UNCLASSIFIED

Los Alamos National Laboratory

Outgoing Facsimile Transmittal

EES-1
Geology/Geochemistry
P. O. Box 1663, MS D462
Los Alamos, NM 87545

Telecopier Number
505-665-3285

Confirmation Number
505-667-7590

TO: Kim Hill

FAX: 827-1544

FROM: Steven Reneau

RE: P-4 spreadsheets

Number of pages including cover sheet: 4 **Date:** 7/2/97

This Message Contains Unclassified Information Only

Operator's Signature _____

UNCLASSIFIED

6904

Sample ID	Location ID	Depth (cm)	Depth (cm)	Pu-239	Pu-239,240	Am-241 Cs-137	Wt. metals	NH4HCO3 split	Geomorphic Unit	Sediment Type	Reported Sample No.	Assigned Sample Pu	Notes
P-4 Sampling Event, May 13-14, 1997, (Pu-source?)													
P-4 East (5/14/97, 24 sample jar-crack, plus 1 FU 4 dup#(pu-)													
04PU-97-0036	PU-0095	0-4	0-10	0.08	0.98				c1	overbank	4	3	[illegible]
04PU-97-0037	PU-0096	6-14	15-36	0.03	3.18				c1	channel	1	4	[illegible]
04PU-97-0042	PU-0099	5-10	12-25	0.08	3.33				c3	overbank	4	4	[illegible]
04PU-97-0043	PU-0063	30-37	50-91	0.1	0.93				c3, deep	channel	1 or 2	3	[illegible]
04PU-97-0044	PU-0083	43-53	110-135	0.13	4.42				c3, deep	channel	1, 2, 3, or 4?	2	[illegible]
04PU-97-0045	PU-0083	43-53	110-135	0.06	4.54				c3, deep	channel	1, 2, 3, or 4?	2	[illegible]
04PU-97-0046	PU-0085	59-79	150-200	0.05	1.39				c3, deep	channel	6	3	[illegible]
04PU-97-0050	PU-0105	0-7	0-5	0	0.12				c3, upper	channel	1	1	[illegible]
04PU-97-0038	PU-0097	14-16	30-40	0.15	9.24				f1	overbank	4	4	[illegible]
04PU-97-0039	PU-0097	36-38	80-85	0.22	18.05				f1	overbank	4	4	[illegible]
04PU-97-0040	PU-0098	0-2	0-5	0.27	8.53				f1	overbank	4	4	[illegible]
04PU-97-0041	PU-0094	10-17	22-55	0.12	0.12				f1	channel	1	1	[illegible]
04PU-97-0047	PU-0100	0-3	0-8	0.03	6.73				f1	overbank	4	4	[illegible]
04PU-97-0048	PU-0101	6-13	10-38	0.06	7.04				f1	overbank	4	4	[illegible]
04PU-97-0049	PU-0102	0-3	0-8	0.06	5.72				f1	overbank	4	4	[illegible]
P-4 West (5/13/97, 29 sample intervals, plus 2 FU 4 duplicates, plus 2 NH4HCO3 1-OZ-CUP sample splits)													
04PU-97-0021	PU-0089	0-2	0-5	0.03	0.17				c1	channel	1	1	[illegible]
04PU-97-0027	PU-0063	0-12	0-30	0.02	1.2			x	c4b, upper	channel	1	1	[illegible]
04PU-97-0028	PU-0083	30-43	50-110	0.09	3.36				c4b, deep	channel	1 or 2	1	[illegible]
