

Paragon Analytics Raw Sample Data

FieldID	DateCollected	QCTyp	SDG Number	IndTestName	ReportUnits	FinalResult	TPU	Flag	MDC
AJ01-111	1/12/2009	SMP	0901081	Th-234	pCi/g	2.31	0.82	M3	1.32
AJ01-112	1/12/2009	SMP	0901081	Th-234	pCi/g	1.42	0.8	M3,TI	1.23
AJ01-214	1/12/2009	SMP	0901081	Th-234	pCi/g	2.4	1	M3,TI	1.5
FP01-111	12/22/2008	SMP	0812261	Th-234	pCi/g	1.57	0.75	M3,TI	1.13
FP01-114	12/22/2008	SMP	0812261	Th-234	pCi/g	1.13	0.68	M3,TI	1.04
FP02-111	12/28/2008	SMP	0812261	Th-234	pCi/g	1.09	0.52	TI	0.77
FP02-214	12/28/2008	SMP	0812261	Th-234	pCi/g	2.08	0.7	TI	0.98
FP03-111	12/31/2008	DUP	0901016	Th-234	pCi/g	1.61	0.61	TI	0.89
FP03-111	12/31/2008	SMP	0901016	Th-234	pCi/g	1.25	0.56	TI	0.85
FP03-214	12/31/2008	SMP	0901016	Th-234	pCi/g	1.94	0.71	M3,TI	1.04
FP04-111	12/29/2008	SMP	0812261	Th-234	pCi/g	1.74	0.72	M3,TI	1.06
FP04-214	12/29/2008	SMP	0812261	Th-234	pCi/g	1.28	0.68	M3,TI	1.07
FP05-111	12/30/2008	SMP	0901016	Th-234	pCi/g	0.35	0.33	U	0.54
FP05-212	12/30/2008	DUP	0901016	Th-234	pCi/g	1.38	0.58	TI	0.85
FP05-212	12/30/2008	SMP	0901016	Th-234	pCi/g	1.11	0.69	M3,TI	1.08
FP06-111	1/1/2009	SMP	0901016	Th-234	pCi/g	1.22	0.63	TI	0.96
FP06-214	1/1/2009	SMP	0901016	Th-234	pCi/g	1.09	0.56	TI	0.84
FP07-111	1/1/2009	SMP	0901016	Th-234	pCi/g	1.07	0.55	TI	0.84
FP07-214	1/1/2009	SMP	0901016	Th-234	pCi/g	0.38	0.4	U	0.66
FP08-111	1/1/2009	DUP	0901081	Th-234	pCi/g	0.83	0.53	LT,TI	0.82
FP08-111	1/1/2009	SMP	0901081	Th-234	pCi/g	0.84	0.59	U	0.92
FP08-214	1/1/2009	SMP	0901081	Th-234	pCi/g	1.29	0.62	TI	0.94
FP09-111	1/9/2009	SMP	0901081	Th-234	pCi/g	4.1	1	M3	1.3
FP09-214	1/9/2009	SMP	0901081	Th-234	pCi/g	0.11	0.55	U	0.93
SP01-111	6/18/2008	DUP	0806223	Th-234	pCi/g	0.83	0.52	TI,LT,G	0.82
SP01-111	6/18/2008	SMP	0806223	Th-234	pCi/g	0.49	0.53	U,G	0.86
SP01-220	6/18/2008	SMP	0806223	Th-234	pCi/g	0.48	0.38	U,G	0.86
SP02-111	6/26/2008	SMP	0806223	Th-234	pCi/g	0.64	0.39	U,G	0.81
SP02-115	6/26/2008	SMP	0806223	Th-234	pCi/g	0.93	0.38	LT,G	0.66
SP02-220	6/26/2008	SMP	0806223	Th-234	pCi/g	0.54	0.4	U,G	0.84
SP03-111	7/7/2008	DUP	0807103	Th-234	pCi/g	0.84	0.61	U,G	0.97
SP03-111	7/7/2008	SMP	0807103	Th-234	pCi/g	0.76	0.38	LT,G	0.74
SP03-220	7/7/2008	SMP	0807103	Th-234	pCi/g	0.77	0.41	U	0.8
SP04-111	7/10/2008	SMP	0807103	Th-234	pCi/g	0.51	0.36	U,G	0.79
SP04-114	7/10/2008	SMP	0807103	Th-234	pCi/g	0.66	0.52	U,G	0.83
SP04-220	7/10/2008	SMP	0807103	Th-234	pCi/g	0.55	0.4	U,G	0.91
SP05-111	7/16/2008	DUP	0807188	Th-234	pCi/g	0.91	0.42	LT,G	0.9
SP05-111	7/16/2008	SMP	0807188	Th-234	pCi/g	0.57	0.31	U,G	0.64

