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RE: LA-5 spreadsheets

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Ranch LA-5 Analyses, 1st + 2nd Sampling Events, Blanked

Location ID	Sample ID No	Request No	Sampling Event	Geomorphic Unit	Sediment Facies	Sample Depth (in)	Sample Depth (cm)	Po-238 (pCi/g)	Pu-239 (pCi/g)	Pu notes	Preliminary Sample Bin	Pu 239/238 ratio	Am-241 (pCi/g)	Cs-137 (pCi/g)	Sr-90 (pCi/g)	Median Particle Size	Lab Texture	Gravel	Course-Med Sand	Fine Sand	Silt	Clay
LA-0035	04LA-96-0176	2252	1	c1	channel	0-4	0-10	-0.001	0.124	pab	1		0.023	0.08	0.59	cs	gr	20.4	92.49	5.68	1.64	0.18
LA-0037	04LA-96-0180	2252	1	c1	channel	0-3	0-8	0.004	0.161	pab	1	40	0.032	0.12	0.24	cs	gr	28.2	92.14	5.07	2.59	0.2
LA-0077	04LA-97-0011	3195	2	c2	channel	0-3	0-7	-0.013	0.040	b	1											
LA-0085	04LA-97-0022	3195	2	c2	channel	5-13	13-32	0.004	0.151	pab	1	38										
							Average	-0.001	0.119													
							s.d.	0.007	0.055													
LA-0036	04LA-96-0179	2252	1	c2	overbank	0-3	0-8	0.005	1.379	ab	2	276	0.052	0.11	0.43	fs	ls	7.5	31.6	47.08	19.42	1.9
LA-0085	04LA-97-0021	3195	2	c2	overbank	0-5	0-13	-0.009	0.053	b	2											
LA-0034	04LA-96-0177	2252	1	f1	overbank	0-4	0-10	0	0.18	pab	2		0.026	0.39	0.55	fs	ls	2.8	22.26	57.44	17.8	2.5
LA-0035	04LA-96-0178	2252	1	f1	overbank	0-4	0-10	0.005	0.189	pab	2	38	0.065	0.74	0.72	fs	sl	9.9	35.78	32.04	30.08	2.1
LA-0038	04LA-96-0181	2252	1	f1	overbank	0-2	0-5	-0.002	0.436	ab	2		0.023	0.45	0.56	fs	ls	2.7	27.86	57.16	13.59	1.4
LA-0038	04LA-97-0020	3195	2	f1	overbank	4-8	10-20	-0.009	1.463	ab	2											
LA-0084	04LA-97-0018	3195	2	f1	overbank	0-5	0-13	0.002	0.169	pab	2	85										
LA-0084	04LA-97-0019	3195	2	f1	overbank	5-15	13-38	0.004	1.569	ab	2	392										
LA-0083	04LA-97-0040	3195	2	f1	overbank	3-7	7-18	-0.004	0.366	ab	2		-0.279	1.070								
LA-0083	04LA-97-0041	3195	2	f1	overbank	11-17	29-43	0.009	2.524	ab	2	280	0.120	0.148								
LA-0086	04LA-97-0023	3195	2	f1	overbank	0-6	0-15	0.008	0.149	pab	2	19										
LA-0087	04LA-97-0024	3195	2	f1	overbank	0-3	0-5	0.002	0.141	pab	2	71										
LA-0088	04LA-97-0025	3195	2	f1	overbank	2-5	6-12	-0.007	0.601	ab	2											
LA-0089	97-0027+97-0028	3195	2	f1	overbank	11-13	28-32	-0.004	0.056	b	3											
							Average	0.000	0.663													
							s.d.	0.006	0.763													
LA-0032	96-0175+replicate	2252	1	c3	overbank	0-3	0-8	0.009	0.1	pab	3	33	0.025	0.43	0.42	vfs	ls	5.3	26.37	50.77	20.35	2.5
LA-0082	04LA-97-0016	3195	2	c3	overbank	0-4	0-10	-0.013	0.020	b	3											
LA-0091	04LA-97-0032	3195	2	c3	overbank	0-5	0-13	-0.018	0.038	b	3											
LA-0090	04LA-97-0030	3195	2	c3	overbank	12-14	30-35	-0.002	0.393	ab	3											
							Average	-0.008	0.138													
							s.d.	0.010	0.174													
LA-0080	04LA-97-0014	3195	2	c3	fine channel	0-4	0-10	0.002	0.018	b	4	9										
LA-0082	04LA-97-0017	3195	2	c3	channel	5-9	12-22	-0.013	-0.007	b	4											
LA-0090	04LA-97-0029	3195	2	c3	channel	0-12	0-30	-0.022	0.060	b	4											
LA-0090	04LA-97-0031	3195	2	c3	channel	14-26	35-65	0.002	-0.002	b	4											
LA-0089	04LA-97-0026	3195	2	c3 (over f1)	channel	0-11	0-28	0.002	0.053	b	4	27										
LA-0083	04LA-97-0042	3195	2	f1	overbank	19-27	48-69	-0.014	0.009	b	4		-0.191	-0.029								
LA-0078	04LA-97-0012	3195	2	f2	overbank	0-2	0-4	-0.009	0.064	b	4											
LA-0079	04LA-97-0013	3195	2	f2	overbank	0-2	0-4	-0.002	0.038	b	4											
LA-0081	04LA-97-0015	3195	2	f2	overbank	0-4	0-10	-0.019	0.081	b	4											
							Average	-0.008	0.035													
							s.d.	0.009	0.032													

