38	PgS	98/7/3	2	2769	0.28 ±0.01	0.15	0.05	0.19	15.97 ±0.35	0.66	0.30	0.53	0.84	18.37 ±0.40	2.71	1.81	1.45	3.28	0.16	4.47 ±0.17	254 ±10	57 ±3
0.04	0.95	0.67	0.45	0.30	NAA	99/6/1	1.5	5590	0.56 ±0.03	0.32	0.10	0.40	1.79 ±0.09	0.08	0.04	0.06	0.10	40.50 ±2.03	6.44	4.26	3.41	7.71	0.17	8.39 ±0.73	60 ±2	7.1 ±0.7
Yellow Lake																										
0.04	0.95	0.55	0.74	0.41	NAA	99/8/3	5.6	11000	1.10 ±0.06	0.57	0.18	0.72	6.82 ±0.34	0.27	0.12	0.22	0.35	7.89 ±0.39	1.13	0.76	0.61	1.38	0.10	2.55 ±0.22	46 ±4	18 ±2
Tufa samples																										
Double Lakes Tufa																										
0.04	0.95	0.34	0.02	0.01	NAA	98/8/2	1.5	9860	0.99 ±0.05	0.76	0.24	0.96	3.18 ±0.16	0.20	0.09	0.15	0.24	12.70 ±0.64	2.91	1.83	1.42	3.28	0.17	4.65 ±0.40	188 ±8	40 ±4
0.04	0.95	0.35	0.02	0.01	NAA	98/8/3	2.5	7110	0.71 ±0.04	0.55	0.17	0.70	2.52 ±0.13	0.16	0.07	0.12	0.19	19.10 ±0.96	4.37	2.75	2.14	4.93	0.15	5.97 ±0.52	147 ±7	25 ±2
0.04	0.95	0.36	0.01	0.003	NAA	99/2/1	1	6890	0.69 ±0.03	0.54	0.17	0.68	2.69 ±0.13	0.17	0.07	0.13	0.20	7.12 ±0.36	1.64	1.03	0.80	1.84	0.18	2.91 ±0.25	147 ±8	51 ±5
0.04	0.95	0.39	0.01	0.003	NAA	99/2/2	1	9640	0.96 ±0.05	0.75	0.23	0.95	2.90 ±0.15	0.19	0.08	0.14	0.22	13.40 ±0.67	3.08	1.94	1.51	3.47	0.18	4.82 ±0.42	176 ±7	36 ±3

APPENDIX F

SAR sample data

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Small playa lunettes					
White Lake									
98/1/1	1	20/11/00	1896	6.76	11.76	13.70	1.00	7.56	0.74 ±0.02
	6	20/11/00	1931	7.54	14.48	8.96	0.95	7.56	0.75 ±0.02
	5	20/11/00	1215	5.07	10.55	1.56	0.90	7.56	0.82 ±0.03
	4	20/11/00	1115	5.35	10.59	10.06	0.96	7.56	0.84 ±0.03
	7	20/11/00	2628	9.91	19.52	6.22	1.02	7.56	0.86 ±0.02
	8	20/11/00	2362	9.66	15.19	8.28	0.98	7.56	0.93 ±0.02
	3	20/11/00	2120	9.01	14.73	2.29	0.93	7.56	1.04 ±0.03
98/1/2	9	20/02/01	22997	55.63	32.33	4.09	0.97	7.57	4.17 ±0.04
	11	20/02/01	15926	41.78	20.31	3.38	1.01	7.57	4.35 ±0.05
	14	20/02/01	21043	57.91	34.18	2.65	1.01	7.57	4.42 ±0.04
	13	20/02/01	18733	43.65	21.15	2.15	1.02	7.57	4.54 ±0.05
	15	20/02/01	16883	43.11	20.37	2.37	0.98	7.57	4.56 ±0.05
	10	20/02/01	9381	24.23	15.11	3.36	0.96	7.57	4.69 ±0.07
	12	20/02/01	11970	33.55	18.26	2.67	1.00	7.57	4.82 ±0.07
	16	20/02/01	15448	47.62	24.93	3.66	0.98	7.57	4.87 ±0.06
Silver Lake									
98/3/1	1	20/02/01	3094	7.56	9.34	-2.77	1.06	7.59	0.64 ±0.02
	8	20/02/01	1452	3.23	4.01	-8.88	0.82	7.59	0.66 ±0.03
	6	20/02/01	2002	4.11	5.09	-0.28	0.89	7.59	0.67 ±0.02
	5	20/02/01	1873	4.68	5.39	-4.88	0.97	7.59	0.68 ±0.02
	3	20/02/01	1160	3.33	4.00	0.49	0.85	7.59	0.69 ±0.03
	7	20/02/01	1489	3.88	4.85	5.27	0.70	7.59	0.78 ±0.03
	2	20/02/01	711	2.27	2.47	-14.81	0.72	7.59	0.80 ±0.05
	4	20/02/01	1337	3.39	3.31	-3.25	1.09	7.59	0.94 ±0.04
98/3/2	3	20/02/2001	3189	8.50	7.26	-0.04	1.00	7.57	1.13 ±0.03
	13	20/02/2001	3500	8.97	7.22	-0.96	0.94	7.57	1.15 ±0.03
	9	20/02/2001	4409	12.29	9.00	2.68	1.01	7.57	1.22 ±0.03
	7	20/02/2001	4051	10.87	7.80	0.07	1.05	7.57	1.23 ±0.03
	11	20/02/2001	5232	16.27	12.30	1.22	0.96	7.57	1.24 ±0.03
	15	20/02/2001	2456	6.30	4.75	-1.24	0.94	7.57	1.29 ±0.04
	1	20/02/2001	4813	14.33	10.68	0.90	1.04	7.57	1.29 ±0.03
Jackson Hill playa									
98/5/1	40	07/11/00	1259822	151.27	22.22	0.58	0.97	7.57	110.54 ±0.28
	42	07/11/00	1230196	218.08	27.68	0.59	0.94	7.57	113.41 ±0.29
	43	07/11/00	985570	194.40	24.11	0.49	0.98	7.57	113.99 ±0.33
	44	07/11/00	940402	245.81	30.88	0.46	0.97	7.57	115.90 ±0.34
	41	07/11/00	825649	191.29	24.85	0.45	0.97	7.57	116.19 ±0.37
	45	07/11/00	1169053	158.17	22.43	0.57	0.94	7.57	117.81 ±0.31
	38	07/11/00	1058014	190.80	25.27	0.44	0.97	7.57	119.43 ±0.33
	39	07/11/00	1020369	223.86	28.52	0.53	0.98	7.57	119.91 ±0.34

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Small playa lunettes					
Jackson Hill playa									
98/5/2	32	17/11/00	1194470	217.16	19.41	0.79	1.00	7.57	148.60 ±0.49
	31	17/11/00	969261	151.71	13.92	0.84	0.96	7.57	165.22 ±0.59
	30	17/11/00	1189597	153.89	14.12	0.92	0.99	7.57	174.81 ±0.60
	29	17/11/00	854228	145.63	12.89	1.39	0.98	7.57	179.32 ±0.72
	27	17/11/00	1421175	200.84	16.93	0.78	0.98	7.57	203.31 ±0.65
	28	17/11/00	1464098	127.99	12.27	1.01	1.02	7.57	230.65 ±0.71
98/5/3	10	20/02/01	597421	175.52	10.16	1.10	1.04	7.59	316.31 ±2.03
	18	20/02/01	2202556	201.53	15.79	0.82	1.02	7.59	361.56 ±1.01
	37	20/02/01	1624499	78.93	11.12	0.95	1.00	7.57	384.32 ±0.96
	41	20/02/01	1893090	192.57	21.01	0.91	1.02	7.57	385.40 ±0.90
	16	20/02/01	2091504	165.67	12.76	1.18	0.99	7.59	406.72 ±1.18
	15	20/02/01	2389832	119.57	11.02	0.90	1.01	7.59	411.48 ±1.05
	35	20/02/01	3062194	203.42	22.98	0.68	1.02	7.57	443.65 ±0.88
	17	20/02/01	2333292	238.31	18.07	0.70	1.02	7.59	450.29 ±1.21
	33	20/02/01	2086254	169.31	17.71	1.02	1.02	7.57	450.79 ±0.97
	9	20/02/01	532171	228.93	11.00	0.64	1.05	7.59	464.24 ±3.52
	14	20/02/01	2442217	194.18	14.09	1.03	1.03	7.59	471.56 ±1.27
	47	20/02/01	1483009	195.81	22.06	0.83	1.02	7.57	519.31 ±1.36
	39	20/02/01	2398206	219.44	23.23	0.82	1.01	7.57	555.43 ±1.17
	45	20/02/01	2162028	206.23	21.07	0.74	1.02	7.57	641.82 ±1.47
Julia Lake playa									
98/6/1	31	07/11/00	1272	3.07	3.53	13.26	1.13	7.57	0.08 ±0.004
	28	07/11/00	1247	3.52	3.43	6.74	0.97	7.57	0.10 ±0.005
	29	07/11/00	1593	3.90	4.29	14.53	0.97	7.57	0.10 ±0.004
	2	27/12/00	945	4.09	3.36	18.07	1.15	7.16	0.11 ±0.01
	32	07/11/00	1237	3.52	3.37	13.87	1.05	7.57	0.11 ±0.01
	30	07/11/00	1064	3.31	2.68	9.50	1.20	7.57	0.11 ±0.01
	1	27/12/00	585	2.82	2.25	24.59	0.80	7.16	0.12 ±0.01
	5	27/12/00	814	3.70	3.19	23.64	1.11	7.16	0.13 ±0.01
	3	27/12/00	610	2.92	2.58	-4.44	0.96	7.16	0.13 ±0.01
	26	07/11/00	1578	4.96	3.81	11.89	0.97	7.57	0.14 ±0.01
	4	27/12/00	1058	4.38	3.06	18.86	1.13	7.16	0.14 ±0.01
98/6/2	33	20/02/01	575981	131.24	19.78	0.47	0.97	7.59	40.45 ±0.17
	40	20/02/01	450085	229.92	21.87	0.36	0.96	7.59	40.81 ±0.20
	38	20/02/01	325741	212.85	20.03	0.27	0.98	7.59	41.08 ±0.23
	35	20/02/01	474601	244.54	22.42	0.33	0.98	7.59	44.39 ±0.22
	36	20/02/01	469352	207.00	21.58	0.36	0.98	7.59	44.61 ±0.21
	33	20/02/01	412405	204.51	20.04	0.36	0.98	7.59	44.64 ±0.23
	37	20/02/01	438801	228.30	22.15	0.33	0.97	7.59	45.23 ±0.23
	39	20/02/01	334939	110.42	10.95	1.07	0.96	7.59	45.36 ±0.25

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
Julia Lake playa									
98/6/3	48	20/02/01	295868	204.30	20.63	0.40	0.99	7.59	34.09 ±0.19
	47	20/02/01	411168	167.71	17.86	0.60	0.98	7.59	34.99 ±0.17
	42	20/02/01	488654	239.68	24.07	0.36	0.98	7.59	35.58 ±0.16
	44	20/02/01	337537	213.01	19.80	0.42	0.95	7.59	36.35 ±0.20
	46	20/02/01	376705	190.18	20.73	0.34	0.97	7.59	36.71 ±0.19
	41	20/02/01	343623	207.73	20.43	0.46	0.97	7.59	37.00 ±0.20
	45	20/02/01	429385	211.52	22.53	0.28	0.96	7.59	38.23 ±0.18
	43	20/02/01	279336	127.26	14.42	0.41	0.96	7.59	40.34 ±0.24
Red Lake									
98/9/1	13	20/02/01	65909	80.55	18.59	1.57	0.93	7.57	43.50 ±0.33
	9	20/02/01	47401	74.34	16.35	1.28	0.95	7.57	52.56 ±0.50
	7	20/02/01	149921	147.15	27.06	0.64	0.96	7.57	60.49 ±0.34
	11	20/02/01	85254	118.24	21.96	1.15	0.94	7.57	63.34 ±0.47
	1	20/02/01	97116	115.50	19.94	0.79	0.94	7.57	68.26 ±0.50
	15	20/02/01	52435	70.93	14.99	0.94	0.97	7.57	68.42 ±0.65
	3	20/02/01	168243	194.95	33.72	0.71	0.98	7.57	71.12 ±0.39
	5	20/02/01	101702	107.30	18.98	1.08	0.97	7.57	85.21 ±0.63
98/9/2	25	20/02/01	41125	72.23	9.97	2.99	0.92	7.57	107.27 ±1.08
	21	20/02/01	29758	48.12	10.72	0.77	0.99	7.57	110.81 ±1.34
	19	20/02/01	143631	156.36	32.11	0.60	0.97	7.57	118.32 ±0.70
	29	20/02/01	13959	27.40	7.16	2.67	0.99	7.57	120.04 ±2.16
	31	20/02/01	30582	61.96	14.41	1.21	0.99	7.57	127.20 ±1.58
	27	20/02/01	55097	95.65	20.81	0.91	0.98	7.57	130.51 ±1.23
	17	20/02/01	132754	171.65	36.67	1.65	1.06	7.57	132.95 ±0.81
	23	20/02/01	210785	229.31	33.66	1.27	0.97	7.57	137.65 ±0.77
98/9/3	1	20/02/01	10375	25.64	4.49	2.09	1.02	7.57	101.18 ±2.74
	15	20/02/01	4288	18.71	3.48	0.76	1.07	7.57	137.21 ±5.82
	11	20/02/01	53999	160.52	23.03	0.26	1.00	7.57	140.09 ±1.60
	9	20/02/01	4298	16.52	3.19	-0.89	0.87	7.57	163.26 ±7.59
	7	20/02/01	12861	36.39	5.66	0.23	0.99	7.57	168.58 ±4.33
	13	20/02/01	9132	30.28	5.25	-0.34	1.04	7.57	176.00 ±5.33
	3	20/02/01	46920	105.44	14.20	0.38	1.00	7.57	236.41 ±3.13
98/9/4	31	20/02/01	234838	259.60	28.37	0.82	0.95	7.57	164.87 ±1.02
	29	20/02/01	144753	133.59	16.82	1.69	0.99	7.57	154.33 ±1.10
	27	20/02/01	76022	131.03	15.02	1.22	0.97	7.57	134.55 ±1.40
	25	20/02/01	360917	324.04	32.51	0.83	0.96	7.57	129.03 ±0.65
	23	20/02/01	101550	108.70	13.69	1.23	0.99	7.57	150.23 ±1.32
	21	20/02/01	183284	143.37	16.32	0.92	0.99	7.57	152.27 ±1.03
	19	20/02/01	288128	154.33	20.83	0.89	0.97	7.57	174.44 ±0.93
	17	20/02/01	244500	168.37	20.44	0.92	1.01	7.57	152.19 ±0.84