04PU-97-0029	PU-0083	31-47	130-170	0	1.14				c4b, deep	channel	6	3	[illegible]
04PU-97-0016	PU-0087	0-3	0-8	0.02	7.32				c4b	overbank	4 or 5	4	[illegible]
04PU-97-0017	PU-0087	9-12	15-30	0	3.18				c4b, upper	channel	2	2	[illegible]
04PU-97-0018	PU-0088	16-31	40-80	0	2.94				c4b, deep	channel	2, 2-, or 3	2	[illegible]
04PU-97-0019	PU-0088	33-51	90-130	0.02	2.41				c4b, deep	channel	2, 2-, or 3	2	[illegible]
04PU-97-0020	PU-0088	51-71	140-180	0.07	3.13				c4b, deep	channel	6	27	[illegible]
04PU-97-0022	PU-0090	0-3	0-8	0.08	7.71				c5	overbank	5	4	[illegible]
04PU-97-0023	PU-0090	4-13	10-33	0.17	4.84				c5, upper	channel	3	3	[illegible]
04PU-97-0024	PU-0091	10-15	25-38	0.08	8.86				c5, deep	overbank	5	5	[illegible]
04PU-97-0025	PU-0091	16-27	41-68	0.06	6.01				c5, deep	channel	2, 2-, or 3	2	[illegible]
04PU-97-0026	PU-0091	27-37	68-97	0.07	12.02				c5, deep	overbank	5?	5	[illegible]
04PU-97-0027	PU-0081	34-46	86-112	0.01	0.23				c5, deep	channel	2, 2-, or 3	2	[illegible]
04PU-97-0028	PU-0081	48-57	122-145	0.1	3.41				c5, deep	overbank	5 or 6?	7	[illegible]
04PU-97-0029	PU-0081	48-57	122-145	0	3.54				c5, deep	overbank	5 or 6?	7	[illegible]
04PU-97-0030	PU-0081	58-70	147-178	0.08	2.59				c5, deep	channel	6	37	[illegible]
04PU-97-0031	PU-0045	0-1	0-30	0.1	11.47	x	x	x	c6	overbank	5	5	[illegible]
04PU-97-0011	PU-0085	0-6	0-15	0.08	10.58				c6	overbank	5	5	[illegible]
04PU-97-0012	PU-0085	10-16	25-40	0.08	0.29				c6	channel	3	3	[illegible]
04PU-97-0031	PU-0092	0-1	0-3	0.1	8.52				c6	overbank	5	5	[illegible]
04PU-97-0032	PU-0092	6-10	15-41	0.01	0.25				c6	channel	3	3	[illegible]
04PU-97-0033	PU-0095	6-10	15-25	0.02	170.5				c6	overbank	5	5	[illegible]
04PU-97-0010	PU-0064	0-5	0-13	0.08	4.92				f1	overbank	4 or 5	4	[illegible]
04PU-97-0013	PU-0086	0-3	0-8	0	5.45				f1	overbank	4 or 5	4	[illegible]
04PU-97-0014	PU-0086	0-3	0-8	0.08	6.37				f1	overbank	4 or 5	4	[illegible]
04PU-97-0015	PU-0086	7-11	18-28	0.13	5.48				f1	overbank	4 or 5	4	[illegible]
04PU-97-0008	PU-0082	0-6	0-15	0	0.1				f1a	overbank	5 or 6?	7	[illegible]
04PU-97-0034	PU-0084	0-4	0-10	0.1	0.11				f1a	overbank	5 or 6?	7	[illegible]
04PU-97-0035	PU-0084	6-11	20-28	0	0.1				f1a	overbank	5 or 6?	7	[illegible]