Notes

Percentages of sand, silt, & clay size fractions calculated from < 2mm fraction.

Lab Texture: ls=loamy sand; sl=sandy loam; gr= gravelly sand (>20% gravel);

Median Particle Size: refers to <2mm fraction (fraction submitted for chemical analysis) cs=coarse sand; fs=fine sand; vfs=very fine sand

Am-241 analyses by alpha spec in 1st sampling event; gamma spec also run, but not presented here as close to detection limits; only by gamma spec in 2nd sampling event.

Pu notes: ab = above background; pab = possibly above background; b = not distinguishable from background

Average of 2 analyses shown where replicate obtained.

Sample Bins: 1 = post-1942 channel deposits with above background Pu (c1 and c2); 2 = overbank deposits of units c2 and f1; 3 = overbank deposits of unit c3 (possible mix of pre-1943 and post 1942 sediments); 4 = background (parts of units c1, f1, and f2)

Preliminary Pu-239,240 Inventory, Reach LA-5

(note: 9/1/97 estimate, using very approximate estimates of unit thickness)

Unit	Section	Facies	Area (m2)	Estimated Average Thickness (m)	Estimated Thickness Range (m)	Estimated Volume (m3)	Est. Gravel (%)	Est. Portion Non-gravel	Est. Density (g/cm3)	notes on concentrations	Estimated Average Pu-239,240 (pCi/g)	Estimated Range Pu-239,240 (pCi/g)	Estimated Stored Pu-239,240 (uCi)	Percent of Total
c1	0-max	channel	48451	0.5	0.2-0.8	24226	50	0.5	1.25	bin 1	0.12	45%	1817	10%
c2	upper	overbank	21926	0.2	0-0.5	4385	5	0.95	1.25	bin 2	0.67	115%	3489	19%
c2	lower	channel	21926	0.5	0.2-0.8	10963	50	0.5	1.25	bin 1	0.12	45%	822	4%
c3	upper	overbank	46346	0.1	0-0.5	4635	5	0.95	1.25	bin 3	0.14	125%	771	4%
c3	lower	channel	46346	0		0	50	0.5	1.25	bin 4	0.035	90%		
f1	upper	overbank	73845	0.2	0-0.5	14769	5	0.95	1.25	bin 2	0.67	115%	11751	63%
f2	upper	overbank?	21800	0		0	5	0.95	1.25	bin 4	0.035	90%		
											Total (uCi)		**18649**	**100%**
											Length (km)		**1.42**	
											Est. Inventory (mCi/km)		**13.1**	

Inventory (uCi) = concentration (pCi/g) * density (g/cm3) * portion non-gravel * volume (m3)

Estimated standard deviation of Pu-239,240 concentrationexpressed as percentage of mean.

Estimates of stored Pu only made for units where Pu has been measured above background concentrations.

