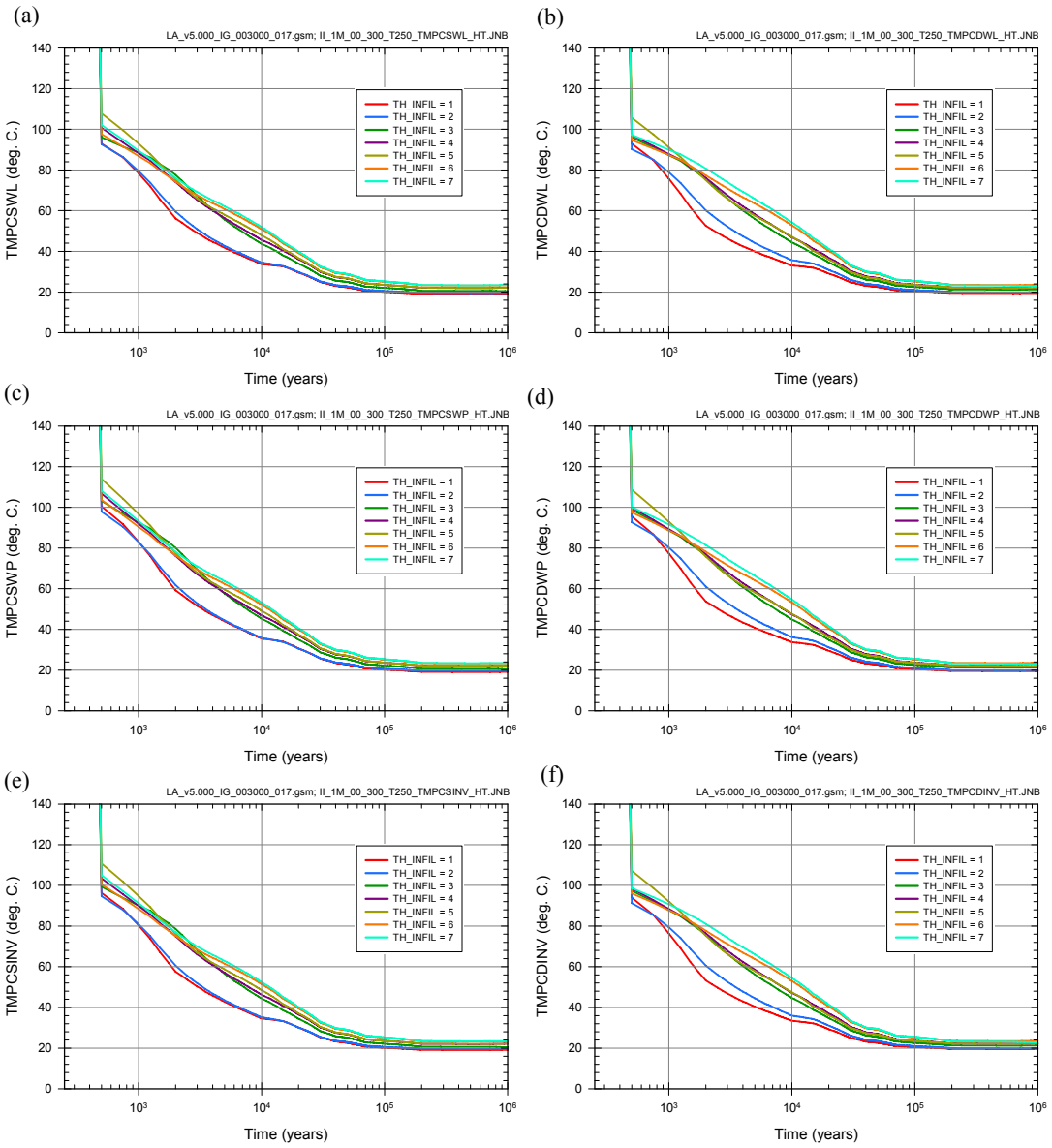
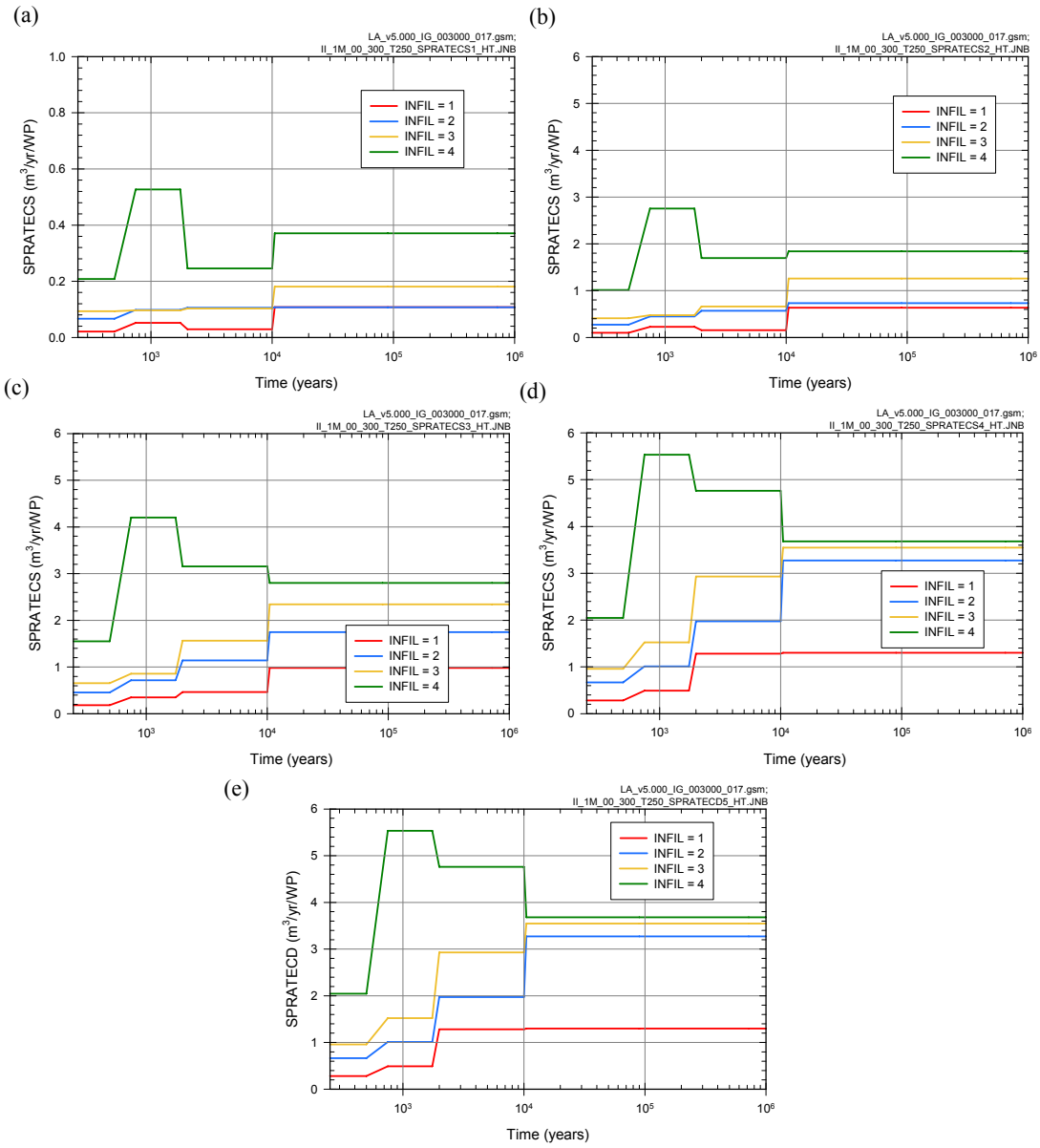