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FieldID	DateCollected	QCTyp	SDG Number	IndTestName	ReportUnits	FinalResult	TPU	Flag	MDC
SP05-220	7/16/2008	SMP	0807188	Th-234	pCi/g	0.78	0.59	U,G	0.93
SP06-111	7/16/2008	SMP	0807188	Th-234	pCi/g	0.99	0.6	TI,LT,G	0.93
SP06-113	7/16/2008	SMP	0807188	Th-234	pCi/g	0.49	0.35	U,G	0.67
SP06-220	7/16/2008	SMP	0807188	Th-234	pCi/g	0.99	0.43	TI,LT,G	0.9
SP07-111	7/22/2008	DUP	0807239	Th-234	pCi/g	1.12	0.43	G	0.8
SP07-111	7/22/2008	SMP	0807239	Th-234	pCi/g	0.69	0.36	U,G	0.77
SP07-220	7/22/2008	SMP	0807239	Th-234	pCi/g	0.84	0.36	LT,G	0.66
SP08-111	7/24/2008	SMP	0807239	Th-234	pCi/g	0.38	0.46	U	0.75
SP08-112	7/24/2008	SMP	0807239	Th-234	pCi/g	0.74	0.61	U,G	0.98
SP08-220	7/24/2008	SMP	0807239	Th-234	pCi/g	0.95	0.37	LT,G	0.74
SP09-111	7/29/2008	DUP	0808056	Th-234	pCi/g	1.13	0.4	G	0.75
SP09-111	7/29/2008	SMP	0808056	Th-234	pCi/g	0.63	0.56	U,G	0.89
SP09-220	7/29/2008	SMP	0808056	Th-234	pCi/g	0.84	0.54	TI,LT,G	0.84
SP10-111	8/4/2008	SMP	0808056	Th-234	pCi/g	0.66	0.54	U,G	0.86
SP10-115	8/4/2008	SMP	0808056	Th-234	pCi/g	0.69	0.34	LT,G	0.67
SP10-220	8/4/2008	SMP	0808056	Th-234	pCi/g	0.88	0.53	TI,LT,G	0.81
SP11-111	8/6/2008	DUP	0808128	Th-234	pCi/g	0.61	0.62	U,G	1
SP11-111	8/6/2008	SMP	0808128	Th-234	pCi/g	1.02	0.64	TI,G	1
SP11-220	8/6/2008	SMP	0808128	Th-234	pCi/g	0.92	0.54	TI,LT,G	0.81
SP12-111	8/8/2008	SMP	0808128	Th-234	pCi/g	0.44	0.38	U,G	0.75
SP12-115	8/8/2008	SMP	0808128	Th-234	pCi/g	0.67	0.39	U,G	0.79
SP12-220	8/8/2008	SMP	0808128	Th-234	pCi/g	0.79	0.61	U,G	0.96
SP13-111	8/12/2008	SMP	0808222	Th-234	pCi/g	1.02	0.58	G	0.89
SP13-220	8/12/2008	SMP	0808222	Th-234	pCi/g	0.38	0.43	U,G	0.7
SP14-109	8/13/2008	SMP	0808222	Th-234	pCi/g	0.53	0.48	U,G	0.78
SP14-111	8/13/2008	SMP	0808222	Th-234	pCi/g	0.87	0.41	LT,G	0.77
SP14-220	8/14/2008	SMP	0808222	Th-234	pCi/g	0.82	0.56	U,G	0.88
SP15-111	8/6/2008	DUP	0808222	Th-234	pCi/g	0.57	0.4	U,G	0.84
SP15-111	8/6/2008	SMP	0808222	Th-234	pCi/g	0.26	0.59	U,G	0.99
SP15-220	8/6/2008	SMP	0808222	Th-234	pCi/g	0.87	0.45	U,G	0.88
SP16-111	8/8/2008	SMP	0808222	Th-234	pCi/g	1.47	0.44	G	0.82
SP16-112	8/8/2008	SMP	0808222	Th-234	pCi/g	1.39	0.61	G,TI	0.88
SP16-220	8/8/2008	SMP	0808222	Th-234	pCi/g	0.7	0.39	U,G	0.86
SP17-111	8/21/2008	DUP	0809028	Th-234	pCi/g	0.79	0.45	U,G	0.92
SP17-111	8/21/2008	SMP	0809028	Th-234	pCi/g	1.01	0.49	G,TI	0.74
SP17-220	8/21/2008	SMP	0809028	Th-234	pCi/g	0.67	0.53	U,G	0.83
SP18-111	8/25/2008	SMP	0809028	Th-234	pCi/g	0.6	0.53	U,G	0.85
SP18-115	8/25/2008	SMP	0809028	Th-234	pCi/g	0.36	0.36	U,G	0.78

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FieldID	DateCollected	QCTyp	SDG Number	IndTestName	ReportUnits	FinalResult	TPU	Flag	MDC
SP18-220	8/25/2008	SMP	0809028	Th-234	pCi/g	0.75	0.46	U,G	0.93
SP19-111	8/27/2008	SMP	0809028	Th-234	pCi/g	1.44	0.69	M3,G,TI	1.03
SP19-220	8/27/2008	SMP	0809028	Th-234	pCi/g	0.99	0.51	LT,G,TI	0.77
SP20-108	9/3/2008	DUP	0809100	Th-234	pCi/g	0.56	0.38	U,G	0.63
SP20-108	9/3/2008	SMP	0809100	Th-234	pCi/g	0.6	0.43	U,G	0.82
SP20-111	9/3/2008	SMP	0809100	Th-234	pCi/g	0.56	0.37	U,G	0.72
SP20-220	9/3/2008	SMP	0809100	Th-234	pCi/g	2.45	0.81	M3,G	1.2
SP21-111	9/8/2008	SMP	0809100	Th-234	pCi/g	0.83	0.58	U,G	0.93
SP21-220	9/8/2008	SMP	0809100	Th-234	pCi/g	0.68	0.55	U,G	0.87
SP22-111	9/11/2008	DUP	0809176	Th-234	pCi/g	0.64	0.26	LT	0.51
SP22-111	9/11/2008	SMP	0809176	Th-234	pCi/g	0.34	0.46	U	0.75
SP22-220	9/11/2008	DUP	0809176	Th-234	pCi/g	0.33	0.26	U,G	0.39
SP22-220	9/11/2008	SMP	0809176	Th-234	pCi/g	0.39	0.53	U,G	0.88
SP23-111	9/17/2008	SMP	0809176	Th-234	pCi/g	0.89	0.36	LT,TI	0.55
SP23-115	9/17/2008	SMP	0809176	Th-234	pCi/g	0.67	0.47	U,G	0.97
SP23-220	9/17/2008	SMP	0809176	Th-234	pCi/g	0.37	0.5	U,G	0.83
SP24-111	9/22/2008	DUP	0809218	Th-234	pCi/g	0.35	0.47	U,G	0.78
SP24-111	9/22/2008	SMP	0809218	Th-234	pCi/g	0.56	0.53	U,G	0.86
SP24-220	9/22/2008	SMP	0809218	Th-234	pCi/g	0.85	0.5	U	0.9
SP25-108	9/23/2008	DUP	0809218	Th-234	pCi/g	0.89	0.25	LT	0.5
SP25-108	9/23/2008	SMP	0809218	Th-234	pCi/g	1.13	0.46	TI	0.71
SP25-111	9/23/2008	SMP	0809218	Th-234	pCi/g	1.03	0.54	TI	0.85
SP25-220	9/23/2008	SMP	0809218	Th-234	pCi/g	0.92	0.4	LT,G	0.73
SP26-111	9/25/2008	DUP	0810018	Th-234	pCi/g	0.47	0.37	U,G	0.81
SP26-111	9/25/2008	SMP	0810018	Th-234	pCi/g	0.64	0.53	U,G	0.85
SP26-220	9/25/2008	SMP	0810018	Th-234	pCi/g	2.05	0.57	G	0.95
SP27-108	9/30/2008	SMP	0810018	Th-234	pCi/g	0.52	0.38	U	0.76
SP27-111	9/30/2008	SMP	0810018	Th-234	pCi/g	0.39	0.33	U,G	0.71
SP27-220	9/30/2008	SMP	0810018	Th-234	pCi/g	0.44	0.28	U	0.47
SP28-111	10/1/2008	SMP	0810117	Th-234	pCi/g	28.6	3.6	M3,G	1.5
SP28-119	10/1/2008	DUP	0810117	Th-234	pCi/g	0.29	0.43	U,G	0.71
SP28-119	10/1/2008	SMP	0810117	Th-234	pCi/g	0.78	0.6	U,G	0.96
SP28-220	10/1/2008	SMP	0810117	Th-234	pCi/g	0.51	0.27	U,G	0.53
SP29-111	10/10/2008	SMP	0810117	Th-234	pCi/g	0.14	0.43	U,G	0.75
SP29-220	10/10/2008	SMP	0810117	Th-234	pCi/g	0.66	0.43	U,G	0.88
SP30-102	10/13/2008	SMP	0810200	Th-234	pCi/g	0.61	0.47	U	0.75
SP30-111	10/13/2008	SMP	0810200	Th-234	pCi/g	0.72	0.53	U	0.85
SP30-220	10/13/2008	DUP	0810200	Th-234	pCi/g	1.34	0.45	G	0.74