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LA-3 Analyses From 1st Sampling Event, July 7-8, 1997, Grouped By Sample Site

Location ID	Sample ID	Geomorphic Unit	Sediment Facies	Depth (cm)	Depth (cm)	Cs-137 (pCi/g)	Am-241 (pCi/g) (g spec)	Am-241 (pCi/g) (a spec)	Pu-238 (pCi/g)	Pu-239 (pCi/g)	Sr-90 (pCi/g)	other full-suite analytes	Main Target/Purpose	Pu 239/238	Notes
LA-0112	04LA-97-0109	c1	channel	0-2	0-5	0.709	0.153						Cs inventory		downstream part of reach, LA3-66
LA-0116	04LA-97-0150	c1	channel	0-2	0-5	0.729	0.058	0.125	0.0208	0.082	-0.02	1	Cs inventory	4	center of reach
LA-0119	04LA-97-0110	c1	channel	0-2	0-5	1.66	0.317						Cs inventory		upstream part of reach
LA-0114	04LA-97-0112	c2	overbank	0-6.5	0-16	3.23	0.981						Cs inventory		LA3-c25, LA3-35; "bin 6" profile, low end of "c2"; willows; fine sand + pumice
LA-0114	04LA-97-0148	c2	overbank	6.5-12.5	16-32	3.93	1.26	1.87	0.151	0.862	1.9	1	Cs inventory	6	stratified fine sand; max. gamma
LA-0114	04LA-97-0113	c2	overbank	12.5-19	32-49	4.96	1.82						depth variations		stratified fine - med. sand and pumice
LA-0114	04LA-97-0114	c2	channel	19-24	49-61	3.16	0.881						Cs inventory		upper gravels w/ pumice and fines
LA-0114	04LA-97-0115	c2	channel	24-35.5	61-90	2.4	0.473						Cs inventory		lower sands + gravels
LA-0113	04LA-97-0132	c2	overbank	0-6.5	0-16	1.29	0.373		0.021	0.232	0.5		Cs inventory	11	LA3-24; LA3-c17; "bin 5" profile, high end of "c2"; med. sand + pumice, low gamma
LA-0113	04LA-97-0139	c2	overbank	6.5-11	16-28	1.54	0.514		0.035	0.178	0.19		Cs inventory	5	fine-med. sand + pumice
LA-0111	04LA-97-0147	c2	overbank	11-13.5	28-34	1.8	0.644	0.515	0.065	0.321	0.34	1	large area	5	fine sand, highest gamma layer
LA-0111	04LA-97-0134	c2	overbank	13.5-25	34-63	5.44	0.853		0.068	0.741	7.09		depth variations	11	fine + med. sand + coarse gravel
LA-0111	04LA-97-0135	c2	channel	25-31.5	63-80	1.49	0.258		0.013	0.419	0.12		Cs inventory	32	sand + gravel
LA-0110	04LA-97-0105	c3	overbank	0-5	0-13	2.47	0.834						Cs inventory		LA3-c11, LA3-18, typical "bin 4" c3 profile, fine sand + pumice
LA-0110	04LA-97-0106	c3	overbank	7.5-11	19-28	5.7	1.62						Cs inventory		stratified fine sand (13-19 cm disturbed; not sampled)
LA-0110	04LA-97-0145	c3	overbank	11-16	28-40	6.1	2.34	1.75	0.154	0.852	0.81	1	Cs inventory	6	med. sand; highest gamma layer
LA-0110	04LA-97-0146	c3	overbank	11-16	28-40	5.91	0.918	2.14	0.146	1.45	0.85	*	Cs inventory	10	QA duplicate of 0145
LA-0110	04LA-97-0107	c3	overbank	16-20.5	40-52	8.68	2.96						Cs inventory		fine sand; buried soil
LA-0110	04LA-97-0108	c3	channel	21.5-31.5	55-80	0.924	0.078						Cs inventory		sand + gravel
LA-0115	04LA-97-0116	c3	overbank	0-5	0-12	1.49	0.223						Cs inventory		LA3-c21, LA3-28, "bin 3" c3 profile; coarse-to-med. sand
LA-0115	04LA-97-0117	c3	overbank	5-11	12-28	5.7	1.77						Cs inventory		stratified fine sand
LA-0115	04LA-97-0149	c3	overbank	11-16	28-39	10.1	0.87	1.36	0.115	1.189	0.92	1	Cs inventory	10	stratified fine sand; highest gamma layer