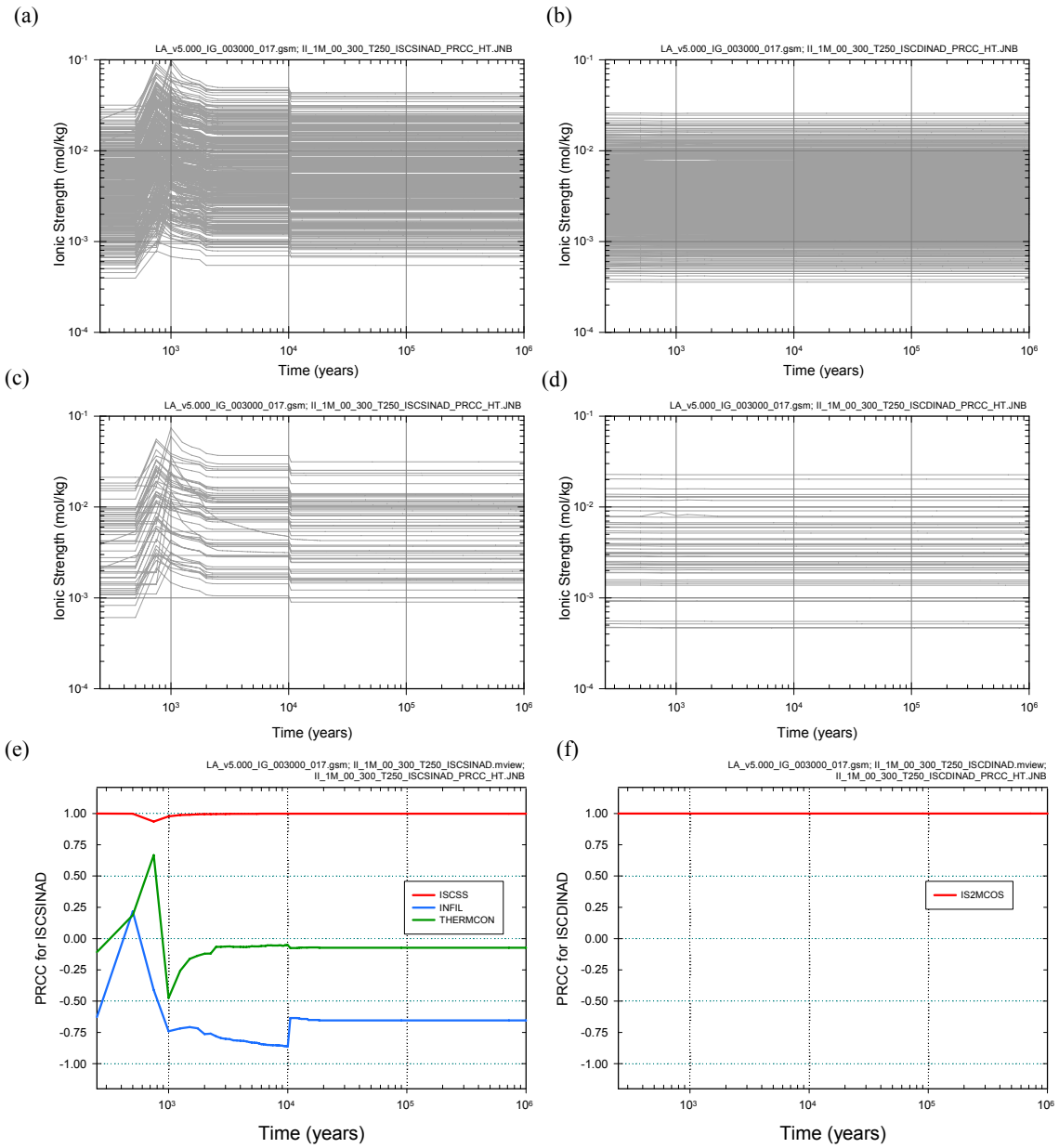
Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.2-1. Time-dependent temperatures in percolation bin 3 for CSNF WPs at the drift wall (*TMPCSWL*), on the WP (*TMPCSWP*) and in the invert beneath the WP (*TMPCSINV*) and similarly for CDSP WPs at the drift wall (*TMPCDWL*), on the WP (*TMPCDWP*) and in the invert beneath the WP (*TMPCDINV*) resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, c, e) *TMPCSWL*, *TMPCSWP* and *TMPCSINV*, and (b, d, f) *TMPCDWL*, *TMPCDWP* and *TMPCDINV*