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/1A	9	05/02/01	2269	6.84	13.10	2.92	1.09	1.84	1.11 ±0.03
	11	05/02/01	1835	5.13	9.94	4.71	0.95	1.84	1.20 ±0.04
	15	05/02/01	1397	4.49	7.78	2.82	0.94	1.84	1.24 ±0.05
	13	05/02/01	2190	7.56	10.33	1.24	1.02	1.84	1.58 ±0.05
	5	05/02/01	3039	8.29	11.70	-0.31	1.04	1.84	1.72 ±0.04
	12	05/02/01	4495	14.91	19.54	2.68	0.96	1.84	1.82 ±0.04
	15	05/02/01	1648	5.16	6.62	1.32	1.07	1.84	1.91 ±0.07
	9	05/02/01	2680	7.87	9.87	-0.04	1.00	1.84	1.93 ±0.05
	3	05/02/01	2854	8.94	9.59	3.06	0.92	1.84	1.98 ±0.05
99/3/1B	34	05/02/01	153137	137.91	21.20	0.58	0.95	7.62	17.33 ±0.12
	35	05/02/01	116965	167.86	21.66	0.28	0.97	7.62	17.53 ±0.14
	36	05/02/01	88901	131.24	17.36	0.64	0.94	7.62	18.62 ±0.18
	28	05/02/01	154652	159.04	18.92	0.51	0.97	7.60	19.07 ±0.14
	26	05/02/01	199291	198.69	22.45	0.45	0.97	7.60	19.58 ±0.13
	27	05/02/01	159118	139.02	16.42	0.91	0.95	7.60	19.70 ±0.14
	25	05/02/01	115691	148.86	17.62	0.59	1.00	7.60	20.18 ±0.18
	29	05/02/01	179168	132.93	15.46	0.51	0.96	7.60	21.02 ±0.15
	33	05/02/01	168380	155.27	16.49	0.68	0.97	7.62	21.17 ±0.15
	27	05/02/01	18382	86.06	9.82	5.01	1.03	7.16	22.50 ±0.52
	19	05/02/01	14160	72.54	8.52	1.96	0.92	7.16	22.95 ±0.62
	21	05/02/01	14160	72.54	8.52	1.96	0.92	7.16	23.08 ±0.62
	25	05/02/01	14800	79.14	8.40	5.50	0.98	7.16	23.79 ±0.62
	23	05/02/01	14832	77.98	8.37	2.07	0.94	7.16	26.42 ±0.72
99/3/3A	6	05/02/01	54935	74.24	13.98	0.48	0.97	1.89	19.47 ±0.21
	8	05/02/01	9714	21.36	5.20	0.55	0.94	1.89	19.55 ±0.50
	4	05/02/01	32001	67.03	11.61	0.99	1.01	1.89	20.95 ±0.30
	17	05/02/01	47202	88.36	11.99	0.63	0.95	1.89	20.95 ±0.25
	1	05/02/01	26701	40.49	8.44	1.59	0.98	1.89	21.65 ±0.34
	2	05/02/01	41869	74.74	13.16	0.58	0.94	1.89	21.66 ±0.28
	21	05/02/01	47603	113.13	16.92	0.42	0.98	1.89	22.02 ±0.27
	27	09/02/01	92005	115.85	14.58	0.74	1.00	7.53	22.23 ±0.23
	5	05/02/01	39402	44.62	7.55	1.13	0.99	1.89	22.36 ±0.30
	23	05/02/01	40321	87.39	13.19	0.56	0.98	1.89	22.48 ±0.30
	25	05/02/01	26131	53.44	8.83	0.96	0.92	1.89	22.93 ±0.38
	19	05/02/01	16047	36.65	6.71	0.38	0.95	1.89	23.37 ±0.48
	30	09/02/01	53185	71.08	10.73	0.70	0.99	7.53	23.73 ±0.31
	28	09/02/01	97101	158.20	15.89	0.60	1.01	7.53	23.87 ±0.25
	29	09/02/01	34044	96.28	9.83	0.43	0.95	7.53	23.95 ±0.41
	26	09/02/01	95792	159.39	16.46	0.62	0.99	7.53	24.08 ±0.25
	31	05/02/01	75671	128.87	17.74	0.41	1.00	1.89	24.40 ±0.24
	29	05/02/01	66503	102.69	15.16	0.56	0.94	1.89	24.68 ±0.26
	27	05/02/01	46962	87.03	13.11	0.27	0.97	1.89	24.98 ±0.32
	7	05/02/01	38061	68.93	10.72	0.76	0.99	1.89	26.70 ±0.37
	31	09/02/01	67894	135.03	12.88	0.53	1.00	7.53	27.32 ±0.35
	25	09/02/01	95237	138.99	15.32	0.48	0.97	7.53	29.88 ±0.34
	32	09/02/01	116897	136.08	15.63	0.41	0.96	7.53	31.44 ±0.32

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/3B	10	11/02/01	49516	109.02	13.05	1.16	1.00	7.53	12.77 ±0.15
	14	11/02/01	47579	86.16	14.15	0.97	0.95	7.53	13.40 ±0.16
	12	11/02/01	29332	74.00	10.40	0.83	0.95	7.53	13.80 ±0.21
	16	11/02/01	60760	133.13	14.98	0.81	0.94	7.53	14.15 ±0.15
	15	11/02/01	81317	134.76	19.58	0.59	0.99	7.53	14.25 ±0.13
	13	11/02/01	43403	95.14	13.49	0.40	1.01	7.53	14.61 ±0.19
	11	11/02/01	93734	259.94	34.95	0.37	0.97	7.53	15.46 ±0.15
	9	11/02/01	54284	111.10	12.68	0.78	0.97	7.53	15.91 ±0.19
99/3/4A	7	05/02/01	22159	51.99	9.01	1.00	0.91	1.89	23.88 ±0.42
	12	05/02/01	37977	52.95	9.27	1.81	0.98	1.89	26.56 ±0.36
	16	05/02/01	32574	60.61	9.88	0.75	0.99	1.89	27.64 ±0.42
	11	05/02/01	69158	109.12	15.79	0.73	1.01	1.89	28.31 ±0.31
	3	05/02/01	35950	50.34	7.38	1.74	0.94	1.89	29.47 ±0.44
	9	05/02/01	68697	117.47	14.87	0.48	0.95	1.89	29.61 ±0.33
	10	05/02/01	193020	262.11	28.93	0.52	0.98	1.89	29.63 ±0.20
	9	05/02/01	37393	48.89	7.39	0.73	0.97	1.89	29.84 ±0.45
	13	05/02/01	67678	114.51	15.45	0.67	0.97	1.89	29.97 ±0.32
	14	05/02/01	120259	191.43	23.80	0.34	1.02	1.89	30.85 ±0.26
	11	05/02/01	65070	132.26	13.79	0.74	0.95	1.89	31.51 ±0.37
	5	05/02/01	21381	31.04	5.27	1.40	0.97	1.89	31.95 ±0.63
	15	05/02/01	120034	170.79	22.82	0.43	1.03	1.89	32.42 ±0.28
	15	05/02/01	34714	54.12	8.09	0.78	1.01	1.89	33.84 ±0.52
	13	05/02/01	96373	163.84	21.23	0.24	1.03	1.89	36.13 ±0.35
99/3/4B	43	05/02/01	112701	108.03	11.18	0.83	1.00	1.87	26.77 ±0.25
	42	05/02/01	128570	117.27	11.64	1.09	0.95	1.87	27.73 ±0.25
	31	05/02/01	324422	131.26	13.99	0.69	0.98	7.60	28.04 ±0.16
	33	05/02/01	308444	163.04	16.11	0.49	1.00	7.60	30.38 ±0.19
	34	05/02/01	297471	165.87	16.42	0.47	0.99	7.60	30.50 ±0.19
	30	05/02/01	453531	185.01	17.03	0.44	0.96	7.60	30.73 ±0.16
	32	05/02/01	287667	177.84	16.29	0.42	0.98	7.60	30.92 ±0.20
	35	05/02/01	435030	162.39	16.34	0.56	0.99	7.60	31.48 ±0.16
	41	05/02/01	255903	237.61	18.08	0.27	0.96	1.87	34.55 ±0.26
99/3/5A	21	05/02/01	50150	103.10	13.34	0.65	0.98	1.89	33.12 ±0.44
	27	05/02/01	86118	132.25	16.07	0.65	0.97	1.89	34.54 ±0.35
	17	05/02/01	77212	90.75	12.40	0.54	1.00	1.89	35.84 ±0.39
	24	05/02/01	37753	53.67	7.26	0.47	0.96	1.89	36.62 ±0.56
	22	05/02/01	69151	110.25	12.65	0.51	0.96	1.89	36.80 ±0.42
	19	05/02/01	66093	92.21	11.54	0.83	0.97	1.89	38.40 ±0.47
	19	05/02/01	90014	125.33	15.11	0.48	0.96	1.89	39.61 ±0.41
	25	05/02/01	65541	97.76	11.15	0.76	0.99	1.89	40.01 ±0.47
	23	05/02/01	40901	65.84	9.21	0.70	1.02	1.89	40.10 ±0.59
	40	10/02/01	125711	192.69	13.56	0.39	0.99	7.53	40.32 ±0.44
	36	10/02/01	210030	168.43	14.12	0.62	0.97	7.53	40.50 ±0.34
	19	05/02/01	147952	185.87	19.49	0.77	1.02	1.89	40.88 ±0.34
	20	05/02/01	79613	121.96	13.58	0.55	0.98	1.89	41.17 ±0.47
	39	10/02/01	202372	217.32	16.13	0.43	0.95	7.53	41.48 ±0.36
	29	05/02/01	40757	93.14	10.83	0.46	1.02	1.89	41.54 ±0.65
	38	10/02/01	92554	133.48	10.71	0.66	0.98	7.53	41.57 ±0.52
	31	05/02/01	75701	68.67	9.62	0.81	1.03	1.89	41.92 ±0.45
	35	10/02/01	94500	137.43	11.02	1.09	0.99	7.53	42.30 ±0.54
	21	05/02/01	93388	152.74	16.35	0.46	0.97	1.89	42.90 ±0.45
	17	05/02/01	55198	93.84	10.65	0.72	1.03	1.89	42.97 ±0.57
	23	05/02/01	134647	202.60	18.10	0.49	1.01	1.89	43.69 ±0.40
	37	10/02/01	158557	103.21	10.20	1.04	0.99	7.53	43.78 ±0.43
	34	10/02/01	139818	171.01	12.21	0.55	0.98	7.53	46.90 ±0.51
	33	10/02/01	259136	296.97	20.23	0.48	0.99	7.53	48.51 ±0.41

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/5B	48	01/09/00	110205	54.32	8.53	0.56	0.99	6.92	24.30 ±0.22
	45	01/09/00	168189	134.96	14.73	0.59	1.00	6.92	25.08 ±0.19
	47	01/09/00	128790	135.28	12.68	0.67	0.96	6.92	25.72 ±0.21
	37	09/02/01	231247	125.62	11.97	1.18	0.94	7.60	26.62 ±0.18
	46	01/09/00	147081	113.51	12.97	0.55	0.95	6.92	26.95 ±0.22
	40	06/02/01	504487	162.92	16.69	1.86	0.94	7.60	26.95 ±0.12
	39	07/02/01	475778	127.30	15.28	1.13	0.93	7.60	27.42 ±0.13
	41	05/02/01	255286	146.65	15.06	1.19	0.97	7.60	27.58 ±0.18
	38	08/02/01	207250	134.93	13.15	1.05	0.99	7.60	28.47 ±0.20
	36	10/02/01	388803	205.13	19.29	0.71	1.00	7.60	29.77 ±0.16
99/3/6A	31	05/02/01	33776	66.78	8.78	1.36	1.00	1.89	32.53 ±0.51
	33	05/02/01	30280	41.06	6.82	3.87	0.95	1.89	32.96 ±0.55
	28	05/02/01	40621	68.73	9.88	0.73	1.00	1.89	33.78 ±0.49
	35	05/02/01	116635	82.02	14.18	1.05	0.97	1.89	34.45 ±0.30
	30	05/02/01	69683	123.77	14.34	0.80	0.94	1.89	34.47 ±0.39
	2	02/06/01	131155	141.51	16.75	0.68	0.98	7.53	36.14 ±0.31
	25	05/02/01	22850	56.62	7.12	0.80	0.90	1.89	37.79 ±0.78
	29	05/02/01	55625	103.82	12.43	1.06	0.96	1.89	37.97 ±0.50
	7	02/06/01	103217	144.48	15.16	0.79	1.01	7.53	38.42 ±0.38
	3	02/06/01	100508	144.37	16.80	0.46	0.96	7.53	38.83 ±0.39
	4	02/06/01	173966	205.58	19.93	0.75	0.96	7.53	39.23 ±0.32
	41	05/02/01	91448	115.79	12.97	0.85	0.98	1.89	39.37 ±0.41
	47	05/02/01	38145	74.88	9.28	0.46	0.97	1.89	39.45 ±0.62
	26	05/02/01	75468	55.72	8.03	1.21	0.98	1.89	39.65 ±0.45
	5	02/06/01	110134	122.81	14.12	0.84	0.94	7.53	39.83 ±0.38
	1	02/06/01	130460	161.98	17.96	0.63	0.94	7.53	40.15 ±0.36
	37	05/02/01	35462	73.42	9.17	0.31	1.01	1.89	40.74 ±0.68
	45	05/02/01	41210	75.75	9.10	0.71	1.06	1.89	41.21 ±0.63
	43	05/02/01	42467	74.50	9.58	0.70	1.02	1.89	41.74 ±0.66
	6	02/06/01	124129	125.16	13.56	0.62	0.97	7.53	41.80 ±0.39
	39	05/02/01	36052	71.67	8.95	0.68	1.03	1.89	42.28 ±0.71
	35	05/02/01	37870	81.51	8.72	0.58	1.01	1.89	43.58 ±0.72
	8	02/06/01	122343	149.05	15.23	0.52	0.99	7.53	44.42 ±0.41
	33	05/02/01	118038	202.54	20.15	0.40	1.03	1.89	47.18 ±0.46
99/3/6B	40	05/02/01	287723	136.76	12.17	0.49	0.98	7.21	30.41 ±0.19
	39	05/02/01	352379	89.25	10.31	0.90	0.96	7.21	30.46 ±0.17
	34	05/02/01	230617	120.05	9.54	0.40	0.97	7.21	31.71 ±0.24
	36	05/02/01	428912	165.97	16.47	0.34	0.99	7.21	32.02 ±0.17
	38	05/02/01	328712	127.62	13.28	0.40	1.01	7.21	32.07 ±0.19
	33	05/02/01	357724	165.74	25.49	0.47	0.97	7.21	32.16 ±0.19
	37	05/02/01	332809	115.22	13.32	0.41	0.96	7.21	32.54 ±0.19
	35	05/02/01	363107	166.70	14.89	0.29	1.00	7.21	32.81 ±0.19
	33	05/02/01	213643	110.10	9.31	0.40	0.98	7.21	32.88 ±0.26
	31	05/02/01	229420	118.69	9.40	0.25	1.01	7.21	33.44 ±0.28
	13	05/02/01	218634	285.75	12.49	0.32	0.91	7.20	33.55 ±0.32
	9	05/02/01	271118	184.48	10.85	0.37	0.91	7.20	34.09 ±0.29
	34	05/02/01	438680	186.23	16.14	0.29	0.98	7.21	35.55 ±0.19
	32	05/02/01	518367	251.49	15.82	0.28	1.00	7.21	37.42 ±0.22