Notes: sample type, and date on Pu-239,240 for each P-4 West 1st and 2nd sampling events

Site 1 = channel sands from ~1965 to 1990s (channel finish of units c1, c2, c3, c4a, c4b, c5, c6; Pu-239,240 = 0.1-3.4 pCi/g)

Site 2 = channel sands from mid-to-late 1990s to ~1995 (channel the top of units c4b, c5; Pu-239,240 = 1.7-10 pCi/g)

Site 3 = channel sands from ~1935 to pre-late 1950s (channel the top of unit c6; Pu-239,240 = 0.2-2.5 pCi/g)

Site 4 = floodplain sands, silty floodplain, and loams from ~1965 to 1990s (overbank/floodplain the top of units c1 to c6 (or to c5?) and possibly related unit f1; Pu-239,240 = 1.4-13 or ~7.4 pCi/g)

Site 5 = floodplain sands, silty floodplain, and loams of unit f1 and (overbank/floodplain the top of units c3 and c5 (2 c6?) and possibly related unit f1; Pu-239,240 = 2.4-26 pCi/g)

Site 6 = pre-1945 deposits (top of unit f1 and parts of unit f1 with sediment or pre-pre-1945 deposits; Pu-239,240 = 0.06-0.28 pCi/g)

Site 7 = f1a area on north side of P-4 West, where sediment from south canyon wall mixes with or is contained in Pueblo Canyon sediment

8/20/97

TC

Bench P-4 Pu Data, With Summary of Particle Size Data.
Samples blend into age and particle size groups