LA-0115	04LA-97-0118	c3	overbank	15.5-21	39-53	5.46	0.106						Cs inventory		stratified fine sand ?? (no notes, check)
LA-0115	04LA-97-0119	c3	channel	21-29.5	53-75	0.305	0.051						Cs inventory		sand - coarse gravel w/ fines
LA-0109	04LA-97-0136	c3	overbank	0-8.5	0-22	4.04	1.09		0.108	0.54	0.62		Cs inventory	5	LA3-7, LA3-c5, highest field gamma profile, "bin 1", upper sands
LA-0109	04LA-97-0137	c3	overbank	8.5-12.5	22-32	13.8	11.8		0.769	3.18	3.79		Cs inventory	4	buried soil
LA-0109	04LA-97-0138	c3	overbank	12.5-16	32-41	13.3	9.49		0.404	2.64	2.19		Cs inventory	7	fine sand
LA-0109	04LA-97-0143	c3	overbank	16-19.5	41-50	11.7	1.54	2.59	0.219	1.95	1.93	1	Cs inventory	9	stratified fine sands w/ organics (dark - orange layers); max. gamma in reach
LA-0109	04LA-97-0144	c3	overbank	16-19.5	41-50	12	3.67	2.22	0.142	1.82	2.08	*	Cs inventory	13	QA duplicate of 0143
LA-0109	04LA-97-0139	c3	overbank	19.5-25	50-62	11.1	5.3		0.32	1.75	1.27		Cs inventory	5	buried soil, fine sediment
LA-0109	04LA-97-0140	c3	channel	25-31.5	62-80	6.7	0.705		0.045	0.471	0.31		Cs inventory	10	sands + gravels with fines
LA-0109	04LA-97-0141	c3	channel	31.5-34.5	80-88	4.66	0.874		0.048	0.31	0.7		depth variations	5	med. sand; high gamma, similar to 41-50 cm layer
LA-0109	04LA-97-0142	c3	channel	34.5-42.5	88-105	4.12	0.776		0.025	1.2	-0.24		Cs inventory	48	lower sands + gravels
LA-0117	04LA-97-0120	f1	overbank	4-11	10-28	6.14	2.25						Cs inventory		LA3-1, LA3-c1, stratified fine sand + pumice
LA-0117	04LA-97-0121	f1	overbank	11-18	28-46	2.13	0.512						Cs inventory		buried soil w/ gravel
LA-0117	04LA-97-0122	f1	overbank	18-29	46-74	0.994	0.232						depth variations		buried soil, with rocks; highest gamma
LA-0117	04LA-97-0123	f1	overbank	18-29	46-74	1.11	0.269						depth variations		QA duplicate of 0122
LA-0117	04LA-97-0124	f1	overbank?	29-36	74-92	1.62	-0.024						depth variations		fine sand + med sand - gravel
LA-0117	04LA-97-0125	f1	channel	36-47	92-120	1.85	0.377						depth variations		lower gravels; coarse & rocky!
LA-0121	04LA-97-0111	f1	overbank	0-6.5	0-16	3.17	0.88						large area		LA3-76, fine sands, apache plume
LA-0118	04LA-97-0126	f1	overbank	0-6.5	0-17	8.86	0.291						Cs inventory		LA3-39, LA3-c28, loose fine sand (max. gamma)
LA-0118	04LA-97-0127	f1	overbank	6.5-18	17-46	0.075	0.009						depth variations		stratified fine sand, orange; pre-1943 (?) (possibly post-1942 pre-Cs releases)
LA-0118	04LA-97-0128	f1	overbank	6.5-18	17-46	0.067	-0.23						depth variations		QA duplicate of 0127
LA-0118	04LA-97-0129	f1	channel	18-28	46-72	0.061	0.034						depth variations		sand + gravel, analysis supports inference estimate of pre-lab deposit
LA-0113	04LA-97-0130	f2	overbank	0-2	0-5	0.563	0.017		-0.001	0.067			large area, distribution	high	LA3-67, large area, east end of reach
LA-0120	04LA-97-0131	f2	overbank	0-3.5	0-9	0.162	-0.025		-0.009	0.255			large area, distribution	high	LA3-40, large area, west end of reach