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/7A	15	06/02/01	96214	84.93	10.97	0.97	0.96	7.53	36.08 ±0.36
	38	05/02/01	10889	19.09	3.44	1.01	0.96	1.89	36.17 ±1.02
	41	05/02/01	10978	14.87	3.09	0.99	0.98	1.89	36.76 ±1.04
	10	06/02/01	92512	106.85	10.71	1.28	0.98	7.53	37.35 ±0.38
	12	06/02/01	50691	58.89	7.39	1.32	0.98	7.53	37.94 ±0.53
	11	06/02/01	75944	78.98	9.77	0.75	0.98	7.53	38.90 ±0.44
	36	05/02/01	14247	19.98	3.25	0.57	0.95	1.89	40.11 ±1.09
	14	06/02/01	96485	105.86	10.64	0.88	0.99	7.53	40.48 ±0.42
	45	05/02/01	21578	33.95	4.21	0.12	1.05	1.89	40.80 ±0.93
	13	06/02/01	107800	131.46	11.09	2.09	0.95	7.53	41.09 ±0.39
	9	06/02/01	97962	173.94	17.65	0.39	1.01	7.53	42.48 ±0.44
	44	05/02/01	45628	66.69	7.93	0.01	0.98	1.89	43.71 ±0.66
	37	05/02/01	26215	37.05	4.44	0.08	0.98	1.89	46.98 ±1.00
	42	05/02/01	17850	29.99	4.00	0.49	1.03	1.89	52.58 ±1.28
	43	05/02/01	12462	8.77	1.92	-0.37	1.03	1.89	53.84 ±1.59
99/3/7B	48	06/02/01	48201	104.51	15.94	156.57	1.01	7.16	32.05 ±0.36
	37	06/02/01	23651	33.65	4.87	0.24	0.91	7.21	32.68 ±0.65
	46	06/02/01	48608	146.59	18.20	152.40	0.99	7.16	33.74 ±0.39
	47	06/02/01	69969	133.78	18.57	143.27	1.00	7.16	34.54 ±0.34
	45	06/02/01	60406	134.47	19.87	135.07	0.94	7.16	35.42 ±0.37
	35	06/02/01	66290	82.84	8.93	0.41	0.99	7.21	35.43 ±0.46
	2	06/02/01	411660	215.64	24.10	0.91	0.94	7.59	35.45 ±0.16
	38	06/02/01	45882	50.71	6.66	1.21	0.92	7.21	35.93 ±0.51
	36	06/02/01	66686	85.06	9.60	0.54	0.96	7.21	37.03 ±0.45
	44	06/02/01	59276	157.23	20.47	137.65	1.00	7.16	37.31 ±0.40
	43	06/02/01	84535	150.63	21.23	116.59	0.95	7.16	38.26 ±0.35
	6	06/02/01	261782	132.49	15.46	1.11	0.96	7.59	38.82 ±0.22
	3	06/02/01	225960	109.75	14.06	1.26	0.96	7.59	38.96 ±0.24
	1	06/02/01	274361	128.52	14.47	1.35	0.98	7.59	39.25 ±0.22
	4	06/02/01	458863	148.63	18.69	0.77	0.99	7.59	39.55 ±0.18
	8	06/02/01	234620	101.16	15.05	0.84	0.96	7.59	39.63 ±0.24
	5	06/02/01	305086	146.34	16.72	0.88	1.01	7.59	40.04 ±0.22
	39	06/02/01	80619	178.68	20.05	115.07	0.99	7.16	41.19 ±0.38
	41	06/02/01	93663	208.05	24.78	124.28	0.98	7.16	42.06 ±0.37
	7	06/02/01	317588	160.19	17.44	1.09	0.97	7.59	42.54 ±0.23
99/3/8A	4	06/02/01	37358	73.42	8.65	0.84	0.99	1.89	40.05 ±0.68
	6	06/02/01	57338	75.48	9.25	0.73	0.99	1.89	42.00 ±0.55
	2	06/02/01	62293	113.92	11.57	0.39	1.03	1.89	44.67 ±0.60
	3	06/02/01	83920	118.70	12.54	0.51	0.96	1.89	45.70 ±0.52
	5	06/02/01	25809	53.43	6.33	0.37	1.05	1.89	47.03 ±0.96
	10	06/02/01	38331	83.29	9.02	0.40	0.98	1.89	48.07 ±0.83
	8	06/02/01	92804	159.79	15.53	0.63	0.99	1.89	48.77 ±0.56
	1	06/02/01	72089	106.20	10.58	0.55	1.01	1.89	49.03 ±0.63
	7	06/02/01	84788	134.54	13.32	0.52	0.96	1.89	49.33 ±0.57
	9	06/02/01	62147	113.91	13.45	0.31	0.98	1.89	52.64 ±0.68

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/8B	40	06/02/01	39698	49.75	5.01	0.68	0.92	7.21	45.75 ±0.79
	5	11/02/01	154588	169.62	16.68	0.65	0.98	7.53	46.68 ±0.41
	8	11/02/01	122262	139.31	13.84	0.59	0.98	7.53	47.12 ±0.45
	42	06/02/01	49587	47.85	5.22	0.55	0.92	7.21	50.33 ±0.79
	1	11/02/01	176873	233.34	20.13	0.44	1.01	7.53	51.36 ±0.25
	39	06/02/01	86375	87.25	8.11	0.52	0.98	7.21	51.65 ±0.61
	15	06/02/01	415395	175.26	15.85	0.54	0.99	7.59	52.49 ±0.29
	2	11/02/01	150941	189.67	15.79	0.60	1.02	7.53	53.12 ±0.48
	13	06/02/01	368599	139.14	12.99	0.80	0.97	7.59	53.47 ±0.30
	7	11/02/01	194907	132.39	13.61	1.31	0.96	7.53	53.49 ±0.42
	3	11/02/01	132184	190.36	16.75	0.49	1.00	7.53	53.59 ±0.51
	14	06/02/01	540691	198.64	17.68	0.38	1.00	7.59	54.12 ±0.26
	16	06/02/01	544574	163.90	16.66	0.53	0.98	7.59	54.58 ±0.26
	6	11/02/01	82557	123.81	12.14	0.45	1.00	7.53	57.06 ±0.68
	4	11/02/01	127922	159.19	12.52	1.16	0.99	7.53	58.19 ±0.58
99/3/9A	4	07/02/01	71004	134.07	9.38	0.50	1.01	7.53	44.23 ±0.67
	15	08/06/00	67966	101.78	11.70	0.86	0.98	1.87	45.68 ±0.58
	17	08/06/00	108735	139.37	13.00	1.03	0.98	1.87	45.85 ±0.47
	8	07/02/01	48704	96.03	7.84	1.19	1.06	7.53	45.95 ±0.78
	12	08/06/00	90651	117.48	11.06	1.30	1.00	1.87	46.93 ±0.51
	18	08/06/00	98351	147.06	14.38	0.63	0.98	1.87	47.54 ±0.49
	2	07/02/01	23516	53.79	4.77	1.52	1.00	7.53	48.64 ±1.27
	16	08/06/00	97708	143.60	13.92	0.70	0.99	1.87	49.13 ±0.52
	6	07/02/01	38629	84.56	7.07	0.39	0.95	7.53	49.19 ±1.03
	3	07/02/01	117478	233.09	14.04	0.40	0.98	7.53	51.80 ±0.67
	1	07/02/01	70190	147.09	9.47	0.38	0.96	7.53	52.59 ±0.84
99/3/9B	43	06/02/01	131428	119.22	11.63	0.43	1.00	7.21	43.72 ±0.42
	45	06/02/01	76427	74.19	7.92	0.74	0.94	7.21	44.02 ±0.54
	24	06/02/01	288826	83.15	10.62	0.85	0.95	7.59	44.72 ±0.27
	17	06/02/01	250628	108.45	11.78	0.78	0.95	7.59	46.13 ±0.30
	44	06/02/01	109779	122.69	10.86	0.58	0.99	7.21	49.12 ±0.53
	23	06/02/01	364813	165.79	16.21	0.39	0.98	7.59	50.27 ±0.28
	22	06/02/01	544749	165.91	17.21	0.68	0.97	7.59	50.80 ±0.23
	20	06/02/01	475647	136.39	14.66	0.60	0.98	7.59	50.98 ±0.25
	21	06/02/01	522984	200.65	19.23	0.40	0.96	7.59	51.12 ±0.24
	19	06/02/01	582898	163.37	15.76	0.85	0.99	7.59	52.53 ±0.24
	18	06/02/01	633220	188.44	17.80	0.79	0.97	7.59	54.82 ±0.24
99/3/10A	26	06/02/01	8184	15.32	3.22	0.90	1.12	1.89	27.47 ±0.88
	23	06/02/01	17376	44.21	6.32	0.79	0.99	1.89	28.62 ±0.62
	24	06/02/01	18571	41.18	6.35	1.08	0.97	1.89	29.90 ±0.62
	28	06/02/01	41343	81.10	11.49	0.64	0.99	1.89	30.46 ±0.44
	29	06/02/01	60843	101.47	13.19	0.39	0.97	1.89	30.77 ±0.37
	30	06/02/01	56020	80.95	11.23	0.45	0.97	1.89	31.17 ±0.39
	21	06/02/01	54583	113.95	15.72	0.44	1.04	1.89	31.88 ±0.39
	25	06/02/01	30518	75.39	10.22	0.55	0.96	1.89	33.03 ±0.57
	27	06/02/01	42331	99.65	11.69	0.44	1.00	1.89	34.31 ±0.49
	22	06/02/01	34826	81.52	10.75	0.37	0.99	1.89	34.58 ±0.56

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/10B	46	06/02/01	60308	63.16	8.76	0.92	0.98	7.21	29.78 ±0.36
	47	06/02/01	68310	85.28	9.92	0.57	0.91	7.21	31.06 ±0.36
	38	06/02/01	218458	118.68	18.08	0.67	0.93	7.59	32.96 ±0.19
	37	06/02/01	241592	120.68	15.74	0.94	0.94	7.59	33.04 ±0.18
	1	06/02/01	29610	132.54	9.29	0.53	1.10	7.20	33.62 ±0.79
	2	06/02/01	42120	187.70	8.92	0.55	0.95	7.20	34.19 ±0.79
	9	06/02/01	31291	93.63	10.38	0.32	1.01	7.20	34.33 ±0.67
	48	06/02/01	88325	85.21	9.96	0.86	0.92	7.21	34.50 ±0.39
	5	06/02/01	31209	118.22	9.76	0.15	0.93	7.20	35.11 ±0.70
	37	06/02/01	432930	213.01	28.31	0.40	0.97	7.59	35.42 ±0.15
	34	06/02/01	353844	134.08	17.38	0.84	0.96	7.59	35.66 ±0.16
	39	06/02/01	277222	83.81	13.29	0.47	0.97	7.59	36.67 ±0.19
	40	06/02/01	241530	173.49	22.38	0.49	0.95	7.59	37.47 ±0.21
	7	06/02/01	21881	88.87	7.99	0.28	1.00	7.20	38.22 ±0.90
	33	06/02/01	252628	116.76	17.35	0.50	0.95	7.59	38.62 ±0.21
99/3/11A	32	06/02/01	26953	44.61	7.98	1.45	0.97	1.89	24.08 ±0.39
	31	06/02/01	36805	74.20	12.61	0.52	0.95	1.89	24.18 ±0.34
	38	06/02/01	28981	59.17	10.21	0.69	0.98	1.89	24.49 ±0.39
	39	06/02/01	71302	124.44	18.36	0.75	0.97	1.89	24.79 ±0.26
	37	06/02/01	63207	101.00	16.74	0.54	0.98	1.89	25.40 ±0.28
	35	06/02/01	16661	32.35	6.02	0.50	1.01	1.89	26.75 ±0.57
	33	06/02/01	56903	112.19	14.70	0.79	0.99	1.89	27.23 ±0.32
	36	06/02/01	34824	77.80	11.82	0.50	0.99	1.89	27.88 ±0.42
	34	06/02/01	44468	59.34	9.00	0.64	0.98	1.89	28.00 ±0.37
	40	06/02/01	40319	25.00	4.54	0.78	0.98	1.89	33.67 ±0.50
99/3/11B	19	12/02/01	20316	72.09	6.19	0.68	1.02	7.53	135.27 ±3.55
	20	12/02/01	58518	89.01	7.96	1.02	0.99	7.53	152.58 ±2.24
	23	12/02/01	47853	106.72	8.67	1.57	1.00	7.53	156.30 ±2.53
	24	12/02/01	38944	108.96	8.93	1.02	1.00	7.53	172.81 ±3.38
	17	12/02/01	79966	275.55	15.96	1.09	1.01	7.53	183.09 ±2.62
	18	12/02/01	192057	304.85	18.67	0.65	1.05	7.53	185.47 ±1.74
	22	12/02/01	56318	138.58	11.21	1.00	0.98	7.53	217.96 ±3.27
	21	12/02/01	105808	226.47	13.62	0.77	1.00	7.53	240.36 ±3.34
99/3/12A	7	02/02/01	193543	98.29	5.98	0.34	0.99	3.48	199.70 ±2.18
	14	08/02/01	102438	127.63	8.86	0.74	0.99	7.53	200.52 ±2.73
	16	08/02/01	136343	179.87	12.96	0.55	0.99	7.53	202.47 ±2.31
	15	08/02/01	147328	111.80	7.22	1.41	1.03	7.53	215.19 ±2.34
	13	08/02/01	222367	287.67	15.73	0.50	0.98	7.53	231.80 ±2.26
	9	08/02/01	222527	190.75	12.73	0.66	1.01	7.53	237.00 ±2.21
	8	02/02/01	306934	73.71	4.57	0.58	0.97	3.48	247.18 ±2.17
	1	02/02/01	419682	105.81	5.79	0.25	0.97	3.48	277.11 ±2.14
	12	08/02/01	163690	132.05	9.09	0.55	1.00	7.53	308.18 ±3.32

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes inner lunette									
99/3/12B	26	06/02/01	612678	1203.69	17.87	0.14	0.90	7.20	113.50 ±1.22
	23	06/02/01	484591	860.12	14.25	0.14	0.98	7.20	120.62 ±1.34
	22	06/02/01	261207	532.21	14.82	0.22	0.95	7.20	123.81 ±1.48
	24	06/02/01	260075	399.99	11.05	0.23	0.98	7.20	132.02 ±1.67
	28	06/02/01	152168	336.21	13.35	0.13	0.94	7.20	147.95 ±2.07
	29	06/02/01	184453	335.13	10.90	0.28	0.96	7.20	154.75 ±2.08
	25	06/02/01	147391	377.54	13.72	0.20	1.02	7.20	157.89 ±2.20
	44	10/02/01	156802	185.56	14.15	0.73	1.00	7.53	164.79 ±1.61
	21	06/02/01	341724	619.74	12.84	0.14	0.97	7.20	166.13 ±2.06
	41	10/02/01	179585	202.51	14.99	0.53	0.98	7.53	184.34 ±1.76
	47	10/02/01	205337	243.18	22.43	0.63	0.95	7.53	195.38 ±1.61
99/3/13A	24	06/02/01	181421	143.73	12.28	0.76	1.00	7.53	215.91 ±1.92
	18	06/02/01	401119	195.63	16.86	0.84	1.04	7.53	216.21 ±1.38
	1	06/02/01	656474	128.59	17.11	1.23	0.98	7.63	217.75 ±0.67
	6	06/02/01	797143	201.40	27.12	0.71	0.99	7.63	218.33 ±0.63
	23	06/02/01	227739	122.22	11.89	0.66	1.07	7.53	220.19 ±1.65
	20	06/02/01	592677	141.05	11.87	0.99	0.98	7.53	220.77 ±1.12
	2	06/02/01	496524	103.27	10.33	1.30	0.95	7.54	222.16 ±1.14
	2	06/02/01	1192968	182.71	26.52	0.81	1.00	7.63	222.59 ±0.53
	5	06/02/01	1867978	211.68	25.11	0.84	0.98	7.63	224.43 ±0.47
	3	06/02/01	571118	196.25	16.96	0.98	1.00	7.54	225.01 ±1.07
	8	06/02/01	896338	144.51	25.24	0.74	1.01	7.63	231.31 ±0.64
	6	06/02/01	1026271	173.70	13.51	0.96	0.99	7.54	234.19 ±0.91
	5	06/02/01	921401	216.21	17.41	0.85	1.01	7.54	237.75 ±0.95
	3	06/02/01	1271493	224.17	33.26	0.62	1.00	7.63	239.78 ±0.55
	19	06/02/01	394124	261.60	22.21	0.75	1.02	7.53	246.32 ±1.45
	7	06/02/01	1135361	209.43	29.82	0.69	1.03	7.63	247.03 ±0.58
	4	06/02/01	1049781	264.02	37.45	0.61	1.01	7.63	250.84 ±0.64
	4	06/02/01	562846	163.51	14.46	0.68	1.00	7.54	258.32 ±1.26
99/3/13B	29	06/02/01	814295	165.88	17.95	1.02	1.02	7.59	258.22 ±0.86
	27	13/02/01	163014	97.01	8.85	5.07	0.96	7.53	264.46 ±2.19
	26	06/02/01	923988	116.48	14.51	1.16	1.03	7.59	283.56 ±0.89
	25	06/02/01	1036704	173.11	18.63	0.94	1.00	7.59	291.90 ±0.88
	28	06/02/01	1819599	198.05	20.60	0.96	1.02	7.59	292.80 ±0.71
	24	06/02/01	1042673	139.64	14.67	1.07	1.02	7.59	293.85 ±0.92
	30	13/02/01	118311	180.08	14.01	0.79	1.00	7.53	301.61 ±3.49
	28	13/02/01	71678	106.47	9.43	1.24	1.07	7.53	310.28 ±4.27
	22	06/02/01	1171016	176.02	20.07	0.86	1.02	7.59	362.02 ±1.04
	27	06/02/01	1307591	198.90	18.71	0.98	1.03	7.59	376.86 ±1.05
Double Lakes middle lunette									
99/12/1A	40	30/07/00	64377	64.18	14.98	0.63	0.95	7.63	8.45 ±0.07
	28	27/07/00	149462	147.49	29.15	0.67	0.97	7.63	9.83 ±0.06
	27	27/07/00	138428	94.27	19.65	0.63	0.97	7.63	10.41 ±0.06
	41	30/07/00	175710	135.73	21.81	0.59	0.95	7.63	12.06 ±0.07
	38	30/07/00	135678	108.93	18.91	0.42	0.96	7.63	12.11 ±0.08
	39	30/07/00	90982	125.25	19.13	0.74	0.95	7.63	12.74 ±0.10
	25	27/07/00	171508	110.98	17.56	0.49	0.97	7.63	14.39 ±0.09
	26	27/07/00	131109	68.12	15.78	0.50	0.98	7.63	14.52 ±0.10