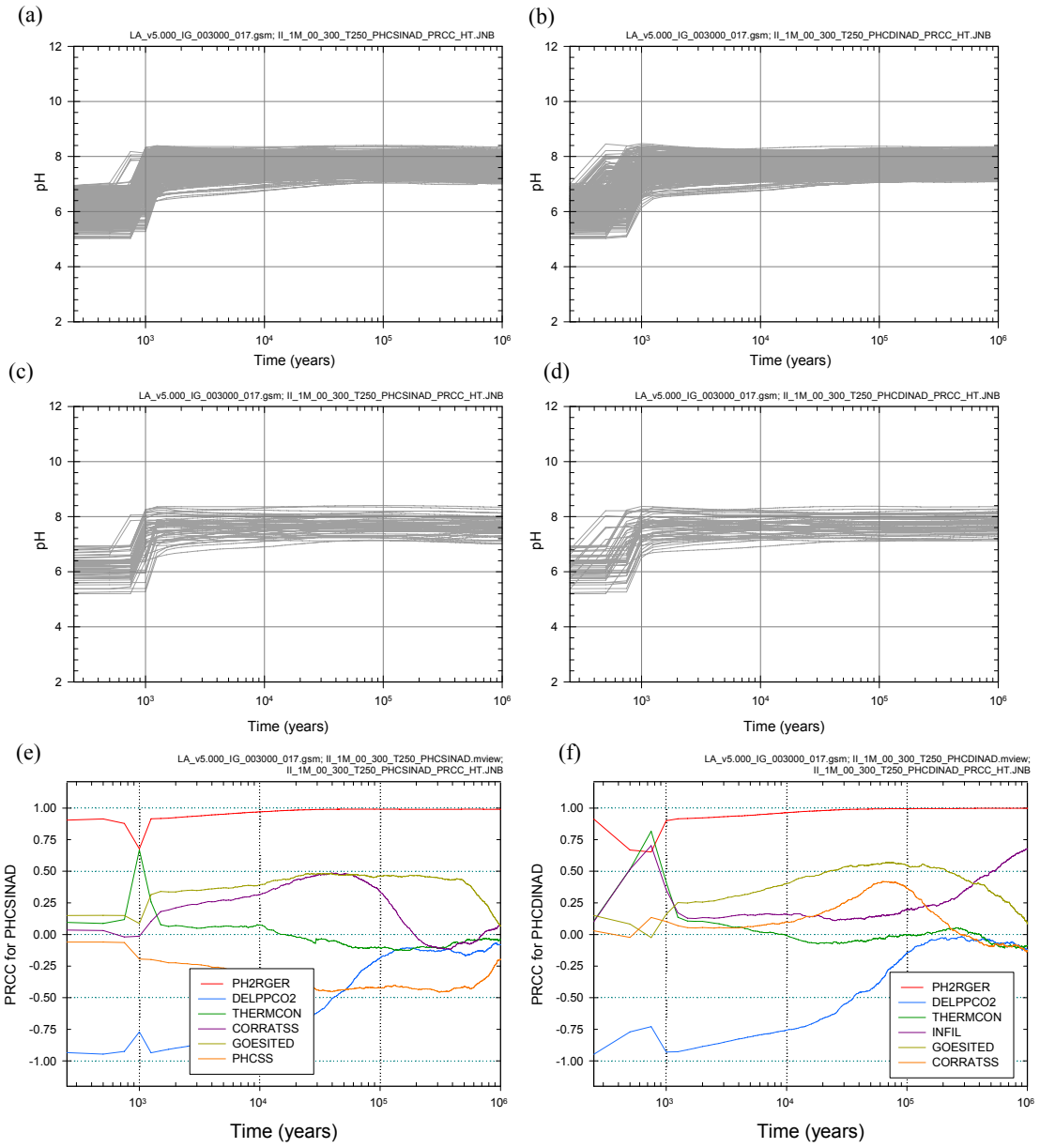
Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.2-2. Time-dependent seepage rates (m^3/yr/WP) into the repository above CSNF WPs (*SPRATECS*) resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a) Bin 1, (b) Bin 2, (c) Bin 3, (d) Bin 4, and (e) Bin 5.