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FieldID	DateCollected	QCTyp	SDG Number	IndTestName	ReportUnits	FinalResult	TPU	Flag	MDC
SP30-220	10/13/2008	SMP	0810200	Th-234	pCi/g	1.47	0.68	G,TI	1
SP31-111	10/17/2008	SMP	0810200	Th-234	pCi/g	0.22	0.55	U,G	0.93
SP31-220	10/17/2008	SMP	0810200	Th-234	pCi/g	0.24	0.58	U	0.97
SP32-110	10/21/2008	SMP	0810267	Th-234	pCi/g	0.5	0.45	U,G	0.72
SP32-111	10/21/2008	DUP	0810267	Th-234	pCi/g	0.47	0.35	U,G	0.66
SP32-111	10/21/2008	SMP	0810267	Th-234	pCi/g	0.85	0.57	U,G	0.9
SP32-220	10/21/2008	SMP	0810267	Th-234	pCi/g	0.21	0.52	U,G	0.87
SP33-111	10/28/2008	SMP	0810267	Th-234	pCi/g	0.75	0.52	U,G	0.82
SP33-220	10/28/2008	SMP	0810267	Th-234	pCi/g	0.93	0.57	LT,G,TI	0.9
SP34-108	10/31/2008	SMP	0811036	Th-234	pCi/g	0.56	0.4	U	0.88
SP34-111	10/31/2008	DUP	0811036	Th-234	pCi/g	0.4	0.59	U	0.99
SP34-111	10/31/2008	SMP	0811036	Th-234	pCi/g	0.61	0.61	U	0.97
SP34-220	10/31/2008	SMP	0811036	Th-234	pCi/g	0.78	0.54	U,G	0.83
SP35-111	11/4/2008	SMP	0811036	Th-234	pCi/g	0.5	0.41	U,G	0.89
SP35-220	11/4/2008	SMP	0811036	Th-234	pCi/g	0.62	0.44	U,G	0.65
SP36-111	11/10/2008	DUP	0811138	Th-234	pCi/g	0.33	0.39	U	0.64
SP36-111	11/10/2008	SMP	0811138	Th-234	pCi/g	0.67	0.47	U	0.74
SP36-113	11/10/2008	SMP	0811138	Th-234	pCi/g	0.47	0.43	U	0.69
SP36-220	11/10/2008	SMP	0811138	Th-234	pCi/g	0.65	0.5	U	0.79
SP37-111	11/14/2008	SMP	0811138	Th-234	pCi/g	0.77	0.47	LT,TI	0.73
SP37-220	11/14/2008	SMP	0811138	Th-234	pCi/g	0.52	0.41	U	0.68
SP38-111	11/21/2008	SMP	0811213	Th-234	pCi/g	0.51	0.28	LT	0.45
SP38-113	11/21/2008	DUP	0811213	Th-234	pCi/g	0.52	0.29	LT,TI	0.45
SP38-113	11/21/2008	SMP	0811213	Th-234	pCi/g	0.4	0.39	U	0.62
SP38-220	11/21/2008	SMP	0811213	Th-234	pCi/g	0.79	0.36	LT	0.58
SP39-111	11/24/2008	SMP	0811213	Th-234	pCi/g	0.35	0.34	U	0.55
SP39-220	11/24/2008	SMP	0811213	Th-234	pCi/g	0.75	0.33	LT,TI	0.5
SP40-111	11/25/2008	DUP	0812024	Th-234	pCi/g	0.77	0.6	U	0.96
SP40-111	11/25/2008	SMP	0812024	Th-234	pCi/g	0.47	0.51	U	0.83
SP40-220	11/25/2008	SMP	0812024	Th-234	pCi/g	1.25	0.54	TI	0.81
SP41-111	12/1/2008	SMP	0812024	Th-234	pCi/g	-0.03	0.32	U	0.55
SP41-115	12/1/2008	SMP	0812024	Th-234	pCi/g	0.65	0.42	U	0.65
SP41-220	12/1/2008	SMP	0812024	Th-234	pCi/g	0.58	0.55	U	0.9
SP42-111	12/3/2008	DUP	0812065	Th-234	pCi/g	0.77	0.49	U	0.78
SP42-111	12/3/2008	SMP	0812065	Th-234	pCi/g	0.59	0.41	U	0.64
SP42-115	12/3/2008	SMP	0812065	Th-234	pCi/g	0.55	0.43	U	0.69
SP42-220	12/3/2008	SMP	0812065	Th-234	pCi/g	0.29	0.37	U	0.6
SP43-111	12/4/2008	SMP	0812065	Th-234	pCi/g	0.35	0.46	U	0.76