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes middle lunette									
99/12/1B	8	14/02/01	33674	84.78	10.95	1.71	0.94	7.53	35.11 ±0.57
	3	14/02/01	57338	150.34	14.05	0.69	0.96	7.53	49.02 ±0.70
	14	10/01/01	188264	138.96	13.65	0.85	0.95	7.14	53.48 ±0.44
	11	10/01/01	229528	129.82	11.52	0.62	0.95	7.14	56.04 ±0.43
	12	10/01/01	199187	168.83	14.24	0.77	0.92	7.14	60.83 ±0.50
	6	14/02/01	41122	99.52	11.12	0.76	0.98	7.53	62.32 ±1.12
	4	14/02/01	60110	172.33	14.06	0.81	0.96	7.53	64.05 ±0.99
	4	14/02/01	60110	172.33	14.06	0.81	0.96	7.53	64.05 ±0.99
	2	14/02/01	178414	254.88	21.36	0.54	0.98	7.53	69.50 ±0.63
	13	10/01/01	310261	257.73	17.62	0.63	0.96	7.14	77.40 ±0.57
	1	14/02/01	34570	50.41	5.05	0.92	1.01	7.53	86.54 ±1.79
99/12/2A	2	26/02/01	762346	60.45	7.54	82.45	0.99	7.16	196.46 ±1.64
	10	26/02/01	739106	140.43	15.27	0.57	0.99	7.59	240.68 ±0.83
	3	26/02/01	374829	111.50	14.35	97.26	1.00	7.16	273.09 ±1.32
	9	26/02/01	738848	79.33	11.75	0.77	1.00	7.59	287.79 ±0.95
	8	26/02/01	150152	178.88	11.97	0.51	1.03	7.13	291.32 ±3.24
	9	26/02/01	430802	119.16	13.76	91.56	0.98	7.16	292.24 ±1.41
	5	26/02/01	761665	60.94	7.42	82.49	0.99	7.16	308.32 ±1.20
	21	26/02/01	364195	152.97	16.39	93.01	1.01	7.16	311.31 ±1.59
	17	26/02/01	466702	188.83	16.20	92.97	1.00	7.16	325.92 ±1.52
	11	26/02/01	1291495	218.70	27.15	0.53	1.01	7.59	327.88 ±0.87
	15	26/02/01	310449	142.26	14.45	88.90	1.02	7.16	334.29 ±1.83
	13	26/02/01	1089608	98.27	13.08	1.33	1.00	7.59	349.24 ±1.00
	12	26/02/01	1200333	156.00	18.08	0.78	1.01	7.59	359.51 ±1.00
	7	26/02/01	829327	175.59	16.06	64.21	1.00	7.16	366.17 ±1.42
	13	26/02/01	726709	268.24	23.28	90.10	1.00	7.16	367.94 ±1.44
	14	26/02/01	915165	169.34	19.41	0.58	1.01	7.59	405.50 ±1.28
	16	26/02/01	1849147	234.64	22.50	0.62	1.02	7.59	446.22 ±1.09
99/12/2B	19	15/02/01	62219	92.48	10.31	1.00	1.01	7.53	182.64 ±2.42
	10	26/02/01	229266	225.52	15.59	0.77	1.01	7.13	196.46 ±1.64
	25	15/02/01	792227	141.32	15.81	1.27	0.99	7.56	211.74 ±0.76
	21	15/02/01	73945	131.06	10.05	0.63	1.09	7.53	227.60 ±3.20
	18	15/02/01	101928	145.61	12.29	0.74	1.04	7.53	230.29 ±2.73
	9	26/02/01	61502	118.64	8.02	0.87	0.93	7.13	246.88 ±4.02
	24	16/02/01	88788	164.85	12.05	0.52	1.04	7.53	247.40 ±3.32
	22	31/12/00	376401	175.31	15.28	0.93	1.02	7.56	250.77 ±1.33
	19	15/02/01	1265343	233.94	19.34	0.96	1.01	7.56	253.62 ±0.81
	28	31/12/00	856545	183.34	17.37	0.85	0.99	7.56	259.90 ±0.97
	22	15/02/01	119170	137.42	11.08	0.67	1.05	7.53	262.59 ±2.99
	24	31/12/00	627835	124.27	12.81	1.75	0.99	7.56	264.07 ±1.09
	27	31/12/00	927299	100.94	9.95	1.87	0.99	7.56	265.13 ±0.93
	20	31/12/00	907798	179.83	17.17	1.17	1.03	7.56	269.14 ±0.93
	21	31/12/00	743026	158.82	15.57	1.17	1.01	7.56	284.97 ±1.10
	23	31/12/00	859515	215.09	17.97	0.87	1.04	7.56	288.00 ±1.06

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes middle lunette									
99/12/3A	31	20/12/00	20688	21.80	4.15	0.91	1.02	3.48	23.99 ±0.46
	33	20/12/00	93134	72.01	11.03	1.18	0.91	3.48	26.94 ±0.26
	32	20/12/00	133229	108.33	13.36	0.48	0.95	3.48	32.17 ±0.28
	13	14/02/01	35859	104.91	17.36	0.68	0.98	7.53	33.74 ±0.49
	36	20/12/00	77364	84.75	9.80	0.68	0.95	3.48	34.12 ±0.38
	12	14/02/01	47324	137.33	16.58	0.89	0.97	7.53	34.70 ±0.45
	38	20/12/00	74082	70.58	8.30	0.39	0.98	3.48	36.30 ±0.43
	16	14/02/01	42365	113.46	17.33	0.55	0.98	7.53	37.91 ±0.53
	14	14/02/01	38666	114.40	17.23	1.00	0.96	7.53	38.22 ±0.54
	37	20/12/00	22594	18.24	3.06	0.97	0.95	3.48	39.70 ±0.84
	39	20/12/00	42071	23.93	4.02	1.32	0.91	3.48	40.01 ±0.62
	34	20/12/00	46644	39.19	5.31	1.52	1.06	3.48	44.92 ±0.63
	9	14/02/01	42822	79.09	10.45	1.00	0.94	7.53	44.96 ±0.66
	11	14/02/01	33503	73.89	9.17	0.94	0.95	7.53	56.81 ±0.98
	10	14/02/01	39128	131.13	13.59	0.87	0.98	7.53	56.81 ±0.89
99/12/3B	38	03/01/01	705264	197.14	21.40	1.11	1.03	7.56	173.05 ±0.61
	32	02/01/01	598041	109.44	12.39	1.75	1.00	7.56	196.91 ±0.77
	34	02/01/01	940160	152.30	15.39	1.21	1.01	7.56	207.02 ±0.67
	29	02/01/01	502961	165.18	15.77	1.28	0.97	7.56	207.84 ±0.91
	30	02/01/01	499142	168.02	16.83	1.19	0.97	7.56	215.15 ±0.95
	35	03/01/01	774333	177.01	19.34	0.99	1.02	7.56	242.53 ±0.85
	37	02/01/01	726199	199.16	19.06	1.07	1.02	7.56	243.63 ±0.90
99/12/4A	30	24/02/01	110065	110.37	6.29	0.79	1.01	7.53	243.29 ±3.54
	27	24/02/01	194163	167.90	8.88	0.94	0.99	7.53	248.42 ±2.86
	19	24/02/01	501835	69.03	6.48	0.78	0.98	7.16	255.77 ±1.39
	21	24/02/01	568610	217.51	16.26	0.38	0.98	7.16	274.86 ±1.44
	26	24/02/01	390023	172.27	7.80	0.49	0.98	7.53	276.14 ±2.47
	26	01/02/01	254740	151.76	12.33	0.52	1.00	7.16	292.40 ±2.15
	24	01/02/01	687729	132.79	11.10	0.64	0.97	7.16	300.58 ±1.40
	31	24/02/01	193243	102.22	6.03	1.21	1.09	7.53	300.69 ±3.55
	25	24/02/01	733704	212.94	14.19	0.41	0.99	7.16	317.03 ±1.51
	22	24/02/01	807209	207.40	13.54	0.47	0.99	7.16	326.57 ±1.54
	20	24/02/01	725088	214.88	15.45	0.38	0.99	7.16	341.64 ±1.65
	18	24/02/01	781084	132.22	9.84	0.47	0.99	7.16	341.66 ±1.61
	25	24/02/01	237388	193.60	8.35	0.44	1.03	7.53	362.86 ±4.10
	23	24/02/01	416207	80.52	6.51	0.52	0.99	7.16	381.21 ±2.47
99/12/4B	28	18/02/01	33412	75.12	6.22	1.55	0.98	7.53	162.69 ±3.39
	30	18/02/01	74715	138.31	11.77	0.90	1.08	7.53	240.26 ±3.24
	31	18/02/01	110997	42.50	6.63	3.79	1.03	7.53	247.54 ±2.63
	27	18/02/01	56357	81.94	6.93	1.28	1.02	7.53	305.20 ±4.93
	29	18/02/01	243877	194.63	13.82	0.81	1.00	7.53	309.03 ±2.55
	26	18/02/01	157923	169.01	12.73	1.06	1.09	7.53	354.07 ±3.45
	25	18/02/01	249114	108.08	11.18	0.81	1.02	7.53	358.53 ±3.46
	45	02/01/01	1253122	238.44	20.86	0.67	1.03	7.56	421.65 ±1.28

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes middle lunette									
99/12/5A	23	15/02/01	507508	99.93	13.63	1.13	0.98	7.59	216.41 ±0.83
	2	19/02/01	63919	95.06	8.71	1.32	0.97	7.13	216.53 ±3.13
	19	15/02/01	337379	151.09	15.57	1.16	0.98	7.59	242.28 ±1.21
	24	15/02/01	809736	146.36	17.75	0.89	1.00	7.59	251.98 ±0.81
	5	19/02/01	199627	203.95	15.30	-0.36	1.02	7.13	272.31 ±2.56
	21	15/02/01	933697	192.77	20.35	0.62	1.00	7.59	276.51 ±0.86
	17	15/02/01	930035	150.46	18.28	0.86	1.00	7.59	280.54 ±0.86
99/12/5B	16	15/02/01	90286	128.21	12.08	0.43	1.02	7.54	130.87 ±1.45
	18	15/02/01	63757	109.66	12.28	0.57	0.99	7.54	131.64 ±1.67
	10	15/02/01	39293	51.89	5.13	1.79	1.07	7.54	133.17 ±2.53
	39	18/02/01	208549	122.32	11.28	0.60	1.00	7.53	136.05 ±1.10
	15	15/02/01	81588	96.55	13.72	0.85	0.99	7.54	136.54 ±1.42
	35	18/02/01	341407	200.57	15.78	0.69	1.01	7.53	142.75 ±0.92
	37	18/02/01	443292	152.33	11.88	0.90	1.03	7.53	146.57 ±0.87
	17	15/02/01	89885	102.63	10.47	0.74	0.98	7.54	149.96 ±1.56
	13	15/02/01	327963	265.73	23.95	0.52	0.95	7.54	152.46 ±0.94
	38	18/02/01	705143	192.58	12.32	0.74	1.00	7.53	168.78 ±0.83
	9	15/02/01	59681	83.89	6.34	2.64	0.95	7.54	169.96 ±2.90
	12	15/02/01	261315	171.78	14.96	0.34	0.99	7.54	176.70 ±1.28
	40	18/02/01	561238	214.72	14.61	0.52	1.01	7.53	182.35 ±1.02
	14	15/02/01	67431	104.84	10.21	0.87	0.99	7.54	184.02 ±2.27
	36	18/02/01	713194	177.23	12.14	0.97	0.98	7.53	210.96 ±1.02
	34	18/02/01	575985	175.74	15.83	0.68	1.03	7.53	240.56 ±1.26
99/12/6A	6	01/03/01	561520	133.34	11.38	0.68	0.99	7.16	241.77 ±1.23
	8	01/03/01	704829	195.96	15.80	0.54	0.98	7.16	252.46 ±1.13
	14	01/03/01	553029	196.74	14.85	0.52	0.98	7.16	273.90 ±1.46
	15	01/03/01	562505	195.30	15.05	0.59	1.00	7.16	283.04 ±1.50
	12	01/03/01	938138	216.48	15.79	0.60	0.99	7.16	288.48 ±1.18
	7	01/03/01	760024	232.21	16.76	0.50	0.98	7.16	289.15 ±1.31
	10	01/03/01	644929	144.27	11.50	0.66	1.00	7.16	294.87 ±1.46
	16	01/03/01	820232	274.47	20.76	0.33	0.99	7.16	296.23 ±1.30
	13	01/03/01	873705	246.48	16.38	0.52	0.98	7.16	312.99 ±1.38
	9	01/03/01	625909	195.76	14.48	0.55	0.98	7.16	318.31 ±1.64
99/12/6B	22	15/02/01	142137	106.47	12.09	2.08	1.06	7.54	200.09 ±1.83
	19	15/02/01	155842	95.82	12.43	2.26	0.96	7.54	205.09 ±1.62
	3	26/02/01	100974	155.11	11.85	0.82	1.06	7.53	268.81 ±3.38
	26	15/02/01	156649	93.01	9.15	1.05	1.05	7.54	298.33 ±2.67
	7	26/02/01	135559	112.78	10.76	1.08	1.05	7.53	303.57 ±3.14
	28	15/02/01	717970	169.06	15.42	0.97	1.02	7.54	312.85 ±1.36
	24	15/02/01	222388	198.88	16.07	0.72	1.00	7.54	316.62 ±2.54
	2	26/02/01	109629	60.26	6.40	1.15	1.03	7.53	334.45 ±4.07
	6	26/02/01	61588	135.72	10.29	0.56	1.02	7.53	335.78 ±5.59
	25	15/02/01	251559	129.62	10.43	1.74	1.00	7.54	351.09 ±2.77
	21	15/02/01	259148	19.64	2.68	1.67	1.03	7.54	351.27 ±2.68
	23	15/02/01	387522	137.40	10.11	1.08	1.03	7.54	369.48 ±2.52
	20	15/02/01	232467	81.24	9.04	3.21	0.99	7.54	486.60 ±3.85
	4	26/02/01	244324	194.59	15.56	1.01	1.05	7.53	514.11 ±4.26
	8	26/02/01	149950	140.06	11.28	0.86	1.04	7.53	553.06 ±6.54
	27	15/02/01	245779	155.77	10.00	0.75	1.04	7.54	674.63 ±6.16