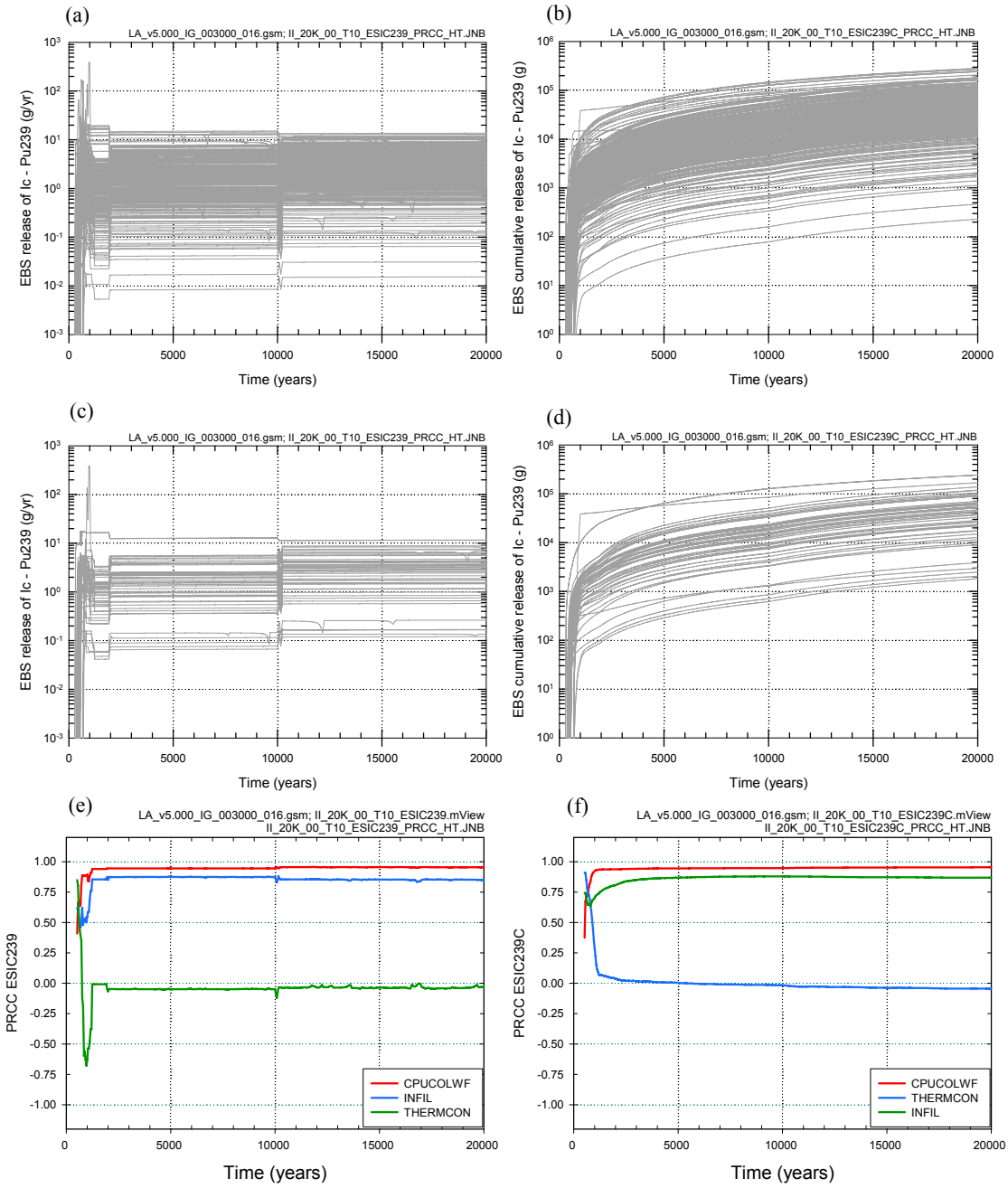
Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.2-3. Time-dependent ionic strength (mol/kg) under dripping conditions in the invert for CSNF WPs (*ISCSINAD*) and CDSP WPs (*ISCDINAD*) in percolation bin 3 resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *ISCSINAD* and *ISCDINAD* for all (i.e., 300) sample elements, (c, d) *ISCSINAD* and *ISCDINAD* for first 50 sample elements, and (e, f) PRCCs for *ISCSINAD* and *ISCDINAD*



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.2-4. Time-dependent pH under dripping conditions in the invert for CSNF WPs (*PHCSINAD*) and CDSP WPs (*PHCDINAD*) in percolation bin 3 resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *PHCSINAD* and *PHCDINAD* for all (i.e., 300) sample elements, (c, d) *PHCSINAD* and *PHCDINAD* for first 50 sample elements, and (e, f) PRCCs for *PHCSINAD* and *PHCDINAD*



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.1-1. Time-dependent release rates (*ESIC239*, g/yr) and cumulative (i.e., integrated) releases (*ESIC239C*, g) over 20,000 years for the movement of ^{239}Pu irreversibly attached to glass/ waste form colloids from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *ESIC239* and *ESIC239C* for all (i.e., 300) sample elements, (c, d) *ESIC239* and *ESIC239C* for first 50 sample elements, and (e, f) PRCCs for *ESIC239* and *ESIC239C*

	ESIC239: 3000 yr			ESIC239: 5000 yr			ESIC239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.64	0.75	CPUCOLWF	0.64	0.75	CPUCOLWF	0.64	0.75
2	INFIL	0.93	0.54	INFIL	0.93	0.54	INFIL	0.93	0.54
3	DIFPATHL	0.93	0.04	DIFPATHL	0.93	0.04	DIFPATHL	0.93	0.04