Location ID	Sample ID No	Request No	Sampling Event	Area	Comparable Unit	Sample Depth (ft)	Lab Texture	Gravel	Coarse Med Sand	Fine Sand	Silt	Clay	Pu-239 (pCi/g)	Pu-239 (µCi/g)	Assigned Sample Bin	Average Pu 239,240	Standard Deviation	% of mean
PU-0089	04PU-97-0071	3156	3	P-4 West	c1	0-2							0.01	0.17	1			
PU-0095	04PU-97-0036	3139	3	P-4 East	c1	0-4							0.08	0.07	1			
PU-0052	04PU-96-0227	2829	2	P-4 East	c1b	0-1.5	s	2.2	83.5	12.7	1.7	2.0	BDL	0.1	1			
PU-0054	04PU-96-0027	1938	1	P-4 East	c1b	0-2.5	s	0	92.42	6.6	0.78	0.2	0.003	0.209	1			
PU-0033	04PU-96-0026	1938	1	P-4 East	c5	10-14	s	3.5	88.81	11.12	0.07	0	0.005	1.04	1			
PU-0035	04PU-96-0028	1938	1	P-4 East	c3	0-2	s	1.6	84.96	12.7	1.94	0.4	0.002	0.179	1			
PU-0063	04PU-96-0228	2829	2	P-4 East	c5	0-2	s	12.1	81.5	12.2	3.6	2.4	BDL	2.3	1			
PU-0033	04PU-97-0043	3156	3	P-4 East	c3	20-37							0.1	0.01	1			
PU-0102	04PU-97-0050	3156	3	P-4 East	c3	0-2							0	0.12	1			
PU-0048	04PU-96-0236	2829	2	P-4 West	c4a	0-4	s	5.6	78.8	14.2	4.5	2.5	BDL	0.8	1			
PU-0095	04PU-96-0237	2829	2	P-4 West	c4a	0-3	s	0.7	96.8	33	7.8	2.5	0.027	3.1	1			
PU-0083	04PU-97-0007	3156	3	P-4 West	c4a	0-12							0.02	7.1	1			
PU-0083	04PU-97-0008	3156	3	P-4 West	c4a	20-43							0.02	1.93	1			
PU-0098	04PU-97-0041	3156	3	P-4 East	f1	10-17							0.12	0.12	1			
					Average			6.4	83.5	11.4	2.9	1.8	0.04	1.19		1.1	0.7	64%
PU-0033	0044 + 0045	3156	3	P-4 East	c3	43-53							0.095	2.0	2			
PU-0049	04PU-96-0239	2829	2	P-4 West	c4b	7-15	s	17.6	88.4	8.2	1.3	2.5	0.079	1.8	2			
PU-0047	04PU-96-0235	2829	2	P-4 West	c4b	5-14	s	3.4	90.8	5.1	1.3	2.4	0.063	1.8	2			
PU-0087	04PU-97-0017	3156	3	P-4 West	c4b	6-12							0	3.38	2			
PU-0088	04PU-97-0018	3156	3	P-4 West	c4b	16-31							0	2.04	2			
PU-0088	04PU-97-0019	3156	3	P-4 West	c4b	35-51							0.02	2.47	2			
PU-0088	04PU-97-0020	3156	3	P-4 West	c4b	55-71							0.07	3.30	27			
PU-0099	04PU-96-0032	1938	1	P-4 West	c5	0-3	s	4.5	87.17	10.41	2.01	0.4	0.021	4.75	2			
PU-0046	04PU-96-0233	2829	2	P-4 West	c5	0-3	s	3.2	79.8	12.2	4.9	3.2	0.064	[illegible]	2			
PU-0090	04PU-97-0023	3139	3	P-4 West	c5	4-13							0.17	4.46	2			
PU-0091	04PU-97-0025	3156	3	P-4 West	c5	34-25							0.05	6.92	2			
					Average			2.7	86.8	8.8	2.1	2.1	0.06	3.74		5.8	3.9	67%
PU-0033	04PU-97-0046	3156	3	P-4 East	c3	56-79							0.02	1.59	3			
PU-0083	04PU-97-0009	3156	3	P-4 West	c4a	31-47							0	1.59	3			
PU-0091	04PU-97-0027	3156	3	P-4 West	c5	34-44							0.02	0.23	3			
PU-0091	04PU-97-0029	3156	3	P-4 West	c5	59-70							0.03	3.59	27			
PU-0045	04PU-96-0232	2829	2	P-4 West	c6	10-18	s	1.6	84.8	9.6	2.4	3.2	BDL	0.3	3			
PU-0051	04PU-96-0240	2829	2	P-4 West	c6	16-30	s	12.6	97.1	4.8	1.6	2.4	BDL	0.12	3			
PU-0085	04PU-97-0012	3156	3	P-4 West	c6	10-16							0.01	0.29	3			
PU-0093	04PU-97-0032	3156	3	P-4 West	c6	6-16							0.01	0.35	3			
					Average			6.1	88.8	7.2	2.0	2.8	0.02	1.18		1.1	1.1	92%