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes middle lunette									
99/12/7A	47	18/02/01	136991	122.29	16.42	3.04	0.90	7.53	40.33 ±0.31
	45	18/02/01	105827	98.01	12.75	3.18	0.96	7.53	43.26 ±0.38
	46	18/02/01	102485	111.74	14.41	1.86	0.97	7.53	49.21 ±0.45
	42	18/02/01	321859	216.33	21.18	1.41	1.02	7.53	69.49 ±0.41
	44	18/02/01	192648	83.59	11.73	2.42	0.95	7.53	71.64 ±0.54
	41	18/02/01	267648	259.25	20.05	1.53	0.94	7.53	81.16 ±0.55
	43	18/02/01	240960	201.88	17.33	1.72	0.99	7.53	83.80 ±0.59
99/12/7B	32	07/01/01	496353	149.07	13.82	1.11	1.05	7.54	294.58 ±1.58
	38	08/01/01	372067	160.72	16.61	1.16	1.00	7.54	353.29 ±2.07
	29	07/01/01	821699	146.22	13.18	1.14	1.06	7.54	381.08 ±1.55
	34	08/01/01	1027996	187.85	16.36	0.92	1.03	7.54	383.39 ±1.41
	33	07/01/01	604397	115.20	11.24	1.66	1.04	7.54	393.50 ±1.84
	35	08/01/01	1353197	73.91	7.39	1.80	1.05	7.54	430.13 ±1.43
	30	15/02/01	1370568	188.30	15.59	0.91	1.03	7.54	510.27 ±1.70
99/12/8A	35	24/02/01	206990	67.24	5.37	0.82	0.97	7.53	217.98 ±2.14
	5	15/02/01	517932	89.91	9.69	2.34	1.05	7.54	274.06 ±1.27
	2	15/02/01	1125991	183.79	12.98	0.96	1.03	7.54	279.93 ±1.07
	3	15/02/01	1395028	222.04	16.89	0.99	1.01	7.54	284.20 ±0.95
	26	01/07/01	102603	171.86	11.27	0.71	1.02	7.14	298.16 ±3.85
	6	15/02/01	1108229	203.49	17.33	1.02	1.04	7.54	300.01 ±1.05
	25	01/07/01	134898	158.52	11.11	1.04	0.92	7.14	307.19 ±3.55
	33	24/02/01	216677	148.65	7.77	0.89	0.96	7.53	311.59 ±3.32
	4	15/02/01	812466	190.94	15.87	1.08	1.04	7.54	325.04 ±1.32
	1	15/02/01	824236	187.38	13.67	0.96	1.05	7.54	331.51 ±1.44
	7	15/02/01	891174	120.10	11.48	0.85	1.04	7.54	345.72 ±1.46
	36	24/02/01	252760	164.81	8.68	1.04	1.01	7.53	362.83 ±3.70
	39	24/02/01	507030	260.26	12.42	0.58	1.06	7.53	389.55 ±2.84
99/12/8B	5	24/02/01	230939	157.32	9.43	0.75	1.04	7.53	267.80 ±2.61
	45	15/02/01	106797	131.30	13.76	0.88	1.10	7.54	296.74 ±3.05
	2	24/02/01	206807	133.06	8.09	0.66	1.00	7.53	308.04 ±3.27
	4	24/02/01	785123	479.96	15.00	0.46	0.96	7.53	316.16 ±2.50
	42	15/02/01	218024	156.63	17.00	0.93	1.05	7.54	318.89 ±2.33
	40	15/02/01	192795	176.88	13.67	0.61	1.05	7.54	322.17 ±2.98
	44	15/02/01	184799	149.54	13.16	1.31	1.07	7.54	349.49 ±2.98
	41	15/02/01	137277	165.67	12.12	0.64	1.01	7.54	399.39 ±4.59
	43	15/02/01	174357	72.92	6.81	1.36	1.08	7.54	424.49 ±4.09
	46	15/02/01	133774	72.94	8.92	1.52	0.99	7.54	459.34 ±4.26
99/12/9A	10	24/02/01	207804	156.01	8.79	0.76	1.03	7.53	241.53 ±2.60
	15	24/02/01	369503	149.31	9.24	0.80	1.03	7.53	288.12 ±2.24
	6	24/02/01	917971	161.22	14.65	1.32	1.04	7.54	317.21 ±1.22
	16	24/02/01	761703	273.93	13.75	0.57	1.02	7.53	318.06 ±1.82
	12	24/02/01	199930	147.18	8.80	0.75	1.02	7.53	339.86 ±3.52
	2	24/02/01	1082161	72.96	7.74	2.25	1.06	7.54	357.64 ±1.24
	14	24/02/01	101536	156.07	8.71	0.63	1.07	7.53	365.88 ±5.52
	5	24/02/01	524628	215.24	19.36	1.06	1.02	7.54	373.07 ±1.84
	1	24/02/01	1192937	188.95	13.60	1.81	0.99	7.54	378.14 ±1.46
	8	24/02/01	1263868	196.77	14.38	0.94	1.05	7.54	378.35 ±1.36
	13	24/02/01	268291	162.23	9.83	0.64	1.04	7.53	397.60 ±3.57

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat $_I$	Nat $_I$ (1s)/ BG (11-15s)	TD $_I$(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes middle lunette									
99/12/9B	9	24/02/01	47985	76.48	8.98	1.51	1.01	7.54	241.91 ±3.55
	10	24/02/01	57484	66.98	8.02	2.26	0.99	7.54	246.72 ±3.14
	6	24/02/01	66067	89.81	13.25	4.06	1.02	7.54	249.63 ±2.72
	20	24/02/01	137514	93.65	6.21	1.09	1.00	7.53	256.13 ±3.32
	18	24/02/01	258698	214.72	11.73	0.63	0.97	7.53	257.55 ±2.44
	23	24/02/01	54296	95.49	5.34	0.77	1.07	7.53	261.33 ±5.49
	7	24/02/01	66104	88.16	11.63	1.00	1.01	7.54	266.36 ±3.23
	8	24/02/01	104437	60.94	8.23	1.40	1.00	7.54	286.89 ±2.96
	17	24/02/01	322496	259.70	12.06	0.72	1.03	7.53	302.59 ±2.78
	6	24/02/01	917971	161.22	14.65	1.32	1.04	7.54	317.21 ±1.22
	5	24/02/01	33485	42.79	5.36	2.49	0.99	7.54	320.46 ±5.88
	2	24/02/01	1082161	72.96	7.74	2.25	1.06	7.54	357.64 ±1.24
	5	24/02/01	524628	215.24	19.36	1.06	1.02	7.54	373.07 ±1.84
	8	24/02/01	1263868	196.77	14.38	0.94	1.05	7.54	378.35 ±1.36
	24	24/02/01	160881	135.81	9.18	1.19	0.99	7.53	451.70 ±5.10
	19	24/02/01	242431	160.47	9.68	0.69	1.00	7.53	533.34 ±5.44
Double Lakes outer lunette									
99/4/1A	6	28/08/00	40161	72.89	6.34	2.73	0.92	7.62	18.10 ±0.34
	2	25/08/00	43925	79.32	6.59	0.68	1.00	7.62	20.97 ±0.39
	2	31/07/00	231377	186.53	23.11	1.18	0.98	7.63	24.92 ±0.14
	3	25/08/00	25052	62.98	4.23	0.19	0.94	7.62	25.51 ±0.71
	3	31/07/00	451856	197.82	25.43	1.24	0.96	7.63	26.65 ±0.11
	1	25/08/00	52948	82.27	5.78	0.54	0.99	7.62	27.44 ±0.53
	1	31/07/00	185520	132.29	17.13	1.08	0.95	7.63	29.99 ±0.19
	5	28/08/00	26043	50.65	3.72	0.66	1.04	7.62	31.79 ±0.89
	4	28/08/00	295578	65.61	4.22	0.57	0.96	7.62	32.17 ±0.87
99/4/1B	8	19/02/01	289088	112.42	16.45	0.76	0.94	7.57	68.94 ±0.32
	1	19/02/01	658377	251.02	30.22	0.46	0.97	7.57	75.50 ±0.24
	4	19/02/01	408191	168.67	23.48	0.50	0.96	7.57	79.03 ±0.33
	3	19/02/01	534374	191.68	24.68	0.42	0.97	7.57	88.29 ±0.32
	5	19/02/01	581552	209.55	26.38	0.50	0.98	7.57	96.28 ±0.35
	6	19/02/01	894956	205.66	29.15	0.33	0.97	7.57	99.37 ±0.30
	7	19/02/01	990586	249.46	26.73	0.39	0.96	7.57	114.74 ±0.34
	2	19/02/01	1277681	306.44	30.03	0.40	0.97	7.57	122.17 ±0.32

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes outer lunette									
99/4/2A	19	27/12/00	630463	74.35	9.33	1.55	0.99	7.56	182.85 ±0.85
	21	27/12/00	621418	104.00	10.71	0.61	0.98	7.56	183.74 ±0.90
	23	27/12/00	905599	74.61	9.91	0.68	0.95	7.56	186.16 ±0.76
	6	19/02/01	1298873	71.52	9.51	0.71	1.00	7.63	190.61 ±0.61
	22	27/12/00	598790	143.82	13.28	0.62	0.97	7.56	196.82 ±0.95
	5	19/02/01	868296	62.60	7.83	0.63	0.97	7.63	200.12 ±0.82
	4	19/02/01	1305917	135.69	12.30	0.70	0.99	7.63	202.11 ±0.67
	17	27/12/00	755352	112.04	10.98	0.61	0.97	7.56	204.04 ±0.91
	18	27/12/00	809254	120.67	10.60	0.46	1.00	7.56	207.15 ±0.92
	12	19/02/01	307013	152.85	8.15	0.82	0.96	7.62	215.25 ±2.36
	20	27/12/00	917155	37.30	6.11	0.88	1.00	7.56	216.14 ±0.87
	7	19/02/01	198086	100.11	6.85	0.91	0.98	7.62	217.34 ±2.71
	24	27/12/00	709351	134.33	13.59	0.56	1.00	7.56	230.25 ±1.08
99/4/2B	9	19/02/01	1004731	238.45	26.41	0.53	0.97	7.57	177.60 ±0.52
	27	27/12/00	1279803	264.63	26.11	0.71	0.98	7.56	203.81 ±0.61
	25	27/12/00	1021869	235.80	24.63	0.59	0.98	7.56	204.37 ±0.65
	31	27/12/00	733452	242.95	21.55	0.59	0.99	7.56	217.33 ±0.86
	26	27/12/00	811910	197.75	21.90	0.58	0.99	7.56	217.41 ±0.77
	12	19/02/01	1569317	257.80	27.16	0.64	1.00	7.57	222.50 ±0.57
	11	19/02/01	1121048	191.86	22.25	0.62	0.98	7.57	226.20 ±0.65
	30	27/12/00	762123	192.28	19.24	0.78	1.00	7.56	227.15 ±0.85
	29	27/12/00	1000673	211.05	20.01	0.59	1.00	7.56	233.00 ±0.78
	10	19/02/01	1116438	204.76	23.99	0.59	0.99	7.57	235.47 ±0.64
	14	19/02/01	1267172	134.90	17.32	0.82	1.00	7.57	237.37 ±0.62
	13	19/02/01	1869150	256.37	27.78	0.45	0.98	7.57	244.00 ±0.57
	28	27/12/00	1051746	190.68	18.90	0.63	0.97	7.56	244.75 ±0.82
	15	19/02/01	1306828	266.86	31.65	0.55	1.00	7.57	244.92 ±0.65
	16	19/02/01	1200971	213.58	24.31	0.53	1.00	7.57	264.14 ±0.74
	32	27/12/00	836424	203.64	22.06	0.58	1.02	7.56	268.27 ±0.96
99/4/3A	13	19/02/01	300789	122.81	10.48	1.08	1.01	7.59	257.30 ±1.76
	35	19/02/01	200918	71.56	6.61	1.19	1.00	7.14	271.75 ±2.55
	28	19/02/01	255000	126.24	10.54	1.00	0.98	7.14	278.74 ±2.18
	11	19/02/01	191711	131.38	11.12	0.93	1.06	7.59	307.23 ±2.61
	7	19/02/01	621216	189.59	15.13	1.33	1.02	7.59	310.96 ±1.50
	9	19/02/01	297558	192.49	12.31	0.93	1.01	7.59	348.37 ±2.76
	32	19/02/01	453473	120.96	9.20	0.52	0.96	7.14	357.34 ±2.25
	36	19/02/01	287324	104.74	9.06	0.81	1.00	7.14	359.87 ±2.70
	10	19/02/01	627308	214.11	17.18	1.12	1.04	7.59	373.95 ±1.86
	8	19/02/01	193093	221.54	15.42	0.78	1.04	7.59	378.44 ±3.66
	6	19/02/01	291430	104.52	9.03	1.05	1.01	7.59	386.60 ±2.94
	27	19/02/01	296536	120.10	8.51	0.92	0.97	7.14	389.91 ±3.08
	32	19/02/01	603862	208.65	13.29	0.54	0.90	7.14	397.56 ±2.26
	34	19/02/01	525813	100.67	7.86	0.92	1.00	7.14	402.55 ±2.45

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes outer lunette									
99/4/3B	40	27/12/00	665203	177.38	17.12	0.65	0.98	7.56	225.60 ±0.99
	24	19/02/01	910833	173.62	23.48	0.86	1.00	7.57	236.35 ±0.71
	17	19/02/01	1201685	183.92	20.96	0.78	1.00	7.57	241.88 ±0.67
	22	19/02/01	1483972	207.05	21.77	0.72	0.99	7.57	245.30 ±0.63
	34	27/12/00	856940	182.94	16.09	0.83	1.00	7.56	247.54 ±0.97
	37	27/12/00	922187	187.27	17.42	0.74	0.98	7.56	251.47 ±0.99
	33	27/12/00	526220	146.72	14.44	1.08	1.01	7.56	251.73 ±1.21
	21	19/02/01	1963746	223.02	24.02	0.73	1.03	7.57	254.59 ±0.56
	20	19/02/01	1756123	250.71	27.39	0.78	1.02	7.57	274.49 ±0.62
	35	27/12/00	856375	214.81	17.74	0.71	0.98	7.56	282.35 ±1.16
	36	27/12/00	1146801	234.27	21.35	0.61	0.98	7.56	307.35 ±1.11
	38	27/12/00	673429	214.55	19.90	0.62	1.02	7.56	311.32 ±1.34
	18	19/02/01	1449251	188.16	23.47	0.61	1.00	7.57	324.44 ±0.81
	23	19/02/01	1794431	116.96	13.99	0.69	1.00	7.57	385.19 ±0.91
	19	19/02/01	1817991	193.89	23.90	0.73	1.01	7.57	404.61 ±0.92
99/4/4A	2	19/02/01	140963	111.93	11.25	0.72	0.96	7.59	239.38 ±2.04
	17	19/02/01	497459	255.76	21.55	0.46	1.01	7.57	274.17 ±1.39
	18	19/02/01	182956	172.37	14.25	0.53	1.00	7.57	279.16 ±2.36
	1	19/02/01	109627	102.30	10.55	1.42	1.01	7.57	298.62 ±2.93
	1	19/02/01	109627	102.30	10.55	1.42	1.01	7.57	298.62 ±2.93
	33	19/02/01	135065	261.96	14.47	0.77	0.96	7.20	323.77 ±3.80
	4	19/02/01	815961	174.22	15.48	0.62	0.99	7.59	336.37 ±1.37
	44	19/02/01	1135163	228.87	19.48	0.73	1.00	7.56	337.45 ±1.09
	47	19/02/01	523478	184.09	17.72	0.72	0.99	7.56	337.97 ±1.55
	43	19/02/01	673540	139.09	13.77	0.87	1.02	7.56	340.88 ±1.46
	41	19/02/01	821321	137.87	13.54	0.95	1.00	7.56	377.55 ±1.45
	3	19/02/01	227981	182.33	14.49	0.50	1.02	7.59	413.89 ±3.39
99/4/4B	36	19/02/01	116816	123.64	14.72	1.43	1.01	7.16	269.33 ±2.37
	18	19/02/01	59707	51.52	7.24	1.02	0.96	7.14	301.36 ±3.91
	15	19/02/01	148665	163.55	15.99	0.93	1.00	7.14	322.99 ±2.85
	37	19/02/01	748475	212.59	15.88	0.81	1.01	7.16	358.16 ±1.66
	13	19/02/01	223929	241.35	17.13	0.80	1.02	7.14	360.38 ±2.88
	16	19/02/01	157994	211.39	17.01	1.33	1.02	7.14	364.53 ±3.15
	17	19/02/01	141386	198.02	15.61	1.08	1.01	7.14	366.74 ±3.55
	14	19/02/01	117954	82.66	11.11	1.75	1.02	7.14	397.69 ±3.70
	12	19/02/01	175053	137.56	14.30	1.65	0.98	7.14	405.79 ±3.45
99/4/5A	48	19/02/01	1127863	142.96	12.60	1.05	1.02	7.59	247.50 ±0.89
	39	19/02/01	431221	151.80	13.12	0.86	0.95	7.16	314.23 ±1.83
	43	19/02/01	1229544	122.94	9.91	1.03	1.01	7.59	358.59 ±1.30
	46	19/02/01	1341574	158.61	12.84	1.02	1.05	7.59	362.56 ±1.23
	38	19/02/01	469631	129.57	12.13	1.18	1.05	7.14	380.58 ±2.05
	37	19/02/01	483844	171.37	15.56	1.11	0.99	7.14	410.17 ±2.15
	40	19/02/01	561574	177.32	14.21	0.99	1.01	7.14	428.44 ±2.19
	41	19/02/01	1759073	160.54	11.48	1.20	1.04	7.59	441.85 ±1.37
	36	19/02/01	362966	527.41	17.89	0.30	0.91	7.20	465.46 ±4.14
	47	19/02/01	1941931	161.46	12.73	1.22	1.02	7.59	536.87 ±1.61
	39	19/02/01	537838	199.69	16.39	1.23	1.02	7.14	557.83 ±2.85
	38	19/02/01	181759	132.21	10.63	0.87	1.06	7.16	650.09 ±5.91