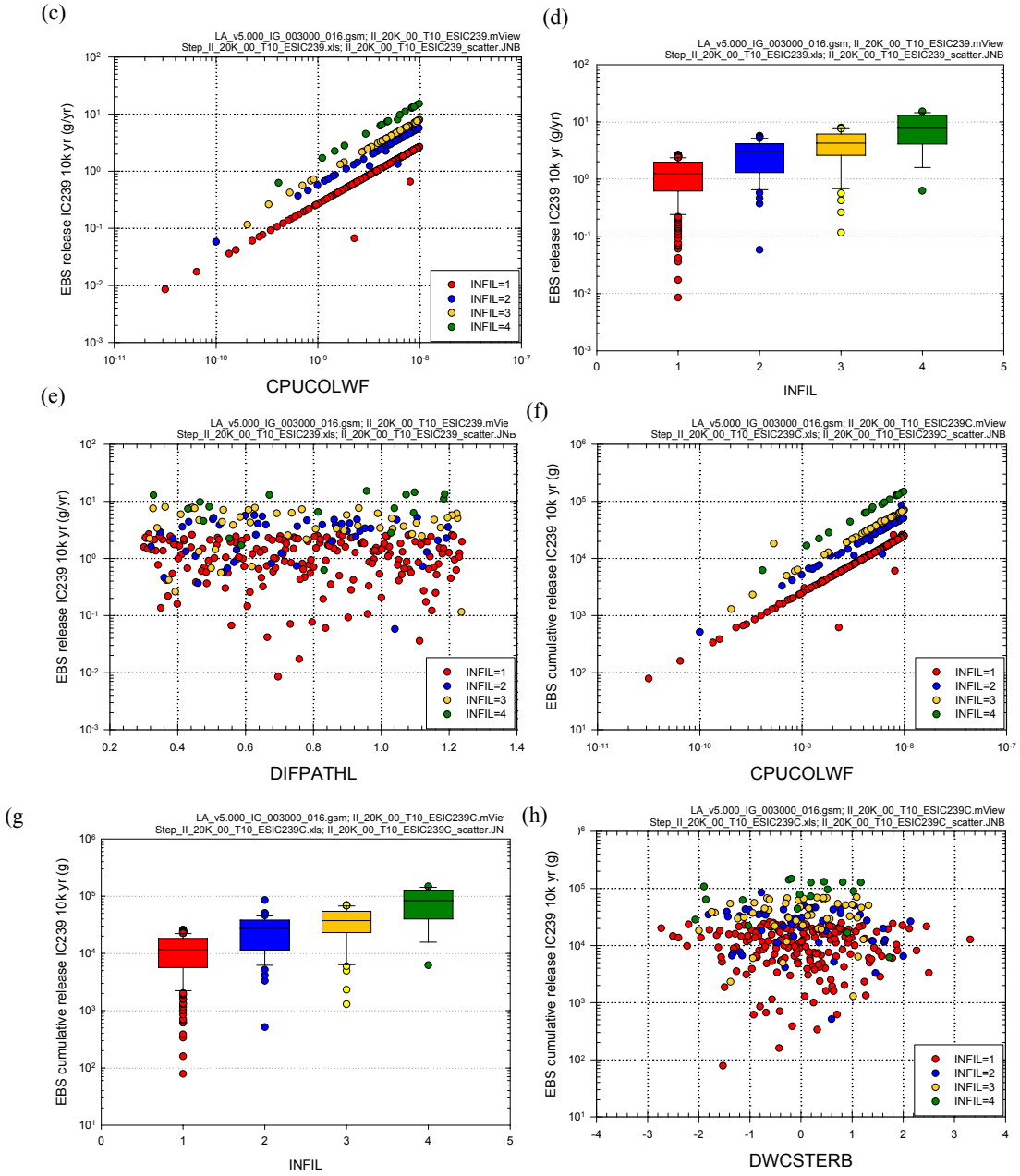
(b)

	ESIC239C: 3000 yr			ESIC239C: 5000 yr			ESIC239C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.64	0.75	CPUCOLWF	0.63	0.75	CPUCOLWF	0.64	0.75
2	INFIL	0.90	0.52	INFIL	0.92	0.54	INFIL	0.93	0.54
3	DWCSTERB	0.91	-0.06	DWCSTERB	0.92	-0.06	DWCSTERB	0.93	-0.05
4	DELPPCO2	0.91	0.06	DELPPCO2	0.92	0.05	DELPPCO2	0.93	0.04
5	RUBMAXL	0.91	-0.05	RUBMAXL	0.92	-0.05	RUBMAXL	0.93	-0.04

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.1-2. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESIC239*, g/yr) and cumulative (i.e., integrated) releases (*ESIC239C*, g) for the movement of ^{239}Pu irreversibly attached to glass/ waste form colloids from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESIC239* and *ESIC239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESIC239* and *ESIC239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

NOTE: In (d,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K.6.3.1-2. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESIC239*, g/yr) and cumulative (i.e., integrated) releases (*ESIC239C*, g) for the movement of ^{239}Pu irreversibly attached to glass/waste form colloids from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESIC239* and *ESIC239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESIC239* and *ESIC239C* at 10,000 years (continued).

Figure Removed. See discussion in Section K6.3.1.