LA-3 Analyses From 1st Sampling Event, Biased

Location ID	Sample ID	Stratigraphic Unit	Sediment Facies	Depth (ft)	Depth (cm)	Cs-137 (pCi/g)	Am-241 (pCi/g)	Am-241 (pCi/g)	Pu-238 (pCi/g)	Pu-239 (pCi/g)	Sr-90 (pCi/g)	other n.b. radio analyses		Sample Bin	Fe 239/238	Notes
							(g sperk)	(b sper)								
LA-0132	96LA-97-0109	c1	channel	0-2	0-3	0.709	0.157							1		downstream part of reach, LA3-96
LA-0135	96LA-97-0120	c1	channel	0-2	0-3	0.739	0.058	0.025	0.02108	0.082	0	*		1	4	center of reach
LA-0139	96LA-97-0130	c1	channel	0-2	0-3	1.01	0.317							1		upstream part of reach
					av.	1.02	0.19	0.13	0.03	0.08	0.00					
					s.d.	0.14	0.12									
					n	3	3	1	1	1	1					
LA-0134	96LA-97-0114	c2	channel	19-24	48-60	3.16	0.881							2		upper gravels w/ pumice and fines
LA-0136	96LA-97-0115	c2	channel	24-30.5	61-80	2.4	0.472							2		lower sands + gravels
LA-0131	96LA-97-0126	c2	channel	25-31.5	65-80	1.49	0.258		0.013	0.499	0.12			2	22	sand + gravel
					av.	1.35	0.54		0.01	0.45	0.12					
					s.d.	0.84	0.22									
					n	2	3	0	1	1	1					
LA-0130	96LA-97-0106	c3	channel	31.5-31.5	55-80	0.136	0.078							3		sand + gravel
LA-0133	96LA-97-0119	c3	channel	31-32.5	55-72	0.303	0.059							3		sand + coarse gravel w/ fines
LA-0129	96LA-97-0040	c3	channel	35-34.5	60-80	6.7	0.705		0.043	0.471	0.31			3	10	sands + gravels with fines
LA-0127	96LA-97-0041	c3	channel	31.5-34.5	80-89	4.05	0.874		0.048	0.31	0.2			3	6	sand, sand, high gamma, similar to 61-90 cm layer
LA-0128	96LA-97-0042	c3	channel	34.5-42.5	89-100	4.32	0.776		0.025	1.2	0			3	48	lowest sands + gravels
					av.	3.36	0.88		0.04	0.86	1.17					
					s.d.	2.77	0.49		0.01	0.47	0.16					
					n	6	5	0	2	2	2					
LA-0116	96LA-97-0112	c4	overbank	0-4.5	0-16	3.35	0.943							4		LA3-65, LA3-35; "bin 0" profile, low end of "c5" willows; fine sand + pumice
LA-0116	96LA-97-0044	c4	overbank	4.5-12.5	16-32	3.95	1.36	1.27	0.131	0.892	1.5	*		4	6	modified fine; sand mod. gamma
LA-0116	96LA-97-0113	c4	overbank	12.5-19	32-49	4.96	1.82							4		modified fine + mod. sand mod pumice
LA-0118	96LA-97-0033	c4	overbank	0-4.5	0-16	3.29	0.572		0.011	0.272	0.3			4	11	LA3-39, LA3-31; "bin 5" profile, high end of "c5"; mod. sand + pumice, low gamma
LA-0118	96LA-97-0037	c4	overbank	4.5-11	16-28	1.84	0.328		0.008	0.172	0.79			4	5	fine mod. sand + pumice
LA-0118	96LA-97-0047	c4	overbank	11-13.5	28-34	1.3	0.464	0.515	0.005	0.321	0.36	*		4	5	fine sand, highest gamma layer
LA-0118	96LA-97-0054	c4	overbank	13.5-25	34-63	5.44	0.863		0.009	0.741	7.08			4	11	fine + med. sand + coarse gravel
					av.	3.37	0.92	1.19	0.07	0.47	1.29					
					s.d.	1.85	0.58	0.96	0.05	0.41	2.98					
					n	7	7	2	5	5	5					
LA-0110	96LA-97-0038	c5	overbank	0-5	0-13	2.47	0.834							5		LA3-63, LA3-15, typical "bin 4" c5 profile, fine sand + pumice
LA-0109	96LA-97-0036	c5	overbank	7.5-11	19-28	5.7	1.82							5		modified fine, sand (33-39 cm, disturbed, not sampled)