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat $_I$	Nat $_I$ (1s)/ BG (11-15s)	TD $_I$(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Large lake lunettes					
Double Lakes outer lunette									
99/4/5B	5	19/02/01	517932	89.91	9.69	2.34	1.05	7.54	404.71 ±1.88
	6	19/02/01	1108229	203.49	17.33	1.02	1.04	7.54	460.50 ±1.61
	4	19/02/01	812466	190.94	15.87	1.08	1.04	7.54	519.80 ±2.11
	3	19/02/01	502902	150.07	17.11	1.06	1.04	7.54	560.67 ±2.72
	7	19/02/01	891174	120.10	11.48	0.85	1.04	7.54	578.14 ±2.45
	2	19/02/01	760778	138.29	12.96	1.11	1.00	7.54	580.58 ±2.41
	1	19/02/01	625052	132.06	13.25	1.07	1.04	7.54	636.92 ±2.90
Double Lakes High Lonesome lunette									
99/1/1	11	12/19/00	666693	131.13	15.17	1.20	1.00	7.56	254.33 ±2.07
	13	12/19/00	667639	89.93	10.81	1.45	1.03	7.56	256.10 ±2.11
	7	12/19/00	1228725	154.10	15.73	0.93	1.02	7.56	318.86 ±2.21
	9	12/19/00	1062334	225.19	22.44	0.86	1.04	7.56	354.94 ±2.78
	1	12/19/00	785936	186.09	19.30	1.03	1.07	7.56	368.30 ±2.92
	3	12/19/00	877235	175.93	20.30	1.24	1.02	7.56	383.98 ±2.69
Illusion Lake inner lunette									
98/4/1	16	17/11/00	7625	22.19	10.94	1.11	1.06	7.57	1.67 ±0.03
	15	17/11/00	8877	19.82	9.26	1.71	0.97	7.57	1.79 ±0.03
	14	17/11/00	15472	32.88	17.03	0.53	1.04	7.57	1.53 ±0.02
	13	17/11/00	8208	20.08	12.45	0.55	0.97	7.57	1.40 ±0.02
	12	17/11/00	12993	26.15	14.09	1.26	1.02	7.57	1.51 ±0.02
	11	17/11/00	8548	21.42	11.77	1.27	1.05	7.57	1.52 ±0.03
	10	17/11/00	7390	18.58	10.41	1.05	1.11	7.57	1.52 ±0.03
	9	17/11/00	10002	21.74	13.35	4.09	1.06	7.57	1.45 ±0.02
98/4/2	8	17/11/00	22864	27.40	6.85	0.54	0.95	7.57	5.19 ±0.08
	7	17/11/00	22694	27.96	6.38	0.50	0.99	7.57	5.66 ±0.09
	6	17/11/00	22708	26.55	6.63	0.79	1.03	7.57	5.57 ±0.09
	5	17/11/00	21023	29.98	6.28	0.77	1.02	7.57	5.55 ±0.09
	4	17/11/00	37960	20.61	5.68	0.45	0.95	7.57	5.28 ±0.06
	3	17/11/00	20392	24.21	5.73	0.66	0.94	7.57	5.66 ±0.10
	2	17/11/00	20430	27.95	6.24	0.71	0.94	7.57	5.43 ±0.09
	1	17/11/00	30789	39.04	7.48	0.65	1.01	7.57	5.93 ±0.09
Yellow Lake inner lunette									
99/9/1	23	21/02/01	37738	50.68	16.30	2.39	1.02	7.59	3.72 ±0.03
	18	21/02/01	24015	37.51	15.18	2.70	0.98	7.59	3.73 ±0.04
	17	21/02/01	38282	59.98	21.53	1.67	0.98	7.59	3.76 ±0.03
	21	21/02/01	31494	47.67	18.48	1.77	0.97	7.59	3.76 ±0.04
	20	21/02/01	30848	56.39	18.27	1.25	0.99	7.59	3.81 ±0.04
	19	21/02/01	42293	68.13	23.28	1.69	0.99	7.59	3.86 ±0.03
	22	21/02/01	31798	53.95	19.77	1.47	0.98	7.59	3.87 ±0.04

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Muleshoe Dunes									
98/2/1	1	21/02/01	716	2.13	9.34	21.85	1.02	7.59	0.06 ±0.003
	4	21/02/01	669	1.92	6.63	19.50	1.08	7.59	0.07 ±0.004
	6	21/02/01	1052	2.00	2.25	13.14	1.05	7.59	0.09 ±0.01
	2	21/02/01	1080	2.90	9.36	14.10	1.03	7.59	0.10 ±0.004
	3	21/02/01	1004	2.90	7.58	-0.06	0.97	7.59	0.12 ±0.01
	1	21/02/01	940	2.54	2.35	13.97	0.99	7.59	0.12 ±0.01
	5	21/02/01	1131	3.32	3.00	9.66	0.83	7.59	0.12 ±0.01
	3	21/02/01	1539	3.26	2.30	4.66	0.91	7.59	0.22 ±0.01
98/2/2	12	21/02/01	419213	115.31	17.82	0.58	0.97	7.59	92.31 ±0.39
	10	21/02/01	79581	30.00	6.33	0.70	0.98	7.59	98.66 ±0.93
	9	21/02/01	191536	20.86	5.08	0.76	0.96	7.59	103.00 ±0.68
	14	21/02/01	239809	21.04	5.40	1.66	0.98	7.59	104.32 ±0.56
	15	21/02/01	72821	55.84	8.89	0.93	0.92	7.59	120.76 ±1.26
	6	21/02/01	50199	9.64	3.06	1.81	0.92	7.59	121.35 ±1.49
	7	21/02/01	62232	16.15	4.29	1.60	0.99	7.59	126.40 ±1.34
	5	21/02/01	112724	80.69	10.92	0.81	0.97	7.59	129.44 ±1.13
	16	21/02/01	195083	53.01	7.94	0.59	0.97	7.59	142.84 ±0.95
	11	21/02/01	152993	79.34	12.26	0.72	0.95	7.59	153.28 ±1.15
99/13/1	8	12/12/00	39472	72.08	10.03	0.50	0.99	7.57	27.33 ±0.37
	7	13/12/00	30353	52.14	8.26	1.00	0.98	7.57	27.35 ±0.42
	3	17/12/00	102539	199.88	25.10	0.36	0.94	7.57	27.86 ±0.26
	10	13/11/00	3851	9.46	2.47	2.09	0.95	1.89	28.14 ±1.25
	7	16/11/00	11084	29.29	5.37	0.74	1.06	1.89	28.97 ±0.74
	9	14/11/00	8105	23.96	4.68	1.14	1.05	1.89	29.55 ±0.88
	1	19/12/00	85154	119.26	15.21	0.43	0.96	7.57	30.93 ±0.32
	4	16/12/00	60367	68.58	10.32	0.45	0.96	7.57	31.12 ±0.38
	6	14/12/00	22797	39.16	5.99	1.05	0.96	7.57	31.41 ±0.57
	2	18/12/00	41213	79.68	11.36	0.35	0.98	7.57	31.62 ±0.44
	2	17/11/00	8777	22.03	3.95	0.98	0.97	1.89	34.52 ±1.05
	8	15/11/00	7281	17.69	3.55	0.94	1.00	1.89	35.38 ±1.15
	5	15/12/00	68667	111.73	12.48	0.29	0.97	7.57	40.82 ±0.49
99/13/2	9	18/12/00	62828	104.02	15.93	0.79	0.96	7.57	23.34 ±0.25
	13	16/12/00	24214	39.22	6.93	0.99	0.94	7.57	26.22 ±0.44
	14	20/06/00	9216	19.45	4.01	0.95	0.90	1.86	27.37 ±0.78
	12	17/12/00	33596	56.90	8.18	1.10	0.94	7.57	27.86 ±0.41
	10	12/12/00	37877	48.95	8.00	0.60	1.03	7.57	28.03 ±0.39
	20	19/06/00	33035	78.13	11.09	1.00	1.01	1.86	28.06 ±0.44
	18	19/06/00	7702	16.40	3.33	3.76	0.99	1.86	28.50 ±0.90
	15	14/12/00	53409	88.48	11.95	0.14	0.97	7.57	28.51 ±0.35
	16	19/06/00	4338	9.91	2.58	3.86	1.00	1.86	28.83 ±1.18
	14	15/12/00	271164	228.02	27.28	0.35	0.97	7.57	29.07 ±0.17
	16	13/12/00	102503	96.96	13.94	0.54	0.97	7.57	30.20 ±0.27
	19	20/06/00	16133	36.82	8.95	1.78	0.89	1.86	30.32 ±0.57
	11	19/06/00	14506	35.78	7.16	1.06	0.97	1.86	32.66 ±0.70
	12	19/06/00	10846	20.94	4.47	2.72	0.96	1.86	32.85 ±0.87
	17	19/06/00	19457	43.20	6.76	1.67	1.04	1.86	33.10 ±0.70
	15	19/06/00	4299	12.37	2.73	3.94	0.98	1.86	36.24 ±1.54

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Muleshoe Dunes									
99/13/3	27	21/02/01	1754	5.10	9.90	11.80	0.97	1.84	0.98 ±0.03
	26	21/02/01	1066	2.83	5.14	4.03	0.94	1.84	1.02 ±0.05
	22	21/02/01	781	2.48	5.47	-4.08	1.11	1.84	1.03 ±0.06
	29	21/02/01	449	1.45	2.35	15.75	1.21	1.84	1.05 ±0.10
	23	21/02/01	2030	5.91	12.67	6.46	0.96	1.84	1.16 ±0.03
	28	21/02/01	1486	4.37	9.32	2.48	1.03	1.84	1.21 ±0.04
	24	21/02/01	938	2.53	4.05	5.11	0.95	1.84	1.38 ±0.07
	30	21/02/01	1415	2.45	3.73	3.94	0.88	1.84	1.54 ±0.07
	25	21/02/01	972	2.83	3.92	17.15	1.11	1.84	1.79 ±0.09
	21	21/02/01	1652	4.23	6.53	3.73	1.04	1.84	1.85 ±0.07
99/13/4	13	13/11/00	4545	11.77	13.36	1.34	0.96	7.62	0.78 ±0.02
	17	13/11/00	2713	7.45	8.16	3.36	0.92	7.62	0.81 ±0.02
	11	13/11/00	3838	8.25	9.56	0.56	1.03	7.62	0.83 ±0.02
	16	13/11/00	3667	9.28	9.62	0.36	0.95	7.62	0.87 ±0.02
	15	13/11/00	5265	13.03	13.64	1.14	0.98	7.62	0.87 ±0.02
	12	13/11/00	3983	10.74	10.20	1.10	0.97	7.62	0.92 ±0.02
	1	13/11/00	2312	8.61	8.34	0.34	0.98	7.62	0.94 ±0.03
	2	13/11/00	3368	10.91	11.13	2.65	0.92	7.62	0.98 ±0.02
	14	13/11/00	5225	12.19	9.77	2.94	1.09	7.62	1.07 ±0.02
	10	13/11/00	5954	14.39	12.21	1.96	1.00	7.62	1.17 ±0.02
99/13/5	46	21/02/01	425	1.14	6.48	-57.31	-2.95	1.84	0.06 ±0.01
	41	21/02/01	354	1.04	2.67	48.33	0.88	1.84	0.07 ±0.02
	45	21/02/01	408	1.12	5.21	-74.18	-0.15	1.84	0.07 ±0.01
	47	21/02/01	475	1.11	4.80	-100.43	3.34	1.84	0.08 ±0.01
	44	21/02/01	355	1.14	5.08	-20.81	11.09	1.84	0.10 ±0.01
	43	21/02/01	416	1.15	3.92	159.27	0.66	1.84	0.12 ±0.02
99/14/1	9	07/11/00	570604	152.18	17.30	0.69	0.95	7.62	116.72 ±0.52
	12	07/11/00	525514	178.79	17.75	0.56	0.96	7.62	120.02 ±0.57
	6	07/11/00	857080	231.82	41.38	1.23	1.02	7.62	133.09 ±0.32
	8	07/11/00	982215	168.07	22.08	1.32	0.96	7.62	134.19 ±0.30
	10	07/11/00	787264	152.64	16.85	0.73	0.98	7.62	135.37 ±0.55
	5	07/11/00	695033	125.45	21.69	1.38	0.98	7.62	136.01 ±0.36
	11	07/11/00	804175	254.89	23.23	0.47	0.99	7.62	144.79 ±0.57
	7	07/11/00	669235	145.61	26.63	1.25	0.99	7.62	161.23 ±0.45
99/14/2	18	28/07/00	353331	191.05	26.30	0.41	0.97	7.62	59.76 ±0.29
	13	28/07/00	426302	175.94	21.22	0.60	0.95	7.62	62.56 ±0.27
	16	28/07/00	535472	208.53	25.59	0.48	0.97	7.62	63.35 ±0.25
	17	28/07/00	346347	126.67	19.38	0.25	0.98	7.62	66.12 ±0.32
	12	26/07/00	321492	74.16	19.82	1.92	0.93	7.62	67.36 ±0.24
	11	25/07/00	425698	151.43	26.20	1.21	0.94	7.62	68.49 ±0.22
	14	28/07/00	539547	219.44	29.52	0.34	0.97	7.62	73.00 ±0.27
	10	25/07/00	791945	193.72	25.99	1.23	0.96	7.62	73.57 ±0.17
	9	25/07/00	323074	167.21	29.25	1.05	0.98	7.62	75.46 ±0.28
	15	28/07/00	735560	316.75	32.99	0.27	0.98	7.62	78.38 ±0.30