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SP43-220	12/4/2008	SMP	0812065	Th-234	pCi/g	0.39	0.31	U	0.5
SP44-111	12/6/2008	DUP	0812110	Th-234	pCi/g	0.38	0.43	U	0.7
SP44-111	12/6/2008	SMP	0812110	Th-234	pCi/g	0.25	0.34	U	0.57
SP44-115	12/6/2008	SMP	0812110	Th-234	pCi/g	0.53	0.33	U	0.61
SP44-220	12/6/2008	SMP	0812110	Th-234	pCi/g	0.66	0.4	LT,TI	0.62
SP45-111	12/9/2008	SMP	0812110	Th-234	pCi/g	0.48	0.43	U	0.69
SP45-220	12/9/2008	SMP	0812110	Th-234	pCi/g	0.47	0.49	U	0.8
SP46-111	12/11/2008	DUP	0812158	Th-234	pCi/g	0.02	0.44	U	0.74
SP46-111	12/11/2008	SMP	0812158	Th-234	pCi/g	-0.24	0.45	U	0.78
SP46-118	12/11/2008	SMP	0812158	Th-234	pCi/g	0.51	0.34	U	0.53
SP46-220	12/11/2008	SMP	0812158	Th-234	pCi/g	0.8	0.47	LT	0.78
SP47-111	12/15/2008	SMP	0812158	Th-234	pCi/g	0.41	0.47	U	0.77
SP47-220	12/15/2008	SMP	0812158	Th-234	pCi/g	0.46	0.3	LT,TI	0.45
SP48-111	12/17/2008	SMP	0812261	Th-234	pCi/g	0.54	0.38	U	0.6
SP48-119	12/17/2008	SMP	0812261	Th-234	pCi/g	0.36	0.45	U	0.73
SP48-220	12/17/2008	DUP	0812261	Th-234	pCi/g	0.46	0.44	U	0.72
SP48-220	12/17/2008	SMP	0812261	Th-234	pCi/g	0.8	0.47	LT,TI	0.73
SP49-111	12/19/2008	SMP	0812261	Th-234	pCi/g	0.45	0.42	U	0.68
SP49-220	12/19/2008	SMP	0812261	Th-234	pCi/g	0.45	0.45	U	0.72
SP50-111	12/28/2008	DUP	0812261	Th-234	pCi/g	0.76	0.48	LT,TI	0.74
SP50-111	12/28/2008	SMP	0812261	Th-234	pCi/g	0.45	0.57	U	0.93
SP50-116	12/28/2008	SMP	0812261	Th-234	pCi/g	0.61	0.45	U	0.72
SP50-220	12/28/2008	SMP	0812261	Th-234	pCi/g	0.43	0.52	U	0.85
SP-51-111	12/30/2008	SMP	0901016	Th-234	pCi/g	0.88	0.52	LT,TI	0.82
SP-51-220	12/30/2008	SMP	0901016	Th-234	pCi/g	1.43	0.66	TI	1
SP-52-111	12/31/2008	SMP	0901016	Th-234	pCi/g	0.53	0.41	U	0.66
SP-52-220	12/31/2008	SMP	0901016	Th-234	pCi/g	0.5	0.45	U	0.72

Notes:

U = result is less than the sample specific MDC or less than the associated TPU

LT = result is less than th Requested MDC, greater than sample specific MDC

M3 = requested MDC was not met, but the reported activity is greater than the reported MDC

TI = nuclide identification is tentative

G = sample density differs by more than 15% of the LCS density

pCi/g = picocuries per gram

MDC = method detection limit

TPU = total propagated uncertainty

**Area 10 Removal Action
Lake City Army Ammunition Plant
Independence, MO**

Cabrera to Paragon Lab Duplicate Z - Score Evaluation
Compare Z-Score to performance criteria of 1.96 or less (see QAPP for details)