LA-0110	97-0043 + 97-0140	c5	overbank	11-16	28-40	6.01	2.63	2.95	0.13	1.33	0.83	*		5	1	mod. sand, highest gamma layer; av. of 2 samples
LA-0110	96LA-97-0039	c5	overbank	16-20.5	40-52	3.68	1.96							5		fine sand, buried soil
LA-0115	96LA-97-0106	c5	overbank	0-5	0-13	1.49	0.223							5		LA3-63, LA3-15, "bin 3" c5 profile, coarse-to-med. sand
LA-0115	96LA-97-0107	c5	overbank	5-11	12-28	5.73	1.77							5		modified fine sand
LA-0119	96LA-97-0109	c5	overbank	11-16	28-39	10.1	0.87	1.36	0.115	1.189	0.95	*		5	30	modified fine sand, highest gamma layer
LA-0115	96LA-97-0108	c5	overbank	16.5-22	39-53	5.46	0.909							5		modified fine sand (? (no lamn, check)
LA-0109	96LA-97-0136	c5	overbank	0-8.5	0-22	4.06	1.09		0.109	0.34	0.62			5	3	LA3-7, LA3-c5, highest field gamma profile, "bin 1", upper sands
LA-0109	96LA-97-0137	c5	overbank	8.5-12.5	22-32	13.8	11.8		0.769	3.81	3.73			5	4	buried soil
LA-0109	96LA-97-0138	c5	overbank	12.5-16	32-41	13.3	9.49		0.404	2.64	2.39			5	7	fine sand
LA-0109	97-0143 + 97-0144	c5	overbank	16-18.5	41-50	11.9	1.61	2.41	0.181	1.39	2.08	*		5	30	modified fine sands w/ organics (dark – orange layers), conc. gamma is reach; av. of 2 samples
LA-0109	96LA-97-0139	c5	overbank	18.5-25	50-63	11.1	5.3		0.32	1.75	1.27			5	5	buried soil, fine sediment
					av.	7.47	3.81	1.91	0.29	1.56	1.48					
					s.d.	4.88	3.69	0.89	0.24	0.98	1.09					
					n	11	15	2	7	7	7					
LA-0117	96LA-97-0120	f1	overbank	4-11	10-28	6.14	2.35							6		LA3-1, LA3-e1, modified fine sand + pumice
LA-0117	96LA-97-0121	f1	overbank	11-17	28-46	2.13	0.312							6		typical soil w/ gravel
LA-0117	97-0122 + 97-0123	f1	overbank	18-20	46-54	1.05	0.251							69		typical soil, with mod. highest gamma; av. of 2 samples
LA-0117	96LA-97-0124	f1	overbank?	20-26	54-66	1.62	0							69		fine sand – mod sand + gravel
LA-0117	96LA-97-0125	f1	channel	26-47	66-120	1.39	0.377							69		lower gravels, coarse & rocky!
LA-0121	96LA-97-0111	f1	overbank	0-6.5	0-16	3.17	0.31							6		LA3-74, fine sands, upside phase
LA-0118	96LA-97-0126	f1	overbank	0-6.5	0-17	0.86	0.291							6		LA3-38, LA3-c24, loess fine sand (conc. gamma)
					av.	2.05	0.38									
					s.d.	2.08	0.07									
					n	7	7	0	0	0	0					
LA-0118	97-0127 + 97-0128	f1	overbank	6.5-18	17-46	0.071	0.008							7		modified fine sand, orange, pre-1943 (?) (possibly post-1943 pre-Cs release); av. of 2 samples
LA-0119	96LA-97-0129	f1	channel	18-38	46-72	0.071	0.004							7		sand + gravel; analysis supports inference unknown of pre-lab deposit
LA-0113	96LA-97-0130	f2	overbank	0-3	0-9	0.143	0.017		0	0.087				7	high	LA3-62, large area, east end of reach
LA-0120	96LA-97-0131	f2	overbank	0-3.5	0-9	0.163	0		0	0.255				7	high	LA3-40, large area, west end of reach
					av.	0.16	0.01		0.00	0.16						
					s.d.	0.08	0.01		0.00	0.13						
					n	2	2	0	2	2	0					

Concentration are average of 2 analyses where QA duplicates were obtained.