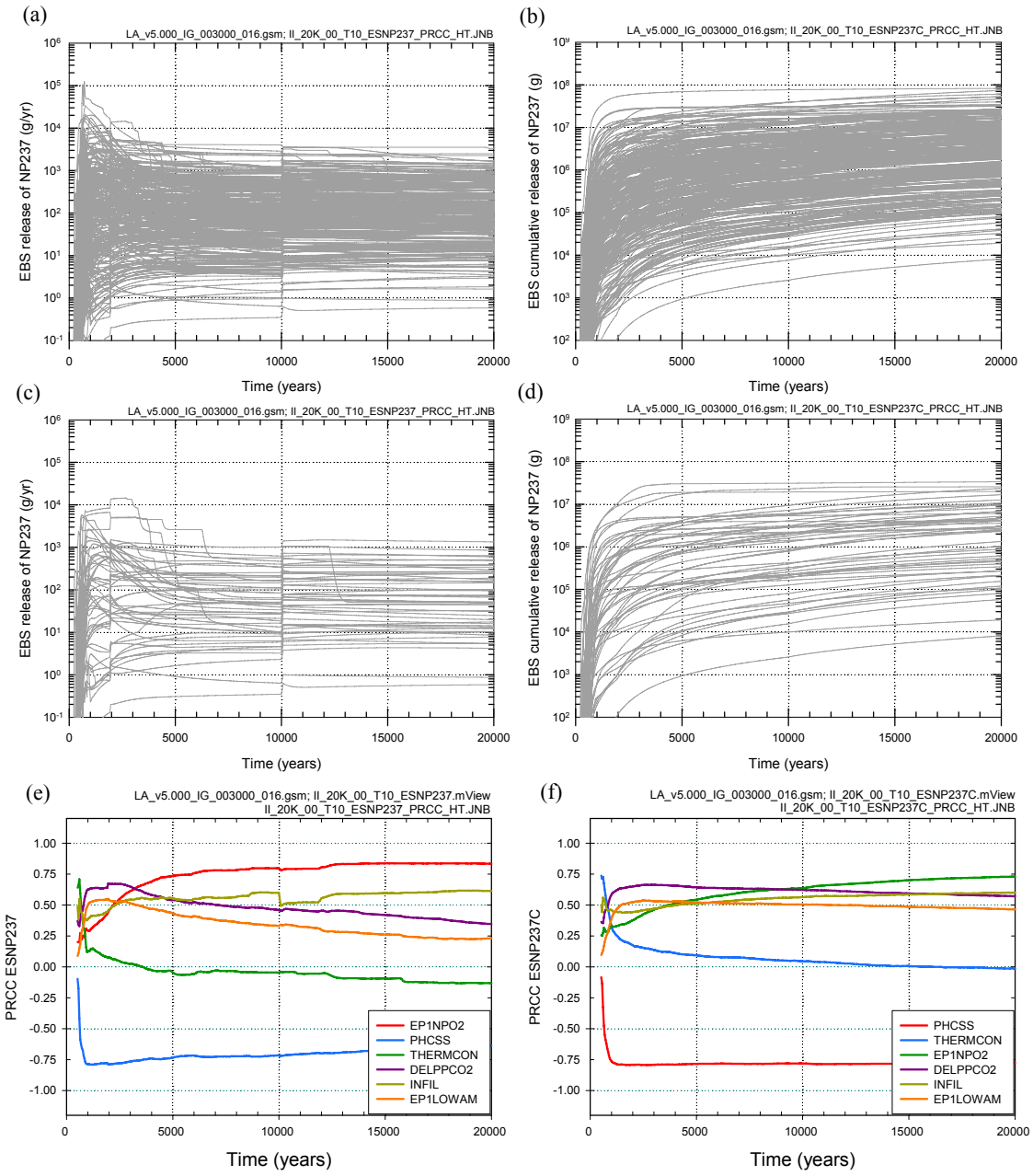
Figure K6.3.1-3. Time-dependent release rates (*ESIF239*, g/yr) and cumulative (i.e., integrated) releases (*ESIF239C*, g) over 20,000 years for the movement of ^{239}Pu irreversibly attached to ferrous colloids from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *ESIF239* and *ESIF239C* for all (i.e., 300) sample elements, (c, d) *ESIF239* and *ESIF239C* for first 50 sample elements, and (e, f) PRCCs for *ESIF239* and *ESIF239C*

Figure Removed. See discussion in Section K6.3.1.

Figure K6.3.1-4. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESIF239*, g/yr) and cumulative (i.e., integrated) releases (*ESIF239C*, g) for the movement of ^{239}Pu irreversibly attached to ferrous colloids from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZIF239* and *UZIF239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZIF239* and *UZIF239C* at 10,000 years

Figure Removed. See discussion in Section K6.3.1.

Figure K6.3.1-4. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESIF239*, g/yr) and cumulative (i.e., integrated) releases (*ESIF239C*, g) for the movement of ^{239}Pu irreversibly attached to ferrous colloids from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZIF239* and *UZIF239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZIF239* and *UZIF239C* at 10,000 years (continued)



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.1-5. Time-dependent release rates (*ESNP237*, g/yr) and cumulative (i.e., integrated) releases (*ESNP237C*, g) over 20,000 years for the movement of dissolved ^{237}Np from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *ESNP237* and *ESNP237C* for all (i.e., 300) sample elements, (c, d) *ESNP237* and *ESNP237C* for first 50 sample elements, and (e, f) PRCCs for *ESNP237* and *ESNP237C*

(a)

	ESNP237: 3000 yr			ESNP237: 5000 yr			ESNP237: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	PHCSS	0.32	-0.51	PHCSS	0.27	-0.46	EP1NPO2	0.27	0.54
2	INFIL	0.44	0.33	EP1NPO2	0.42	0.45	PHCSS	0.46	-0.44
3	DELPPCO2	0.51	0.31	INFIL	0.58	0.36	INFIL	0.63	0.38
4	EP1NPO2	0.59	0.30	CORRATSS	0.63	-0.20	CORRATSS	0.69	-0.22
5	EP1LOWAM	0.66	0.28	EP1LOWAM	0.67	0.22	GOESITED	0.72	-0.18
6	CORRATSS	0.71	-0.19	DELPPCO2	0.71	0.23	DELPPCO2	0.74	0.18
7	EP1LOWNU	0.73	0.14	EP1LOWNU	0.74	0.14	EP1LOWAM	0.77	0.15
8	GOESITED	0.74	-0.12	GOESITED	0.75	-0.14	EP1LOWNU	0.79	0.14
9	CSRINDPO	0.75	0.09	PH2RGER	0.76	-0.12	PH2RGER	0.80	-0.10
10	PH2RGER	0.76	-0.10	WDCRCDEN	0.77	0.10	WDCRCDEN	0.80	0.09
11	WDCRCDEN	0.77	0.10				HFOSA	0.81	-0.09
12	COLGW	0.78	0.08				GOERELAB	0.82	0.08