Dup #	Type	Sample ID	Nuclide	Result	Uncert		Z-Score	Eval
1	Cabrera	SP01-111	Th-234	0.96	0.00	0.00	1.77	PASS
	Paragon	SP01-111	Th-234	0.49	0.53	0.27		
2	Cabrera	SP01-220	Th-234	0.83	0.00	0.00	1.85	PASS
	Paragon	SP01-220	Th-234	0.48	0.38	0.19		
3	Cabrera	SP02-111	Th-234	1.06	9.00	4.59	0.09	PASS
	Paragon	SP02-111	Th-234	0.64	0.39	0.20		
4	Cabrera	SP02-115	Th-234	0.68	0.00	0.00	-1.32	PASS
	Paragon	SP02-115	Th-234	0.93	0.38	0.19		
5	Cabrera	SP02-220	Th-234	0.70	0.00	0.00	0.80	PASS
	Paragon	SP02-220	Th-234	0.54	0.40	0.20		
6	Cabrera	SP03-111	Th-234	0.32	0.34	0.17	-1.71	PASS
	Paragon	SP03-111	Th-234	0.76	0.38	0.19		
7	Cabrera	SP03-220	Th-234	1.24	0.00	0.00	2.29	FAIL
	Paragon	SP03-220	Th-234	0.77	0.41	0.21		
8	Cabrera	SP04-111	Th-234	0.13	0.00	0.00	-2.11	FAIL
	Paragon	SP04-111	Th-234	0.51	0.36	0.18		
9	Cabrera	SP04-114	Th-234	0.86	0.00	0.00	0.77	PASS
	Paragon	SP04-114	Th-234	0.66	0.52	0.26		
10	Cabrera	SP04-220	Th-234	0.78	0.00	0.00	1.15	PASS
	Paragon	SP04-220	Th-234	0.55	0.40	0.20		
11	Cabrera	SP05-111	Th-234	0.72	0.00	0.00	0.97	PASS
	Paragon	SP05-111	Th-234	0.57	0.31	0.16		
12	Cabrera	SP05-220	Th-234	1.30	0.00	0.00	1.76	PASS
	Paragon	SP05-220	Th-234	0.78	0.59	0.30		
13	Cabrera	SP06-111	Th-234	0.59	0.00	0.00	-1.33	PASS
	Paragon	SP06-111	Th-234	0.99	0.60	0.30		
14	Cabrera	SP06-113	Th-234	0.11	0.00	0.00	-2.17	PASS
	Paragon	SP06-113	Th-234	0.49	0.35	0.18		
15	Cabrera	SP06-220	Th-234	0.31	0.33	0.17	-2.49	FAIL
	Paragon	SP06-220	Th-234	0.99	0.43	0.22		
16	Cabrera	SP07-111	Th-234	0.43	0.28	0.14	-1.13	PASS
	Paragon	SP07-111	Th-234	0.69	0.36	0.18		
17	Cabrera	SP07-220	Th-234	0.60	0.00	0.00	-1.33	PASS
	Paragon	SP07-220	Th-234	0.84	0.36	0.18		
18	Cabrera	SP08-111	Th-234	0.35	0.00	0.00	-0.13	PASS
	Paragon	SP08-111	Th-234	0.38	0.46	0.23		
19	Cabrera	SP08-112	Th-234	0.40	0.00	0.00	-1.11	PASS
	Paragon	SP08-112	Th-234	0.74	0.61	0.31		
20	Cabrera	SP08-220	Th-234	1.29	0.52	0.27	1.05	PASS
	Paragon	SP08-220	Th-234	0.95	0.37	0.19		
21	Cabrera	SP09-111	Th-234	0.18	0.00	0.00	-1.61	PASS
	Paragon	SP09-111	Th-234	0.63	0.56	0.28		
22	Cabrera	SP09-220	Th-234	0.35	0.38	0.19	-1.47	PASS
	Paragon	SP09-220	Th-234	0.84	0.54	0.27		
23	Cabrera	SP10-111	Th-234	0.34	0.00	0.00	-1.19	PASS
	Paragon	SP10-111	Th-234	0.66	0.54	0.27		
24	Cabrera	SP10-115	Th-234	0.75	0.39	0.20	0.23	PASS
	Paragon	SP10-115	Th-234	0.69	0.34	0.17		
25	Cabrera	SP10-220	Th-234	0.79	0.00	0.00	-0.34	PASS
	Paragon	SP10-220	Th-234	0.88	0.53	0.27		
26	Cabrera	SP11-111	Th-234	0.35	0.00	0.00	-2.09	FAIL
	Paragon	SP11-111	Th-234	1.02	0.64	0.32		
27	Cabrera	SP11-220	Th-234	0.50	0.00	0.00	-1.56	PASS
	Paragon	SP11-220	Th-234	0.92	0.54	0.27		
28	Cabrera	SP12-111	Th-234	0.37	0.00	0.00	-0.37	PASS
	Paragon	SP12-111	Th-234	0.44	0.38	0.19		
29	Cabrera	SP12-115	Th-234	1.12	0.00	0.00	2.31	FAIL
	Paragon	SP12-115	Th-234	0.67	0.39	0.20		

**Area 10 Removal Action
Lake City Army Ammunition Plant
Independence, MO**

Cabrera to Paragon Lab Duplicate Z - Score Evaluation
Compare Z-Score to performance criteria of 1.96 or less (see QAPP for details)

Dup #	Type	Sample ID	Nuclide	Result	Uncert		Z-Score	Eval
30	Cabrera	SP12-220	Th-234	1.36	0.00	0.00	1.87	PASS
	Paragon	SP12-220	Th-234	0.79	0.61	0.31		
31	Cabrera	SP15-111	Th-234	0.17	0.00	0.00	-0.30	PASS
	Paragon	SP15-111	Th-234	0.26	0.59	0.30		
32	Cabrera	SP14-220	Th-234	0.62	0.00	0.00	-0.70	PASS
	Paragon	SP14-220	Th-234	0.82	0.56	0.28		
33	Cabrera	SP15-220	Th-234	0.61	0.00	0.00	-1.14	PASS
	Paragon	SP15-220	Th-234	0.87	0.45	0.23		
34	Cabrera	SP16-111	Th-234	1.19	0.00	0.00	-1.26	PASS
	Paragon	SP16-111	Th-234	1.47	0.44	0.22		
35	Cabrera	SP16-112	Th-234	0.60	0.00	0.00	-2.59	FAIL
	Paragon	SP16-112	Th-234	1.39	0.61	0.31		
36	Cabrera	SP16-220	Th-234	0.99	0.00	0.00	1.50	PASS
	Paragon	SP16-220	Th-234	0.70	0.39	0.20		
37	Cabrera	SP13-111	Th-234	0.12	0.00	0.00	-3.11	FAIL
	Paragon	SP13-111	Th-234	1.02	0.58	0.29		
38	Cabrera	SP13-220	Th-234	0.92	0.00	0.00	2.51	FAIL
	Paragon	SP13-220	Th-234	0.38	0.43	0.22		
39	Cabrera	SP14-111	Th-234	0.47	0.33	0.17	-1.50	PASS
	Paragon	SP14-111	Th-234	0.87	0.41	0.21		
40	Cabrera	SP14-109	Th-234	0.32	0.28	0.14	-0.76	PASS
	Paragon	SP14-109	Th-234	0.53	0.48	0.24		
41	Cabrera	SP17-111	Th-234	0.19	0.00	0.00	-3.33	FAIL
	Paragon	SP17-111	Th-234	1.01	0.49	0.25		
42	Cabrera	SP17-220	Th-234	0.71	0.00	0.00	0.14	PASS
	Paragon	SP17-220	Th-234	0.67	0.53	0.27		
43	Cabrera	SP18-111	Th-234	0.88	0.00	0.00	1.07	PASS
	Paragon	SP18-111	Th-234	0.60	0.53	0.27		
44	Cabrera	SP18-115	Th-234	0.75	0.00	0.00	2.19	FAIL
	Paragon	SP18-115	Th-234	0.36	0.36	0.18		
45	Cabrera	SP18-220	Th-234	0.89	0.00	0.00	0.59	PASS
	Paragon	SP18-220	Th-234	0.75	0.46	0.23		
46	Cabrera	SP19-111	Th-234	0.69	0.00	0.00	-2.18	FAIL
	Paragon	SP19-111	Th-234	1.44	0.69	0.35		
47	Cabrera	SP19-220	Th-234	0.34	0.00	0.00	-2.55	FAIL
	Paragon	SP19-220	Th-234	0.99	0.51	0.26		
48	Cabrera	SP20-108	Th-234	0.60	0.00	0.00	0.01	PASS
	Paragon	SP20-108	Th-234	0.60	0.43	0.22		
49	Cabrera	SP20-111	Th-234	0.48	0.00	0.00	-0.41	PASS
	Paragon	SP20-111	Th-234	0.56	0.37	0.19		
50	Cabrera	SP20-220	Th-234	1.20	0.49	0.25	-2.62	FAIL
	Paragon	SP20-220	Th-234	2.45	0.81	0.41		
51	Cabrera	SP21-111	Th-234	0.40	0.00	0.00	-1.50	PASS
	Paragon	SP21-111	Th-234	0.83	0.58	0.29		
52	Cabrera	SP21-220	Th-234	0.67	0.00	0.00	-0.04	PASS
	Paragon	SP21-220	Th-234	0.68	0.55	0.28		
53	Cabrera	SP23-115	Th-234	0.66	0.00	0.00	-0.04	PASS
	Paragon	SP23-115	Th-234	0.67	0.47	0.24		
54	Cabrera	SP22-220	Th-234	0.55	0.00	0.00	0.59	PASS
	Paragon	SP22-220	Th-234	0.39	0.53	0.27		
55	Cabrera	SP23-220	Th-234	0.36	0.00	0.00	-0.06	PASS
	Paragon	SP23-220	Th-234	0.37	0.50	0.25		
56	Cabrera	SP22-111	Th-234	1.22	0.00	0.00	3.81	FAIL
	Paragon	SP22-111	Th-234	0.34	0.46	0.23		
57	Cabrera	SP23-111	Th-234	1.01	0.00	0.00	0.66	PASS
	Paragon	SP23-111	Th-234	0.89	0.36	0.18		
58	Cabrera	SP25-108	Th-234	1.62	1.27	0.65	0.71	PASS