Negative values replaced by zero in fab spreadsheet, and should eventually be replaced by 1/2 of detection limit.

Bin 1: upper channel deposits; Bin 2 = channel below c2 surface; Bin 3 = channel below higher c3 surfaces;

Bin 4 = c4 overbank facies; Bin 5 = c5 overbank facies; Bin 6 = post-1943 floodplain deposits; BIN7 = pre-1943 (?) floodplain deposits

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Preliminary Cs-137, Am-241, Sr-90, Pu-239,240 Inventory, Reach 1A-3

(note: 9/6/97 estimate, using analyses from 1st sampling event to estimate average rad concentrations; areas and thicknesses of geomorphic units not changed from 6/17/97 estimate)

Unit	Section	Facies	Area (m2)	Estimated Average Thickness (m)	Estimated Thickness Range (m)	Estimated Volume (m3)	Est. Gravel (%)	Est. Portion Non-gravel	Density (g/cm3)	notes on concentrations	Estimated Average Cs-137 (pCi/g)	Measured Range Cs-137 (pCi/g)	Estimated Stored Cs-137 (uCi)	Percent of Total	Estimated Percent of Total 6/17/97
c1	0-max	channel	897	0.5	0.2-0.8	449	50	0.5	1.25	Bin 1	1	0.7-1.66	280	4%	7%
c1b	0-max	channel	62	0.5	0.2-0.8	31	50	0.5	1.25	assumed Bin 1	1		19	0%	0%
c2	upper	overbank	651	0.4	± 0.12	260	5	0.95	1.25	Bin 4	3.2	1.29-5.44	990	13%	15%
c2	lower	channel	651	0.5	0.2-0.8	326	50	0.5	1.25	Bin 2	2.4	1.49-3.16	488	7%	7%
c3	upper	overbank	838	0.55	± 0.09	461	5	0.95	1.25	Bin 5	7.7	1.49-13.8	4214	56%	52%
c3	lower	channel	838	0.5	0.2-0.8	419	50	0.5	1.25	Bin 3	3.3	0.31-6.7	864	12%	9%
f1	upper	overbank	362	0.42	± 0.22	152	5	0.95	1.25	Bin 6	3.6	1.05-8.86	650	9%	9%
f2	upper	overbank?	1015	0.01	0-0.05	10	5	0.95	1.25	Bin 7	0.4	0.07-0.56	5	0%	0%
												Total (uCi)	**7511**	**100%**	
												6/17/97 estimate	4179		
											Est. Inventory (mCi/km)		**16.3**		

Unit	Section	Facies	Area (m2)	Estimated Average Thickness (m)	Estimated Thickness Range (m)	Estimated Volume (m3)	Est. Gravel (%)	Est. Portion Non-gravel	Density (g/cm3)	notes on concentrations	Estimated Average Am-241 (pCi/g)	Measured Range Am-241 (pCi/g)	Estimated Stored Am-241 (uCi)	Percent of Total
c1	0-max	channel	897	0.5	0.2-0.8	449	50	0.5	1.25	Bin 1	0.18	0.06-0.32	50	2%
c1b	0-max	channel	62	0.5	0.2-0.8	31	50	0.5	1.25	assumed Bin 1	0.18		3	0%
c2	upper	overbank	651	0.4	± 0.12	260	5	0.95	1.25	Bin 4	0.92	0.37-1.82	284	12%
c2	lower	channel	651	0.5	0.2-0.8	326	50	0.5	1.25	Bin 2	0.54	0.26-0.88	110	5%
c3	upper	overbank	838	0.55	± 0.09	461	5	0.95	1.25	Bin 5	3	0.11-11.8	1642	71%
c3	lower	channel	838	0.5	0.2-0.8	419	50	0.5	1.25	Bin 3	0.5	0.06-0.88	131	6%
f1	upper	overbank	362	0.42	± 0.22	152	5	0.95	1.25	Bin 6	0.55	0-2.25	99	4%
f2	upper	overbank?	1015	0.01	0-0.05	10	5	0.95	1.25	Bin 7	0.01	0-0.03	0	0%
												Total (uCi)	**2321**	**100%**
											Est. Inventory (mCi/km)		**5.0**	