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Muleshoe Dunes									
99/14/3	17	22/02/01	5820	7.88	6.20	2.63	0.95	7.21	1.23 ±0.03
	14	22/02/01	8353	17.58	15.86	1.49	1.00	7.63	1.90 ±0.03
	19	22/02/01	12568	28.99	18.08	2.20	0.97	7.63	2.18 ±0.03
	15	22/02/01	10306	14.11	5.96	2.10	0.93	7.21	2.68 ±0.05
	21	22/02/01	22221	46.29	23.52	1.85	0.95	7.63	2.74 ±0.03
	22	22/02/01	19535	28.34	8.44	0.08	0.99	7.21	3.44 ±0.05
	22	22/02/01	22412	40.19	20.73	0.57	0.94	7.63	3.73 ±0.04
	18	22/02/01	21436	28.60	7.22	-0.02	0.93	7.21	4.19 ±0.07
	19	22/02/01	12258	19.78	5.06	1.08	0.95	7.21	4.22 ±0.09
	15	22/02/01	27037	56.90	18.87	0.53	0.98	7.63	5.20 ±0.06
	13	22/02/01	46734	65.49	19.97	0.29	1.03	7.63	7.67 ±0.07
	20	22/02/01	28034	35.54	5.19	-0.20	1.04	7.21	9.07 ±0.17
	16	22/02/01	33487	65.20	14.89	0.51	0.92	7.63	10.29 ±0.13
	20	22/02/01	64727	134.96	20.18	0.17	0.94	7.63	10.29 ±0.09
	23	22/02/01	98695	76.96	17.05	0.42	0.91	7.63	11.82 ±0.09
99/15/1	24	22/02/01	28753	22.00	3.25	1.44	0.98	7.21	113.93 ±2.20
	30	22/02/01	87058	65.53	6.04	0.74	0.99	7.21	153.15 ±1.88
	26	22/02/01	81055	63.41	5.45	1.28	1.05	7.21	171.88 ±2.32
	27	22/02/01	88263	68.16	5.07	1.04	1.02	7.21	185.70 ±2.62
	27	22/02/01	88263	68.16	5.07	1.04	1.02	7.21	185.70 ±2.62
	33	22/02/01	471272	71.08	7.56	1.67	1.02	7.63	195.67 ±0.99
	24	22/02/01	526007	82.90	15.07	1.12	0.92	7.63	201.39 ±0.64
	29	22/02/01	53729	55.67	3.77	0.95	1.04	7.21	206.17 ±3.91
	28	22/02/01	42312	38.66	4.14	0.91	0.97	7.21	213.66 ±3.98
	25	22/02/01	54473	57.96	4.59	0.53	1.08	7.21	238.57 ±4.32
	36	22/02/01	553400	84.84	7.75	1.30	1.00	7.63	239.99 ±1.17
	34	22/02/01	895583	164.13	13.20	1.35	1.01	7.63	269.95 ±1.10
	35	22/02/01	1355253	185.03	15.85	0.76	1.01	7.63	318.81 ±1.04
	32	29/07/00	1100388	147.28	11.74	0.70	1.03	7.62	320.41 ±1.33
	32	22/02/01	1100388	147.28	11.74	0.70	1.03	7.63	352.78 ±1.46
	23	22/02/01	638948	165.15	23.71	0.44	0.99	7.63	374.45 ±1.25
	21	22/02/01	841553	188.86	21.85	0.98	1.04	7.63	444.55 ±1.20
99/15/2	27	22/02/01	5375	13.42	10.17	2.95	0.95	7.63	0.99 ±0.02
	30	22/02/01	6415	14.63	11.62	0.78	0.98	7.63	1.03 ±0.02
	29	22/02/01	6210	15.43	11.91	1.04	1.03	7.63	1.03 ±0.02
	25	22/02/01	3680	9.23	7.59	0.92	0.97	7.63	1.04 ±0.02
	26	22/02/01	5731	8.40	8.91	1.32	0.94	7.63	1.06 ±0.02
	28	22/02/01	6308	15.44	12.71	1.55	0.99	7.63	1.07 ±0.02
99/15/3	7	23/02/01	440	1.24	2.21	7.73	0.64	7.59	0.04 ±0.01
	4	23/02/01	472	1.40	2.76	18.11	1.31	7.59	0.05 ±0.00
	3	23/02/01	632	1.84	3.79	-6.11	1.33	7.59	0.07 ±0.005
	1	23/02/01	733	2.26	4.25	10.29	1.25	7.59	0.08 ±0.004
	5	23/02/01	650	1.99	3.98	0.12	0.69	7.59	0.08 ±0.01
	6	23/02/01	672	1.74	3.12	-0.70	1.11	7.59	0.08 ±0.01
	8	23/02/01	363	1.31	1.90	-31.78	1.08	7.59	0.08 ±0.01
	2	23/02/01	748	2.10	4.46	-2.25	0.97	7.59	0.09 ±0.01
	15	23/02/01	769	2.29	6.33	18.11	1.01	7.62	0.11 ±0.01
	16	23/02/01	629	1.82	3.95	2.32	0.99	7.62	0.13 ±0.01

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Muleshoe Dunes									
99/16/1	18	09/11/00	3845	9.44	9.11	3.71	0.98	7.60	1.05 ±0.02
	13	09/11/00	6234	16.68	13.29	-0.03	0.96	7.60	1.07 ±0.02
	17	09/11/00	4516	9.00	8.94	3.06	0.99	7.60	1.08 ±0.02
	12	09/11/00	5010	14.61	12.92	0.31	0.96	7.60	1.12 ±0.02
	20	09/11/00	8651	20.69	15.53	2.20	0.97	7.60	1.14 ±0.02
	10	09/11/00	4508	12.19	10.30	-0.38	0.99	7.60	1.17 ±0.03
	11	09/11/00	6165	17.80	13.83	1.32	0.95	7.60	1.21 ±0.02
	19	09/11/00	8997	20.49	14.19	1.82	0.99	7.60	1.29 ±0.02
99/17/1	1	09/11/00	9718	19.97	22.41	3.45	0.97	7.60	1.36 ±0.02
	2	09/11/00	6856	12.73	13.32	2.94	0.94	7.60	1.43 ±0.02
	9	09/11/00	10433	12.36	11.62	11.43	0.99	7.60	1.51 ±0.02
	8	09/11/00	20639	26.62	25.75	2.90	1.00	7.60	1.54 ±0.01
	6	09/11/00	13419	18.19	18.04	2.53	1.01	7.60	1.57 ±0.02
	4	09/11/00	7858	10.51	11.35	3.29	1.00	7.60	1.59 ±0.02
	5	09/11/00	9485	17.10	18.17	3.14	1.02	7.60	1.62 ±0.02
	3	09/11/00	11861	14.93	15.19	4.13	0.98	7.60	1.63 ±0.02
	10	09/11/00	14719	11.35	11.10	3.49	1.00	7.60	1.67 ±0.02
	7	09/11/00	20298	26.29	23.37	2.43	1.00	7.60	1.72 ±0.02
Lea-Yoakum Dunes									
99/18/1	10	23/02/01	422235	185.89	26.36	1.44	0.98	7.59	67.25 ±0.23
	16	23/02/01	363610	192.53	28.78	1.24	0.95	7.59	69.78 ±0.27
	12	23/02/01	406724	168.84	26.72	1.51	0.98	7.59	76.85 ±0.28
	15	23/02/01	365979	203.91	24.63	0.83	0.95	7.59	80.73 ±0.32
	9	23/02/01	716199	246.81	41.98	0.96	0.95	7.59	83.99 ±0.24
	13	23/02/01	641779	229.57	24.26	1.32	0.98	7.59	86.28 ±0.26
	11	23/02/01	359239	133.78	22.76	1.17	0.97	7.59	91.50 ±0.36
99/18/2	23	23/02/01	30561	75.68	28.04	0.99	1.02	7.60	2.67 ±0.03
	29	23/02/01	18040	44.22	14.22	0.52	0.95	7.60	3.40 ±0.05
	27	23/02/01	20498	36.66	20.79	2.38	0.98	7.62	3.41 ±0.04
	24	23/02/01	21914	55.82	17.87	0.54	1.03	7.60	3.45 ±0.05
	26	23/02/01	14580	28.75	13.22	3.70	0.92	7.62	3.61 ±0.05
	19	23/02/01	25248	63.66	16.83	0.80	0.96	7.60	3.62 ±0.05
	22	23/02/01	21288	47.77	12.35	1.34	0.99	7.60	3.78 ±0.05
	20	23/02/01	16263	43.05	12.10	0.99	0.99	7.60	3.80 ±0.06
	25	23/02/01	13211	29.75	12.96	2.98	0.99	7.62	4.88 ±0.08
	28	23/02/01	16896	47.84	10.81	0.65	0.97	7.60	4.91 ±0.09
	28	23/02/01	23745	49.88	16.87	2.86	0.94	7.62	5.07 ±0.06
	21	23/02/01	26281	57.58	9.63	0.96	0.93	7.60	5.36 ±0.08
99/18/3	1	16/11/00	951	3.13	19.03	30.13	0.96	7.59	0.08 ±0.003
	7	10/11/00	928	3.05	15.80	26.89	0.97	7.59	0.10 ±0.004
	8	09/11/00	1045	3.25	15.15	20.30	0.90	7.59	0.11 ±0.004
	5	12/11/00	1155	3.65	15.80	9.37	1.00	7.59	0.12 ±0.004
	3	14/11/00	1276	3.68	16.13	19.19	0.99	7.59	0.12 ±0.004
	6	11/11/00	1382	4.35	18.08	16.59	0.96	7.59	0.12 ±0.004
	4	13/11/00	1763	5.77	27.17	10.40	0.96	7.59	0.13 ±0.004
	2	15/11/00	1365	3.63	14.12	19.48	1.05	7.59	0.14 ±0.01

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Mescalero Dunes									
99/19/1	6	27/03/01	13471	28.78	4.34	1.47	0.99	7.51	108.24 ±2.89
	3	23/02/01	278049	61.32	7.84	0.74	1.00	7.60	112.15 ±0.69
	4	27/03/01	57584	98.20	13.63	0.72	0.99	7.51	117.92 ±1.52
	1	28/03/01	24867	37.86	5.63	2.12	1.03	7.51	118.67 ±2.29
	2	27/03/01	24260	51.22	6.84	1.12	0.95	7.51	121.42 ±2.42
	4	23/02/01	105041	71.34	7.54	0.68	0.92	7.60	125.63 ±1.32
	5	23/02/01	91468	149.07	14.39	0.75	0.94	7.60	134.34 ±1.57
	8	23/02/01	65365	61.21	10.16	0.79	0.94	7.60	134.97 ±1.56
	3	23/02/01	35673	59.20	6.59	1.13	0.95	7.60	144.49 ±2.65
	1	23/02/01	164063	20.00	4.65	2.51	0.97	7.60	152.18 ±1.26
99/19/2A	15	10/11/00	1992	5.78	2.06	3.01	1.00	7.59	2.53 ±0.15
	16	09/11/00	5730	16.68	4.08	0.47	0.93	7.59	2.63 ±0.09
	12	12/11/00	2566	9.02	2.45	2.50	1.04	7.59	2.64 ±0.14
	13	11/11/00	10128	29.88	6.28	0.86	0.99	7.59	2.68 ±0.07
	11	13/11/00	2169	6.82	1.96	2.51	1.01	7.59	2.80 ±0.16
	10	14/11/00	2951	8.82	2.61	-0.72	1.16	7.59	2.96 ±0.14
	9	15/11/00	4328	7.94	2.39	3.66	0.91	7.59	3.86 ±0.16
99/19/2B	18	15/11/00	3683	11.03	3.32	0.73	0.93	7.59	2.34 ±0.09
	24	10/11/00	2964	9.60	3.11	2.40	0.98	7.59	2.40 ±0.10
	23	11/11/00	4907	14.12	3.72	-0.72	1.01	7.59	2.52 ±0.09
	17	16/11/00	5867	18.76	4.43	1.12	1.14	7.59	2.64 ±0.09
	19	14/11/00	1083	3.96	1.59	8.25	1.07	7.59	2.74 ±0.23
	20	13/11/00	6691	20.54	4.88	0.82	0.88	7.59	2.78 ±0.09
	21	09/11/00	8265	24.37	5.12	0.57	0.93	7.59	2.79 ±0.08
	22	12/11/00	1931	6.40	1.96	-2.30	1.05	7.59	3.04 ±0.18
99/19/3	26	15/11/00	1595	5.36	2.97	3.65	0.89	7.59	1.13 ±0.53
	25	16/11/00	1505	4.90	2.97	-0.72	1.10	7.59	1.24 ±0.06
	28	13/11/00	1660	5.67	2.74	4.52	0.79	7.59	1.43 ±0.07
	32	09/11/00	1545	4.06	2.10	1.37	0.95	7.59	1.55 ±0.09
	29	12/11/00	1522	5.08	2.12	8.66	0.78	7.59	1.81 ±0.11
	30	11/11/00	3245	9.22	3.63	1.71	1.13	7.59	1.86 ±0.07
	31	10/11/00	1853	6.06	2.41	1.93	0.88	7.59	2.06 ±0.11
	27	14/11/00	3975	12.91	3.55	0.71	1.00	7.59	2.55 ±0.10
99/19/4	40	99/11/00	311	1.11	4.27	-39.74	1.06	7.59	0.01 ±0.002
	38	99/11/00	347	1.18	5.86	-34.73	1.00	7.59	0.02 ±0.002
	34	99/11/00	323	1.22	3.38	28.52	1.08	7.59	0.04 ±0.01
	36	99/11/00	407	1.47	5.29	15.77	1.07	7.59	0.05 ±0.004
	37	99/11/00	312	1.21	2.87	-6.39	1.18	7.59	0.06 ±0.01
	35	99/11/00	397	1.30	3.53	-45.55	0.93	7.59	0.06 ±0.01
	39	99/11/00	368	1.31	2.64	19.49	0.79	7.59	0.10 ±0.11

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_I/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Mescalero Dunes									
99/23/1	16	27/03/01	69099	91.06	7.88	0.94	0.94	7.51	61.72 ±0.84
	28	23/02/01	82972	66.49	7.07	1.22	1.00	7.60	68.61 ±0.83
	13	27/03/01	90935	149.07	10.64	0.39	0.96	7.51	68.92 ±0.94
	32	23/02/01	157693	97.56	9.64	0.73	0.94	7.60	69.26 ±0.59
	30	23/02/01	110320	49.44	5.48	1.88	0.91	7.60	71.53 ±0.75
	25	23/02/01	165093	82.54	7.99	1.01	0.99	7.60	72.94 ±0.63
	11	27/03/01	73081	62.36	5.99	0.84	0.97	7.51	73.43 ±0.98
	12	27/03/01	50020	95.20	8.18	0.79	0.99	7.51	74.70 ±1.28
	29	23/02/01	157865	95.76	8.45	0.87	0.97	7.60	75.04 ±0.72
	15	27/03/01	25584	51.50	4.68	0.20	1.00	7.51	76.01 ±1.80
	10	27/03/01	1123404	139.25	10.61	0.44	1.00	7.51	79.95 ±0.91
	14	27/03/01	105267	146.86	12.07	0.90	1.03	7.51	80.40 ±0.98
	31	23/02/01	236212	155.96	11.84	0.59	1.02	7.60	80.68 ±0.64
99/23/2	40	23/02/01	40354	57.35	6.83	0.56	1.00	7.60	28.82 ±0.46
	35	23/02/01	81788	94.84	9.60	0.22	0.98	7.60	29.05 ±0.34
	33	23/02/01	53066	60.00	6.94	0.45	1.02	7.60	31.96 ±0.45
	37	23/02/01	63087	83.76	7.95	0.72	0.99	7.60	32.39 ±0.44
	36	23/02/01	49343	91.27	8.61	0.68	0.98	7.60	32.85 ±0.50
	34	23/02/01	64428	66.88	6.60	0.36	0.94	7.60	35.92 ±0.49
	38	23/02/01	48441	60.48	5.88	0.84	0.96	7.60	37.58 ±0.61
99/24/1	42	23/02/01	119386	121.77	11.66	0.63	0.94	7.60	29.66 ±0.29
	43	23/02/01	89345	96.55	9.88	0.58	0.97	7.60	34.14 ±0.38
	44	23/02/01	156781	81.06	8.36	0.67	0.97	7.60	34.30 ±0.31
	47	23/02/01	129641	104.57	11.81	0.67	0.94	7.60	34.45 ±0.32
	48	23/02/01	67677	84.32	8.50	0.40	0.94	7.60	37.26 ±0.50
	46	23/02/01	124853	99.50	8.71	0.70	0.97	7.60	38.80 ±0.40
	45	23/02/01	96743	71.40	6.53	0.16	0.99	7.60	57.23 ±0.74
	41	23/02/01	138359	140.41	10.34	0.38	0.97	7.60	63.80 ±0.72
Monahans Dunes									
99/20/1	48	23/02/01	130685	61.43	6.15	0.64	0.96	7.60	78.38 ±0.77
	46	23/02/01	98387	52.94	5.18	1.01	0.93	7.60	83.38 ±0.99
	41	23/02/01	133594	81.25	6.58	0.91	0.95	7.60	100.71 ±1.07
	47	23/02/01	124278	70.32	5.82	1.34	0.98	7.60	106.19 ±1.16
	44	23/02/01	213522	111.16	7.53	0.49	0.97	7.60	109.19 ±1.00
	42	23/02/01	264680	124.56	9.09	0.50	1.03	7.60	123.11 ±1.02
99/20/2	22	23/02/01	74375	63.28	8.98	0.97	0.96	7.59	51.64 ±0.49
	17	23/02/01	83954	55.78	8.91	1.04	1.00	7.59	53.65 ±0.46
	20	23/02/01	59731	58.22	7.86	0.99	0.95	7.59	55.57 ±0.61
	18	23/02/01	152349	92.32	14.10	0.82	0.91	7.59	57.29 ±0.40
	21	23/02/01	134138	102.18	15.32	0.54	0.94	7.59	57.71 ±0.42
	19	23/02/01	440443	158.90	19.23	0.70	0.90	7.59	63.16 ±0.27
	23	23/02/01	111987	81.99	11.10	0.60	0.96	7.59	65.47 ±0.54