**Area 10 Removal Action
Lake City Army Ammunition Plant
Independence, MO**

Cabrera to Paragon Lab Duplicate Z - Score Evaluation
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Dup #	Type	Sample ID	Nuclide	Result	Uncert		Z-Score	Eval
	Paragon	SP25-108	Th-234	1.13	0.46	0.23		
59	Cabrera	SP25-111	Th-234	0.49	0.27	0.14	-1.77	PASS
	Paragon	SP25-111	Th-234	1.03	0.54	0.27		
60	Cabrera	SP24-111	Th-234	-0.17	0.41	0.21	-2.16	FAIL
	Paragon	SP24-111	Th-234	0.56	0.53	0.27		
61	Cabrera	SP24-220	Th-234	0.59	0.31	0.16	-0.88	PASS
	Paragon	SP24-220	Th-234	0.85	0.50	0.25		
62	Cabrera	SP25-220	Th-234	-0.36	0.60	0.30	-3.50	FAIL
	Paragon	SP25-220	Th-234	0.92	0.40	0.20		
63	Cabrera	SP26-111	Th-234	0.73	0.85	0.44	0.18	PASS
	Paragon	SP26-111	Th-234	0.64	0.53	0.27		
64	Cabrera	SP26-220	Th-234	2.04	0.55	0.28	-0.02	PASS
	Paragon	SP26-220	Th-234	2.05	0.57	0.29		
65	Cabrera	SP27-108	Th-234	0.75	0.39	0.20	0.85	PASS
	Paragon	SP27-108	Th-234	0.52	0.38	0.19		
66	Cabrera	SP27-111	Th-234	0.56	0.29	0.15	0.78	PASS
	Paragon	SP27-111	Th-234	0.39	0.33	0.17		
67	Cabrera	SP27-220	Th-234	0.60	0.40	0.20	0.67	PASS
	Paragon	SP27-220	Th-234	0.44	0.28	0.14		
68	Cabrera	SP28-111	Th-234	2.49	0.52	0.26	-14.35	FAIL
	Paragon	SP28-111	Th-234	28.60	3.60	1.80		
69	Cabrera	SP28-119	Th-234	0.60	0.38	0.20	-0.50	PASS
	Paragon	SP28-119	Th-234	0.78	0.60	0.30		
70	Cabrera	SP29-111	Th-234	0.54	0.28	0.14	1.57	PASS
	Paragon	SP29-111	Th-234	0.14	0.43	0.22		
71	Cabrera	SP29-220	Th-234	1.51	1.23	0.63	1.28	PASS
	Paragon	SP29-220	Th-234	0.66	0.43	0.22		
72	Cabrera	SP28-220	Th-234	0.61	0.46	0.23	0.36	PASS
	Paragon	SP28-220	Th-234	0.51	0.27	0.14		
73	Cabrera	SP30-111	Th-234	0.91	0.36	0.18	0.58	PASS
	Paragon	SP30-111	Th-234	0.72	0.53	0.27		
74	Cabrera	SP30-220	Th-234	1.28	0.38	0.19	-0.48	PASS
	Paragon	SP30-220	Th-234	1.47	0.68	0.34		
75	Cabrera	SP30-102	Th-234	0.64	0.33	0.17	0.11	PASS
	Paragon	SP30-102	Th-234	0.61	0.47	0.24		
76	Cabrera	SP31-111	Th-234	0.53	0.00	0.00	1.12	PASS
	Paragon	SP31-111	Th-234	0.22	0.55	0.28		
77	Cabrera	SP31-220	Th-234	0.42	0.18	0.09	0.58	PASS
	Paragon	SP31-220	Th-234	0.24	0.58	0.29		
78	Cabrera	SP32-111	Th-234	0.82	0.27	0.14	-0.10	PASS
	Paragon	SP32-111	Th-234	0.85	0.57	0.29		
79	Cabrera	SP32-220	Th-234	0.52	0.30	0.16	1.01	PASS
	Paragon	SP32-220	Th-234	0.21	0.52	0.26		
80	Cabrera	SP32-110	Th-234	1.04	0.47	0.24	1.62	PASS
	Paragon	SP32-110	Th-234	0.50	0.45	0.23		
81	Cabrera	SP33-111	Th-234	0.80	0.89	0.46	0.09	PASS
	Paragon	SP33-111	Th-234	0.75	0.52	0.26		
82	Cabrera	SP33-220	Th-234	1.24	0.42	0.22	0.87	PASS
	Paragon	SP33-220	Th-234	0.93	0.57	0.29		
83	Cabrera	SP34-111	Th-234	0.40	0.28	0.14	-0.63	PASS
	Paragon	SP34-111	Th-234	0.61	0.61	0.31		
84	Cabrera	SP34-220	Th-234	0.39	0.38	0.20	-1.16	PASS
	Paragon	SP34-220	Th-234	0.78	0.54	0.27		
85	Cabrera	SP34-108	Th-234	0.31	0.24	0.12	-1.06	PASS
	Paragon	SP34-108	Th-234	0.56	0.40	0.20		
86	Cabrera	SP35-111	Th-234	0.57	0.75	0.38	0.16	PASS
	Paragon	SP35-111	Th-234	0.50	0.41	0.21		