PU-0094	04PU-97-0037	3156	3	P-4 East	c1	6-14							0.03	3.18	4			
PU-0032	04PU-96-0025	1938	1	P-4 East	c3	28-35	b	6.5	34.75	39.46	18.59	3.2	0.005	1.49	4			
PU-0099	04PU-97-0042	3156	3	P-4 East	c3	5-10							0.08	2.53	4			
PU-0047	04PU-96-0234	2829	2	P-4 West	c4b	0-4.5	d	4.9	30.2	47	13.7	4.4	0.045	3.9	4			
PU-0049	04PU-96-0238	2829	2	P-4 West	c4b	0-7	b	5.7	49.1	26.2	20.2	4.5	0.045	3.4	4			
PU-0087	04PU-97-0016	3156	3	P-4 West	c4b	0-3							0.02	7.22	4			
PU-0057	04PU-96-0030	1938	1	P-4 West	c5	0-1.5	d	0.2	34.52	37.64	40.84	7	0.058	4.33	4			
PU-0090	04PU-97-0022	3156	3	P-4 West	c5	0-3							0.08	3.71	4			
PU-0097	04PU-97-0038	3156	3	P-4 East	f1	12-16							0.15	9.84	4			
PU-0097	04PU-97-0039	3156	3	P-4 East	f1	16-18							0.72	18.85	4			
PU-0098	04PU-97-0040	3156	3	P-4 East	f1	10-17							0.27	8.15	4			
PU-0100	04PU-97-0047	3156	3	P-4 East	f1	0-3							0.03	4.73	4			
PU-0101	04PU-97-0048	3156	3	P-4 East	f1	4-15							0.04	7.84	4			
PU-0102	04PU-97-0049	3156	3	P-4 East	f1	0-3							0.08	5.23	4			
PU-0036	04PU-96-0029	1938	1	P-4 East	f1	0-2	d	3.2	11.62	33.44	49.84	5.1	0.038	1.81	4			
PU-0038	04PU-96-0031	1938	1	P-4 West	f1	0-2.5	b	3.8	47.41	32.77	17.42	2.2	0.01	1.82	4			
PU-0084	04PU-97-0010	3156	3	P-4 West	f1	0-5							0.08	4.97	4			
PU-0086	0013 + 0014	3156	3	P-4 West	f1	0-5							0.04	3.91	4			
PU-0084	04PU-97-0015	3156	3	P-4 West	f1	7-11							0.12	3.69	4			
					Average			3.6	36.3	31.6	28.9	4.7	0.07	4.18		4.2	3.6	99%
PU-0091	04PU-97-0024	3156	3	P-4 West	c5	10-15							0.08	1.84	5			
PU-0091	04PU-97-0026	3156	3	P-4 West	c5	25-27							0.07	12.82	5			
PU-0054	04PU-96-0033	1938	1	P-4 West	c6	0-5	l	3.5	20.88	27.37	44.44	7.3	0.075	11.3	5			
PU-0045	0031 + 0035	3156	2 + 3	P-4 West	c6	0-8	d	5.8	41.9	29.1	23.4	5.5	0.115	28.3	5			
PU-0085	04PU-97-0011	3156	3	P-4 West	c6	0-6							0.08	10.58	5			
PU-0092	04PU-97-0031	3156	3	P-4 West	c6	0-3							0.1	8.58	5			
PU-0093	04PU-97-0033	3156	3	P-4 West	c6	6-10							0.62	170.5	5			
					Average			4.7	31.4	28.3	33.9	6.4	0.16	38.83		35.8	59.8	167%
PU-0041	04PU-96-0225	2829	2	P-4 East	f1	0-2.5	d	14.7	31.3	33.7	30.1	4.9	BDL	0.28	6			
PU-0041	04PU-96-0224	2829	2	P-4 East	f1	13-17	b	9.2	39.9	32	14.5	3.6	0.014	0.056	6			
PU-0042	04PU-96-0223	2829	2	P-4 East	f2	0-3	d	3.4	40.7	29.1	23.8	5.2	0.032	0.19	6			
PU-0042	04PU-96-0226	2829	2	P-4 East	f2	11-16	s	8.7	85.4	9.2	2.9	2.5	BDL	0.004	6			
PU-0054	04PU-96-0229	2829	2	P-4 East	f2	0-3	d	3.2	35	34.9	25.5	4.4	BDL	0.18	6			
PU-0044	04PU-96-0230	2829	2	P-4 East	f2	0-2	b	4.6	62.7	18.5	15.5	3.4	0.035	0.089	6			
					Average			7.3	43.8	24.4	19.8	3.9	0.02	0.12		0.1	0.1	98%
PU-0082	04PU-97-0006	3156	3	P-4 West	f1a	0-4							0	0.5	7			
PU-0094	04PU-97-0034	3156	3	P-4 West	f1a	0-4							0.1	0.55	7			
PU-0094	04PU-97-0035	3156	3	P-4 West	f1a	8-11							0	0.1	7			
					Average								0.03	0.39		0.4	0.2	64%
PU-0091	0028 + 0029	3156	3	P-4 West	c5	48-57							0.05	3.445	7	3.445	0.4	10%