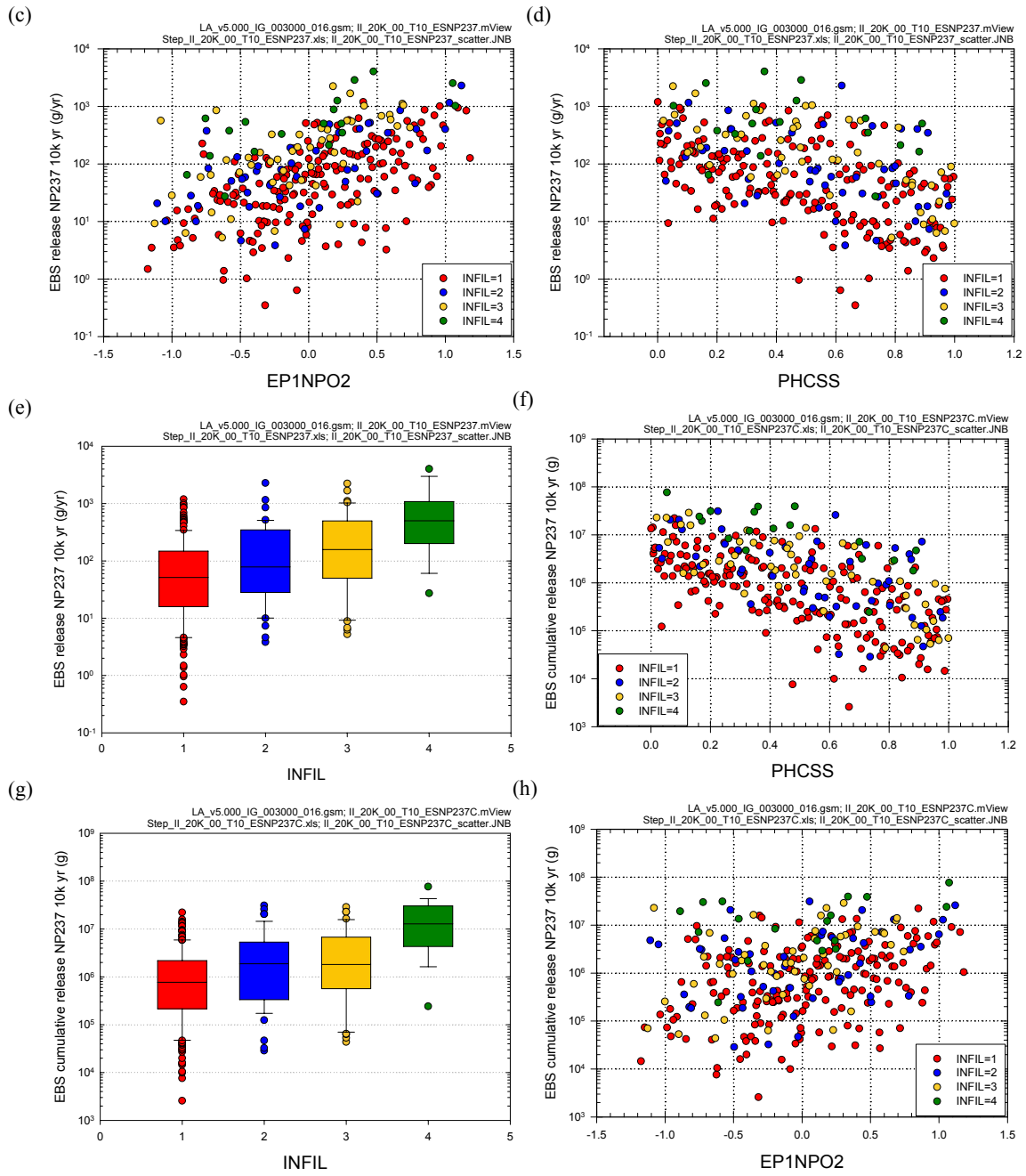
(b)

	ESNP237C: 3000 yr			ESNP237C: 5000 yr			ESNP237C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	PHCSS	0.39	-0.58	PHCSS	0.37	-0.56	PHCSS	0.34	-0.54
2	INFIL	0.49	0.30	INFIL	0.48	0.33	INFIL	0.48	0.34
3	DELPPCO2	0.58	0.34	DELPPCO2	0.56	0.32	EP1NPO2	0.56	0.32
4	EP1LOWAM	0.67	0.30	EP1LOWAM	0.64	0.29	DELPPCO2	0.62	0.28
5	EP1NPO2	0.69	0.18	EP1NPO2	0.69	0.24	EP1LOWAM	0.69	0.28
6	CORRATSS	0.72	-0.15	CORRATSS	0.72	-0.17	CORRATSS	0.73	-0.18
7	EP1LOWNU	0.73	0.10	EP1LOWNU	0.74	0.12	EP1LOWNU	0.75	0.14
8	GOESITED	0.74	-0.11	GOESITED	0.75	-0.11	GOESITED	0.76	-0.13
9	EP1NP2O5	0.75	0.12	CSRINDPO	0.76	0.08	PH2RGER	0.77	-0.11
10	CSRINDPO	0.76	0.08	PH2RGER	0.77	-0.10	WDCRCDEN	0.78	0.10
11	PH2RGER	0.77	-0.10	EP1NP2O5	0.77	0.10	EP1NP2O5	0.79	0.09
12	COLGW	0.78	0.08	WDCRCDEN	0.78	0.09	COLGW	0.79	0.09
13	WDCRCDEN	0.79	0.08	KDRACOL	0.79	-0.08	SEEPUNC	0.80	0.08
14	KDRACOL	0.79	-0.09	COLGW	0.79	0.08			