**Area 10 Removal Action
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Cabrera to Paragon Lab Duplicate Z - Score Evaluation
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Dup #	Type	Sample ID	Nuclide	Result	Uncert		Z-Score	Eval
87	Cabrera	SP35-220	Th-234	0.31	0.20	0.10	-1.26	PASS
	Paragon	SP35-220	Th-234	0.62	0.44	0.22		
88	Cabrera	SP36-111	Th-234	0.92	0.96	0.49	0.46	PASS
	Paragon	SP36-111	Th-234	0.67	0.47	0.24		
89	Cabrera	SP36-113	Th-234	0.53	0.32	0.16	0.24	PASS
	Paragon	SP36-113	Th-234	0.47	0.43	0.22		
90	Cabrera	SP36-220	Th-234	1.20	1.09	0.56	0.89	PASS
	Paragon	SP36-220	Th-234	0.65	0.50	0.25		
91	Cabrera	SP37-111	Th-234	0.63	0.35	0.18	-0.46	PASS
	Paragon	SP37-111	Th-234	0.77	0.47	0.24		
92	Cabrera	SP37-220	Th-234	0.33	0.41	0.21	-0.63	PASS
	Paragon	SP37-220	Th-234	0.52	0.41	0.21		
93	Cabrera	SP38-111	Th-234	0.16	0.40	0.20	-1.44	PASS
	Paragon	SP38-111	Th-234	0.51	0.28	0.14		
94	Cabrera	SP38-220	Th-234	0.58	0.30	0.15	-0.90	PASS
	Paragon	SP38-220	Th-234	0.79	0.36	0.18		
95	Cabrera	SP38-113	Th-234	0.57	0.00	0.00	0.88	PASS
	Paragon	SP38-113	Th-234	0.40	0.39	0.20		
96	Cabrera	SP39-111	Th-234	0.38	0.23	0.12	0.14	PASS
	Paragon	SP39-111	Th-234	0.35	0.34	0.17		
97	Cabrera	SP39-220	Th-234	0.49	0.36	0.18	-1.05	PASS
	Paragon	SP39-220	Th-234	0.75	0.33	0.17		
98	Cabrera	SP40-111	Th-234	1.23	0.33	0.17	2.47	FAIL
	Paragon	SP40-111	Th-234	0.47	0.51	0.26		
99	Cabrera	SP40-220	Th-234	0.91	0.42	0.22	-0.97	PASS
	Paragon	SP40-220	Th-234	1.25	0.54	0.27		
100	Cabrera	SP41-111	Th-234	0.91	0.96	0.49	1.84	PASS
	Paragon	SP41-111	Th-234	-0.03	0.32	0.16		
101	Cabrera	SP41-115	Th-234	0.60	0.31	0.16	-0.20	PASS
	Paragon	SP41-115	Th-234	0.65	0.42	0.21		
102	Cabrera	SP41-220	Th-234	0.73	0.38	0.20	0.45	PASS
	Paragon	SP41-220	Th-234	0.58	0.55	0.28		
103	Cabrera	SP42-111	Th-234	0.43	0.30	0.15	-0.64	PASS
	Paragon	SP42-111	Th-234	0.59	0.41	0.21		
104	Cabrera	SP42-115	Th-234	0.58	0.28	0.14	0.10	PASS
	Paragon	SP42-115	Th-234	0.55	0.43	0.22		
105	Cabrera	SP42-220	Th-234	0.52	0.31	0.16	0.96	PASS
	Paragon	SP42-220	Th-234	0.29	0.37	0.19		
106	Cabrera	SP43-111	Th-234	0.76	0.25	0.13	1.58	PASS
	Paragon	SP43-111	Th-234	0.35	0.46	0.23		
107	Cabrera	SP43-220	Th-234	0.70	0.27	0.14	1.51	PASS
	Paragon	SP43-220	Th-234	0.39	0.31	0.16		
108	Cabrera	SP44-111	Th-234	0.54	0.29	0.15	1.29	PASS
	Paragon	SP44-111	Th-234	0.25	0.34	0.17		
109	Cabrera	SP44-115	Th-234	0.49	0.29	0.15	-0.16	PASS
	Paragon	SP44-115	Th-234	0.53	0.33	0.17		
110	Cabrera	SP44-220	Th-234	1.13	1.06	0.54	0.81	PASS
	Paragon	SP44-220	Th-234	0.66	0.40	0.20		
111	Cabrera	SP45-111	Th-234	0.71	0.21	0.11	0.95	PASS
	Paragon	SP45-111	Th-234	0.48	0.43	0.22		
112	Cabrera	SP45-220	Th-234	0.55	0.21	0.11	0.29	PASS
	Paragon	SP45-220	Th-234	0.47	0.49	0.25		
113	Cabrera	SP46-111	Th-234	0.58	0.21	0.10	3.29	FAIL
	Paragon	SP46-111	Th-234	-0.24	0.45	0.23		
114	Cabrera	SP46-118	Th-234	-0.17	0.00	0.00	-3.98	FAIL
	Paragon	SP46-118	Th-234	0.51	0.34	0.17		
115	Cabrera	SP46-220	Th-234	0.50	0.19	0.10	-1.18	PASS