Note on Pu concentrations: Where duplicates obtained from same layer, average value shown
Note on Particle Size Data: percentages of gravel, silt, and clay fractions based on <2 mm fraction.
Notes on Lab Texture: l = loam, b = loamy sand, s = sandy loam.
BDL = Below Detection Limit

Bin 1 = channel sands from ~1965 to 1990s (channel facies of units c1b, c2a, c2b, c2c, c3, c4a)
Bin 2 = channel sands from mid-to-late 1950s to ~1965 (channel facies of units c4b, c5)
Bin 3 = channel sands from ~1935 to pre-late 1950s (channel facies of unit c6)
Bin 4 = loamy sands, sandy loams, and loams presumed to be from ~1965 to 1990s (overbank/floodplain facies of units c1 to c4b, f1, modern surface (age of c5))
Bin 5 = loamy sands, sandy loams, and loams of uncertain age (overbank/floodplain facies of unit c6 and buried within unit c5)
Bin 6 = pre-1943 deposits (deposits of unit f2 and parts of unit f1 with minimal or no post-1943 deposition)
Bin 7 = f1a area on south side of P-4 West, where sediment from south canyon will mix (or will have mixed) with post-late Pueblo/Cerro erosion

6/20/97

Estimated Pu-239,240 Inventory, Reach P-4
(note: 6/28/97 estimate, modified from 6/29/97 version based on results from 3rd sampling round)