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Coversand samples					
Monahans Dunes									
99/21/1	30	23/02/01	7179	10.81	5.89	5.67	0.94	7.59	2.96 ±0.06
	32	23/02/01	3292	9.93	4.51	0.79	0.79	7.59	3.18 ±0.10
	26	23/02/01	4493	13.18	5.00	2.21	0.88	7.59	3.40 ±0.10
	18	23/02/01	5476	15.31	5.62	0.61	0.99	7.59	3.45 ±0.10
	28	23/02/01	7881	22.43	7.14	0.48	0.99	7.59	3.60 ±0.08
	19	23/02/01	6109	16.91	5.30	-0.27	0.94	7.59	3.68 ±0.10
	31	23/02/01	4201	12.48	4.47	1.91	1.25	7.59	3.75 ±0.12
	27	23/02/01	9136	26.18	7.53	-0.01	0.93	7.59	3.84 ±0.08
	25	23/02/01	4498	12.50	4.46	0.77	0.93	7.59	4.12 ±0.13
	20	23/02/01	2992	5.00	2.01	0.34	0.99	7.59	4.44 ±0.20
	17	23/02/01	5531	15.61	4.10	0.27	1.01	7.59	4.57 ±0.15
	29	23/02/01	8551	24.61	6.23	0.30	0.93	7.59	5.31 ±0.13
99/21/2	3	09/11/00	1470	4.44	5.23	1.65	0.90	7.59	0.98 ±0.04
	1	09/11/00	1036	5.34	5.45	8.69	1.01	7.59	1.03 ±0.04
	8	09/11/00	2467	8.48	7.50	2.16	0.99	7.59	1.10 ±0.03
	2	09/11/00	1544	5.27	4.76	0.06	0.97	7.59	1.18 ±0.05
	5	09/11/00	1879	6.44	5.04	2.14	0.87	7.59	1.45 ±0.05
	4	09/11/00	1664	5.75	4.05	1.83	0.95	7.59	1.48 ±0.06
	7	09/11/00	1944	6.50	4.58	1.42	0.94	7.59	1.59 ±0.06
	6	09/11/00	2990	8.53	5.14	2.50	0.86	7.59	2.03 ±0.06
99/22/1	11	09/11/00	12780	39.57	9.54	0.73	0.97	7.59	4.33 ±0.08
	13	09/11/00	5567	14.52	4.42	-1.07	1.02	7.59	4.84 ±0.14
	10	09/11/00	10383	31.81	7.12	2.68	1.00	7.59	5.02 ±0.11
	12	09/11/00	7056	19.11	5.24	-0.22	1.01	7.59	5.21 ±0.14
	15	09/11/00	7207	89.45	3.04	-7.80	1.07	7.59	5.52 ±0.15
	9	09/11/00	6030	17.56	4.91	0.45	0.94	7.59	5.55 ±0.16
	14	09/11/00	12305	28.04	6.82	0.57	0.95	7.59	5.80 ±0.12
	16	09/11/00	9993	28.78	6.27	0.66	1.00	7.59	6.62 ±0.17
99/22/2	20	23/02/01	309	1.07	3.70	283.17	0.75	7.60	0.02 ±0.01
	22	23/02/01	368	1.17	6.18	73.36	0.96	7.60	0.03 ±0.004
	24	23/02/01	354	1.13	3.49	-88.50	0.86	7.60	0.05 ±0.01
	23	23/02/01	600	1.38	8.13	-2.92	0.88	7.60	0.05 ±0.004
	19	23/02/01	370	1.28	5.24	-7.96	1.02	7.60	0.07 ±0.01
	21	23/02/01	439	1.54	6.47	29.59	0.92	7.60	0.09 ±0.01
	17	23/02/01	460	1.52	4.76	24.81	0.99	7.60	0.14 ±0.01

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_1/R_{end})	Gy min^{-1}	D_e (Gy)
				Lacustrine samples					
Rich Lake									
98/7/1	19	20/11/00	96305	163.51	31.29	0.83	0.99	7.56	100.18 ±0.75
	17	20/11/00	17390	53.31	10.62	0.99	0.96	7.56	109.50 ±2.02
	22	20/11/00	32034	79.02	12.39	0.69	0.96	7.56	124.41 ±1.82
	23	21/11/00	28427	97.15	12.45	0.78	0.99	7.56	136.95 ±2.23
	24	21/11/00	43651	77.07	9.92	1.93	0.96	7.56	140.28 ±1.89
	21	20/11/00	30587	93.83	10.49	0.66	1.00	7.56	145.72 ±2.55
	18	20/11/00	19070	54.70	8.10	1.06	0.95	7.56	155.03 ±3.07
	20	20/11/00	97900	78.02	9.10	1.30	0.99	7.56	189.19 ±1.57
98/7/2	25	21/11/00	9044	16.16	5.16	9.57	1.10	7.56	95.85 ±2.14
	27	21/11/00	10604	28.11	6.32	2.46	0.97	7.56	98.81 ±2.28
	28	21/11/00	12910	31.40	7.02	1.43	1.02	7.56	134.90 ±3.03
	26	21/11/00	19394	67.11	8.38	0.55	1.02	7.56	152.60 ±3.32
	29	21/11/00	27721	71.48	8.30	0.93	1.04	7.56	155.35 ±3.12
	31	21/11/00	28179	73.46	9.75	0.90	0.97	7.56	177.96 ±3.12
	32	21/11/00	11586	40.60	5.52	1.28	1.01	7.56	190.44 ±4.86
98/7/3	34	20/02/01	644226	122.04	15.68	0.87	0.98	7.16	202.11 ±0.82
	39	20/02/01	769520	130.54	20.83	0.88	0.99	7.57	207.10 ±0.74
	33	20/02/01	536328	174.23	19.53	1.03	0.98	7.57	219.23 ±0.90
	40	20/02/01	1418091	267.16	25.44	0.63	0.97	7.16	225.97 ±0.67
	37	20/02/01	533764	180.46	25.40	0.90	0.99	7.57	230.47 ±0.92
	32	20/02/01	975667	224.51	18.83	0.94	0.97	7.16	231.67 ±0.86
	37	20/02/01	601107	191.01	18.22	0.86	0.97	7.16	240.27 ±1.10
	34	20/02/01	653476	188.35	21.59	0.80	1.02	7.57	241.03 ±0.90
	31	20/02/01	565591	183.75	17.30	0.68	0.98	7.16	244.19 ±1.15
	33	20/02/01	542503	187.26	17.58	0.97	0.97	7.16	245.01 ±1.17
	35	20/02/01	875316	258.56	22.13	0.60	1.01	7.16	303.59 ±1.17
	40	20/02/01	738846	196.62	17.93	0.63	1.00	7.57	318.11 ±1.16
	38	20/02/01	751629	201.06	23.44	0.67	1.02	7.57	339.90 ±1.25
	35	20/02/01	829010	201.52	21.13	0.90	1.00	7.57	341.80 ±1.22
	36	27/12/00	1057575	297.00	26.03	0.67	0.98	7.16	233.23 ±0.80
	39	27/12/00	609929	180.86	18.73	0.74	0.98	7.16	238.73 ±1.07
	38	27/12/00	748288	232.08	21.18	0.64	0.95	7.16	249.92 ±1.04
99/6/1	42	20/02/01	7696	25.60	6.58	0.19	1.02	7.59	50.57 ±1.34
	41	20/02/01	2626	9.36	3.60	-0.45	0.96	7.59	55.52 ±2.26
	43	20/02/01	6436	21.85	6.23	1.55	1.02	7.59	56.45 ±1.62
	45	20/02/01	4144	13.73	4.78	-0.44	0.83	7.59	56.65 ±1.92
	47	20/02/01	7106	23.85	5.58	0.52	0.90	7.59	57.86 ±1.59
	48	20/02/01	8567	29.12	6.48	0.83	1.01	7.59	65.68 ±1.71
	45	20/02/01	24175	66.27	12.00	0.68	0.94	7.59	66.25 ±1.07
	46	20/02/01	52739	124.80	27.29	0.46	0.97	7.59	70.78 ±0.77

Appendix F. SAR sample data continued

Sample ID	Aliquot number	Date	Nat$_I$	Nat$_I$ (1s)/ BG (11-15s)	TD$_I$(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Lacustrine samples					
Yellow Lake									
99/8/3	2	21/02/01	249124	206.78	17.50	0.88	0.98	7.14	25.03 ±0.18
	3	21/02/01	149971	151.82	13.56	0.75	0.93	7.14	28.08 ±0.25
	1	21/02/01	74975	125.17	9.86	0.63	0.97	7.14	34.11 ±0.47
	9	21/02/01	30930	66.23	6.40	0.99	0.98	7.14	46.59 ±1.02
	4	21/02/01	197232	180.22	12.87	0.33	0.98	7.14	50.09 ±0.47
	6	21/02/01	173375	170.48	11.37	0.42	0.94	7.14	50.67 ±0.51
	10	21/02/01	25567	70.05	6.23	0.86	1.03	7.14	51.69 ±1.26
	8	21/02/01	118235	132.37	9.22	0.37	1.04	7.14	54.62 ±0.68
	5	21/02/01	268530	194.78	11.87	0.43	1.00	7.14	54.94 ±0.47
	7	21/02/01	170185	185.23	11.44	0.43	0.96	7.14	68.73 ±0.79
				Tufa samples					
Double Lakes									
98/8/2	1	21/02/01	130272	146.18	7.82	0.94	0.97	3.48	159.55 ±2.21
	2	21/02/01	158689	161.17	7.14	0.60	0.91	3.48	161.05 ±2.26
	3	21/02/01	76920	54.38	4.38	1.79	0.97	3.48	174.12 ±2.76
	4	21/02/01	171223	162.57	8.13	0.84	0.98	3.48	178.92 ±2.26
	1	21/02/01	67331	123.32	6.72	0.86	1.02	3.48	181.78 ±3.29
	7	21/02/01	107304	80.02	6.10	3.38	0.93	3.48	190.42 ±2.69
	15	21/02/01	91170	120.85	7.56	1.82	0.95	3.48	213.12 ±3.17
	5	21/02/01	133876	103.51	6.10	0.80	0.95	3.48	213.53 ±3.04
	11	21/02/01	113144	165.56	9.82	0.65	0.96	3.48	218.13 ±2.85
	13	21/02/01	260390	351.78	12.33	0.44	0.98	3.48	239.00 ±2.71
98/8/3	9	21/02/01	97556	97.70	7.00	0.72	1.02	3.48	111.59 ±1.23
	10	21/02/01	37305	282.00	6.50	0.55	0.95	3.48	119.74 ±2.03
	11	21/02/01	68738	97.40	12.30	0.82	0.98	3.48	121.54 ±1.69
	7	21/02/01	109502	97.18	6.64	0.73	0.97	3.48	136.69 ±1.85
	12	21/02/01	104287	281.56	6.80	0.73	0.99	3.48	145.68 ±1.67
	13	21/02/01	139431	121.20	12.50	0.57	0.96	3.48	148.33 ±1.43
	6	21/02/01	229189	281.91	12.19	0.55	0.99	3.48	151.94 ±1.64
	14	21/02/01	72630	96.87	6.10	0.83	0.96	3.48	154.78 ±2.17
	8	21/02/01	117401	122.37	7.00	0.76	0.97	3.48	154.78 ±2.17
	15	21/02/01	81910	181.56	12.60	0.75	0.98	3.48	169.91 ±2.17
	16	21/02/01	140999	121.37	7.00	0.57	0.96	3.48	199.71 ±2.50
99/2/1	10	21/02/01	89267	126.98	8.91	0.86	0.97	3.48	92.73 ±1.28
	8	21/02/01	45651	72.35	5.08	0.52	0.98	3.48	98.80 ±2.01
	11	21/02/01	103117	155.77	10.76	0.57	0.94	3.48	116.35 ±1.53
	9	21/02/01	77606	126.48	8.00	1.01	0.99	3.48	117.16 ±1.90
	12	21/02/01	37473	71.49	6.17	1.01	0.96	3.48	121.28 ±2.43
	17	21/02/01	71528	104.36	7.04	1.36	0.96	3.48	139.15 ±2.20
	25	21/02/01	191345	227.09	11.04	0.80	0.97	3.48	141.77 ±1.55
	27	21/02/01	343225	358.20	11.98	0.48	0.93	3.48	150.53 ±1.50
	29	21/02/01	71344	140.33	8.31	0.34	0.97	3.48	158.30 ±2.73
	7	21/02/01	83617	122.07	7.09	0.41	1.01	3.48	159.29 ±2.58
	5	21/02/01	167866	159.51	8.39	0.62	0.97	3.48	163.25 ±1.95
	31	21/02/01	197808	211.97	9.89	0.90	0.97	3.48	173.65 ±1.99
	6	21/02/01	70709	119.85	6.81	0.59	1.01	3.48	176.60 ±3.05
	19	21/02/01	169501	200.31	8.19	0.59	0.99	3.48	197.38 ±2.66
	21	21/02/01	98226	168.43	8.01	0.44	0.99	3.48	202.89 ±3.33

Sample ID	Aliquot number	Date	Nat_I	Nat_I (1s)/ BG (11-15s)	TD_I(1s)/ BG (11-15s)	Recup. (%)	Ratio (R_i/R_{end})	Gy min^{-1}	D_e (Gy)
				Tufa samples					
Double Lakes									
99/2/2	2	21/02/01	98936	86.30	5.71	1.06	0.96	3.48	141.20 ±2.03
	14	21/02/01	159208	216.37	11.45	1.14	0.93	3.48	142.59 ±1.71
	16	21/02/01	36773	58.59	4.23	1.49	0.93	3.48	144.16 ±3.52
	15	21/02/01	88729	103.27	7.51	1.15	0.97	3.48	144.90 ±2.08
	13	21/02/01	37508	65.78	4.40	1.21	0.98	3.48	155.31 ±3.47
	4	21/02/01	161103	193.96	8.57	0.63	0.99	3.48	166.81 ±2.22
	3	21/02/01	183428	136.95	7.92	0.71	0.94	3.48	172.07 ±1.94
	2	21/02/01	67331	177.65	7.77	1.00	1.01	3.48	181.78 ±3.29
	35	21/02/01	128145	211.81	9.37	0.51	0.91	3.48	192.28 ±2.81
	33	21/02/01	110002	89.58	6.60	1.27	0.95	3.48	192.59 ±2.61
	45	21/02/01	179808	219.71	8.18	0.96	0.99	3.48	200.99 ±2.72
	41	21/02/01	157754	150.96	7.17	0.90	0.91	3.48	202.18 ±2.74
	43	21/02/01	103429	163.19	7.73	0.92	0.96	3.48	207.23 ±3.22
	1	21/02/01	172121	177.88	8.96	0.91	0.99	3.48	215.82 ±2.53

APPENDIX G

Additional paper

Wood, W., Stokes, S., and Rich, J. (2002). Implications of water supply for indigenous Americans during Holocene aridity phases on the Southern High Plains, USA. *Quaternary Research* **58**, 139-148.

APPENDIX H

Additional paper

Stokes, S., Colls, A.E.L., Fattahi, M., and Rich, J. (2000). Investigations of the performance of quartz single aliquot D_E determination procedures. *Radiation Measurements* **32**, 585-594.

Programme abstract

Wood, W.W., Rich, J., and Stokes, S. (2001). Holocene climate changes and water supply for native Americans on the Southern High Plains, USA. Geological Society of America, 2001 annual meeting. *Abstracts with Programs - Geological Society of America* **33 (6)**, 293.

APPENDIX J

Programme abstract

Stokes, S., Rich, J., Swinehart, J., and Loope, D.B. (1999). Holocene timing of megabarchan dune construction in the Nebraska Sand Hills. Geological Society of America, 1999 annual meeting. *Abstracts with Programs - Geological Society of America* **31 (7)**, 231.