Unit	Section	Facies	Area (m2)	Estimated Average Thickness (m)	Estimated Thickness Range (m)	Estimated Volume (m3)	Est. Gravel (%)	Est. Portion Non-gravel	Density (g/cm3)	notes on concentrations	Estimated Average Pu-239 (pCi/g)	Measured Range Pu-239 (pCi/g)	Estimated Stored Pu-239 (uCi)	Percent of Total

LA-3 inventory 9/97

c1	0-max	channel	897	0.5	0.2-0.8	449	50	0.5	1.25	Bin 1	0.08	0.08		22	1%	
c1b	0-max	channel	62	0.5	0.2-0.8	31	50	0.5	1.25	assumed Bin 1	0.08			2	0%	
c2	upper	overbank	651	0.4	± 0.12	260	5	0.95	1.25	Bin 4	0.47	0.18-0.86		145	10%	
c2	lower	channel	651	0.5	0.2-0.8	326	50	0.5	1.25	Bin 2	0.42	0.42		85	6%	
c3	upper	overbank	838	0.55	± 0.09	461	5	0.95	1.25	Bin 5	1.8	0.54-3.18		985	66%	
c3	lower	channel	838	0.5	0.2-0.8	419	50	0.5	1.25	Bin 3	0.66	0.47-1.2		173	12%	
f1	upper	overbank	362	0.42	± 0.22	152	5	0.95	1.25	assumed Bin 4	0.47			85	6%	
f2	upper	overbank?	1015	0.01	0-0.05	10	5	0.95	1.25	Bin 7	0.16	0.07-0.26		2	0%	
													Total (uCi)	1500	100%	
											Est. Inventory (mCi/km)			3.3		
				Estimated	Estimated						Estimated	Measured		Estimated		
				Average	Thickness	Estimated	Est.	Est.			Average	Range		Stored	Percent	
			Area	Thickness	Range	Volume	Gravel	Portion	Density	notes on	Sr-90	Sr-90		Sr-90	of	
Unit	Section	Facies	(m2)	(m)	(m)	(m3)	(%)	Non-gravel	(g/cm3)	concentrations	(pCi/g)	(pCi/g)		(uCi)	Total	
c1	0-max	channel	897	0.5	0.2-0.8	449	50	0.5	1.25	Bin 1	0	0		0	0%	
c1b	0-max	channel	62	0.5	0.2-0.8	31	50	0.5	1.25	assumed Bin 1	0			0	0%	
c2	upper	overbank	651	0.4	± 0.12	260	5	0.95	1.25	Bin 4	2	0.19-7.03		618	31%	
c2	lower	channel	651	0.5	0.2-0.8	326	50	0.5	1.25	Bin 2	0.12	0.12		24	1%	
c8	upper	overbank	838	0.55	± 0.09	461	5	0.95	1.25	Bin 5	1.7	0.62-3.73		930	47%	
c3	lower	channel	838	0.5	0.2-0.8	419	50	0.5	1.25	Bin 3	0.17	0-0.31		45	2%	
f1	upper	overbank	362	0.42	± 0.22	152	5	0.95	1.25	assumed Bin 1	2			361	18%	
f2	upper	overbank?	1015	0.01	0-0.05	10	5	0.95	1.25	assumed Bin 4	0			0	0%	
													Total (uCi)	1979	100%	
											Est. Inventory (mCi/km)			4.3		

equations: Inventory (uCi) = concentration (pCi/g) * density (g/cm3) * portion non-gravel * volume (m3)

Estimated thickness range shown as 1-sigma of field measurements, where available

Reach = ~460 m in length, measured along channel.