Unit	Location	Facies	Area (ft2)	Area (m2)	Estimated Average Thickness (m)	Estimated Thickness Range (m)	Estimated Volume (m3)	Est. Gravel (%)	Est. Porosity Non-gravel	Estimated Average Density (g/cm3)		notes on concentrations	Estimated Average Pu-239,240 (pCi/g)	Estimated Pu-239,240 Inventory (uCi)	Percent of Total in sub-reach	Percent in Big in sub-reach	Percent in Big in sub-reach in P-4 east-west		bin	Estimated Pu-239,240 Inventory in bin, E+W (uCi)	Percent in bin in P-4 east-west
c1	P-4 west	channel	19925	1852	0.45	0.1-1.0	834	15	0.85	1.25		bin 1	1.1	974	1%				bin 1	44506	16%
c1b	P-4 west	channel	17786	1653	0.45	0.1-1.0	744	5	0.95	1.25		bin 1	1.1	972	1%				bin 2	95786	35%
c2a	P-4 west	channel	2952	274	0.45	0.1-1.0	123	15	0.85	1.25		bin 1	1.1	144	0%				bin 3	32787	12%
c2b	P-4 west	channel	28753	2673	0.45	0.1-1.0	1203	15	0.85	1.25		bin 1	1.1	1406	1%				bin 4	54501	20%
c2c	P-4 west	channel	34172	3176	0.45	0.1-1.0	1429	15	0.85	1.25		bin 1	1.1	1671	1%				bin 5	43832	16%
c3	P-4 west	channel	2968	276	0.45	0.1-1.0	124	15	0.85	1.25		bin 1	1.1	145	0%				bin 7	418	0%
c4a	P-4 west	channel	86758	8064	1.1	7	9871	5	0.95	1.25		bin 1	1.1	11587	7%	9%	6%		total	271832	100%
c4a	P-4 west	channel	86758	8064	0.2	7	1613	5	0.95	1.25		bin 2	5.8	11108	6%						
c4b	P-4 west	channel	40783	3791	1.2	7	4549	5	0.95	1.25		bin 2	5.8	31331	18%						
c5	P-4 west	channel	46213	4296	1.2	7	5155	5	0.95	1.25		bin 2	5.8	35503	20%	44%	29%				
c4a	P-4 west	channel	86758	8064	0.7	7	5645	5	0.95	1.25		bin 3	1.1	7374	4%						
c4b	P-4 west	channel	40783	3791	0.8	7	3035	5	0.95	1.25		bin 3	1.1	3961	2%						
c5	P-4 west	channel	46213	4296	0.8	7	3436	5	0.95	1.25		bin 3	1.1	4489	3%						
c6	P-4 west	channel	52689	4897	0.8	0-2	3918	5	0.95	1.25		bin 3	1.1	5118	3%	3%	2%				
c1	P-4 west	overbank	19928	1852	0.05	0-0.2	93	0	1	1.25		bin 4	6.2	718	0%						
c1b	P-4 west	overbank	17786	1653	0.05	0-0.2	83	0	1	1.25		bin 4	6.2	641	0%						
c2a	P-4 west	overbank	2952	274	0.05	0-0.2	14	0	1	1.25		bin 4	6.2	106	0%						
c2b	P-4 west	overbank	28753	2673	0.05	0-0.2	134	0	1	1.25		bin 4	6.2	1036	1%						
c2c	P-4 west	overbank	34172	3176	0.05	0-0.2	159	0	1	1.25		bin 4	6.2	1231	1%						
c3	P-4 west	overbank	2968	276	0.05	0-0.2	14	0	1	1.25		bin 4	6.2	107	0%						
c4a	P-4 west	overbank	86758	8064	0.05	0-0.2	403	0	1	1.25		bin 4	6.2	3125	2%						
c4b	P-4 west	overbank	40783	3791	0.1	0-0.3	379	0	1	1.25		bin 4	6.2	2938	2%						
c5	P-4 west	overbank	46213	4296	0.1	0-0.3	430	0	1	1.25		bin 4	6.2	3329	2%						
f1	P-4 west	overbank	138370	12862	0.05	0-0.4	643	3	0.97	1.25		bin 4	6.2	4834	3%	10%	7%				
c6	P-4 west	overbank	52689	4897	0.2	0-0.5	979	0	1	1.25		bin 5	35.8	43832	25%	25%	18%				
f1a	P-4 west	overbank	61797	5744	0.15	0-0.3	862	3	0.97	1.25		bin 7	0.4	418	0%	0%	0%				
	Total						44847					Total		178897	100%						
c1	P-4 east	channel	108750	10108	0.45	0.1-1.0	4549	15	0.85	1.25		bin 1	1.1	5316	6%						
c1b	P-4 east	channel	43966	4087	0.45	0.1-1.0	1839	5	0.95	1.25		bin 1	1.1	2402	3%						
c2a	P-4 east	channel	7589	705	0.45	0.1-1.0	317	15	0.85	1.25		bin 1	1.1	371	0%						
c2b	P-4 east	channel	3393	315	0.45	0.1-1.0	142	15	0.85	1.25		bin 1	1.1	166	0%						
c2c	P-4 east	channel	3692	343	0.45	0.1-1.0	154	15	0.85	1.25		bin 1	1.1	180	0%						
c3	P-4 east	channel	139365	12954	1	7	12954	5	0.95	1.25		bin 1	1.1	16921	18%						
f1	P-4 east	channel	363331	33772	0.05	0-0.4	1689	3	0.97	1.25		bin 1	1.1	2252	2%	29%	10%				
c3	P-4 east	channel	139365	12954	0.2	7	2591	5	0.95	1.25		bin 2	5.8	17844	19%	19%	7%				
c3	P-4 east	channel	139365	12954	0.7	7	9068	5	0.95	1.25		bin 3	1.1	11845	13%	13%	12%				
c1	P-4 east	overbank	108750	10108	0.05	0-0.2	505	0	1	1.25		bin 4	6.2	3917	4%						
c1b	P-4 east	overbank	43966	4087	0.05	0-0.2	204	0	1	1.25		bin 4	6.2	1584	2%						
c2a	P-4 east	overbank	7589	705	0.05	0-0.2	35	0	1	1.25		bin 4	6.2	273	0%						
c2b	P-4 east	overbank	3393	315	0.05	0-0.2	16	0	1	1.25		bin 4	6.2	122	0%						
c2c	P-4 east	overbank	3692	343	0.05	0-0.2	17	0	1	1.25		bin 4	6.2	133	0%						
c3	P-4 east	overbank	139365	12954	0.05	0-0.2	648	0	1	1.25		bin 4	6.2	5020	5%						
f1	P-4 east	overbank	363331	33772	0.1	0-0.45	3377	3	0.97	1.25		bin 4	6.2	25388	27%	39%	13%				
	Total						38186					Total		92735	100%						

equations:
inventory (uCi) = concentration (pCi/g) * density (g/cm3) * porosity non-gravel * volume (m3)
inventory per unit length (uCi/m) = inventory (uCi) / length of unit (m)