**Area 10 Removal Action
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Cabrera to Paragon Lab Duplicate Z - Score Evaluation
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Dup #	Type	Sample ID	Nuclide	Result	Uncert		Z-Score	Eval
	Paragon	SP46-220	Th-234	0.80	0.47	0.24		
116	Cabrera	SP47-111	Th-234	0.48	0.33	0.17	0.23	PASS
	Paragon	SP47-111	Th-234	0.41	0.47	0.24		
117	Cabrera	SP47-220	Th-234	0.65	0.20	0.10	1.03	PASS
	Paragon	SP47-220	Th-234	0.46	0.30	0.15		
118	Cabrera	SP50-111	Th-234	0.65	0.00	0.00	0.69	PASS
	Paragon	SP50-111	Th-234	0.45	0.57	0.29		
119	Cabrera	SP48-111	Th-234	0.74	0.30	0.15	0.82	PASS
	Paragon	SP48-111	Th-234	0.54	0.38	0.19		
120	Cabrera	SP48-119	Th-234	0.91	0.25	0.13	2.13	FAIL
	Paragon	SP48-119	Th-234	0.36	0.45	0.23		
121	Cabrera	SP48-220	Th-234	0.47	0.43	0.22	-1.03	PASS
	Paragon	SP48-220	Th-234	0.80	0.47	0.24		
122	Cabrera	SP49-111	Th-234	0.48	0.27	0.14	0.13	PASS
	Paragon	SP49-111	Th-234	0.45	0.42	0.21		
123	Cabrera	SP49-220	Th-234	0.37	0.00	0.00	-0.37	PASS
	Paragon	SP49-220	Th-234	0.45	0.45	0.23		
124	Cabrera	SP50-116	Th-234	1.26	0.00	0.00	2.88	FAIL
	Paragon	SP50-116	Th-234	0.61	0.45	0.23		
125	Cabrera	SP50-220	Th-234	0.71	0.26	0.13	0.97	PASS
	Paragon	SP50-220	Th-234	0.43	0.52	0.26		
126	Cabrera	FP01-111	Th-234	0.90	0.00	0.00	-1.77	PASS
	Paragon	FP01-111	Th-234	1.57	0.75	0.38		
127	Cabrera	FP01-114	Th-234	1.02	0.39	0.20	-0.29	PASS
	Paragon	FP01-114	Th-234	1.13	0.68	0.34		
128	Cabrera	FP02-111	Th-234	1.11	0.50	0.25	0.04	PASS
	Paragon	FP02-111	Th-234	1.09	0.52	0.26		
129	Cabrera	FP02-214	Th-234	1.32	0.40	0.20	-1.87	PASS
	Paragon	FP02-214	Th-234	2.08	0.70	0.35		
130	Cabrera	FP04-111	Th-234	0.92	0.52	0.27	-1.84	PASS
	Paragon	FP04-111	Th-234	1.74	0.72	0.36		
131	Cabrera	FP04-214	Th-234	0.80	0.30	0.15	-1.30	PASS
	Paragon	FP04-214	Th-234	1.28	0.68	0.34		
132	Cabrera	FP03-111	Th-234	0.76	0.31	0.16	-1.51	PASS
	Paragon	FP03-111	Th-234	1.25	0.56	0.28		
133	Cabrera	FP05-111	Th-234	1.08	1.04	0.53	1.32	PASS
	Paragon	FP05-111	Th-234	0.35	0.33	0.17		
134	Cabrera	FP05-212	Th-234	0.74	0.29	0.15	-1.00	PASS
	Paragon	FP05-212	Th-234	1.11	0.69	0.35		
135	Cabrera	FP06-214	Th-234	0.82	0.00	0.00	-0.95	PASS
	Paragon	FP06-214	Th-234	1.09	0.56	0.28		
136	Cabrera	FP03-214	Th-234	1.36	0.39	0.20	-1.43	PASS
	Paragon	FP03-214	Th-234	1.94	0.71	0.36		
137	Cabrera	SP-51-111	Th-234	0.47	0.26	0.13	-1.39	PASS
	Paragon	SP-51-111	Th-234	0.88	0.52	0.26		
138	Cabrera	SP-51-220	Th-234	0.45	0.39	0.20	-2.56	FAIL
	Paragon	SP-51-220	Th-234	1.43	0.66	0.33		
139	Cabrera	SP-52-111	Th-234	0.71	0.00	0.00	0.88	PASS
	Paragon	SP-52-111	Th-234	0.53	0.41	0.21		
140	Cabrera	SP-52-220	Th-234	0.83	0.00	0.00	1.48	PASS
	Paragon	SP-52-220	Th-234	0.50	0.45	0.23		
141	Cabrera	FP06-111	Th-234	0.74	0.41	0.21	-1.26	PASS
	Paragon	FP06-111	Th-234	1.22	0.63	0.32		
142	Cabrera	FP07-111	Th-234	0.56	0.26	0.13	-1.66	PASS
	Paragon	FP07-111	Th-234	1.07	0.55	0.28		
143	Cabrera	FP07-214	Th-234	0.76	0.32	0.16	1.47	PASS
	Paragon	FP07-214	Th-234	0.38	0.40	0.20		

**Area 10 Removal Action
Lake City Army Ammunition Plant
Independence, MO**

Cabrera to Paragon Lab Duplicate Z - Score Evaluation
Compare Z-Score to performance criteria of 1.96 or less (see QAPP for details)

Dup #	Type	Sample ID	Nuclide	Result	Uncert		Z-Score	Eval
144	Cabrera	FP08-111	Th-234	0.56	0.36	0.18	-0.80	PASS
	Paragon	FP08-111	Th-234	0.84	0.59	0.30		
145	Cabrera	FP08-214	Th-234	1.04	0.36	0.18	-0.70	PASS
	Paragon	FP08-214	Th-234	1.29	0.62	0.31		
146	Cabrera	FP09-111	Th-234	2.79	0.73	0.37	-2.11	FAIL
	Paragon	FP09-111	Th-234	4.10	1.00	0.50		
147	Cabrera	FP09-214	Th-234	0.50	0.29	0.15	1.24	PASS
	Paragon	FP09-214	Th-234	0.11	0.55	0.28		
148	Cabrera	AJ01-111	Th-234	1.97	0.49	0.25	-0.71	PASS
	Paragon	AJ01-111	Th-234	2.31	0.82	0.41		
149	Cabrera	AJ01-112	Th-234	1.30	0.40	0.21	-0.28	PASS
	Paragon	AJ01-112	Th-234	1.42	0.80	0.40		
150	Cabrera	AJ01-214	Th-234	1.33	0.39	0.20	-1.99	FAIL
	Paragon	AJ01-214	Th-234	2.40	1.00	0.50		