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

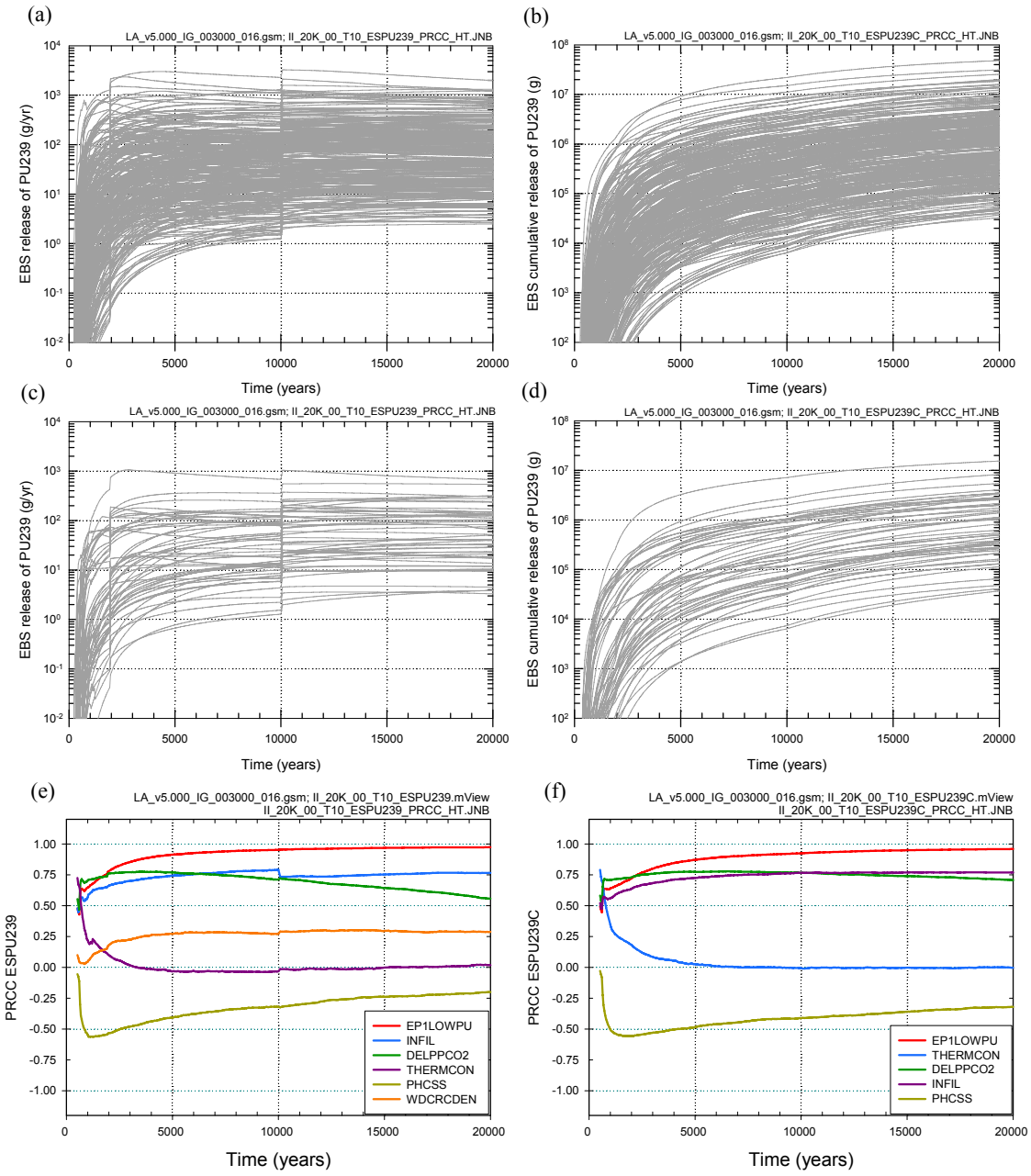
Figure K6.3.1-6. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESNP237*, g/yr) and cumulative (i.e., integrated) releases (*ES NP237C*, g) for the movement of dissolved ^{237}Np from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESNP237* and *ESNP237C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESNP237* and *ESNP237C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

NOTE: In (e,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.3.1-6. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESNP237*, g/yr) and cumulative (i.e., integrated) releases (*ES NP237C*, g) for the movement of dissolved ^{237}Np from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESNP237* and *ESNP237C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESNP237* and *ESNP237C* at 10,000 years (continued).



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].]

Figure K6.3.1-7. Time-dependent release rates (*ESPU239*, g/yr) and cumulative (i.e., integrated) releases (*ESPU239C*, g) over 20,000 years for the movement of dissolved ^{239}Pu from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *ESPU239* and *ESPU239C* for all (i.e., 300) sample elements, (c, d) *ESPU239* and *ESPU239C* for first 50 sample elements, and (e, f) PRCCs for *ESPU239* and *ESPU239C*

(a)

	ESPU239: 3000 yr			ESPU239: 5000 yr			ESPU239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	EP1LOWPU	0.36	0.62	EP1LOWPU	0.50	0.72	EP1LOWPU	0.66	0.82
2	DELPPCO2	0.57	0.46	DELPPCO2	0.66	0.40	INFIL	0.80	0.39
3	INFIL	0.75	0.41	INFIL	0.83	0.40	DELPPCO2	0.89	0.29
4	PHCSS	0.80	-0.20	PHCSS	0.85	-0.14	PHCSS	0.90	-0.09
5	EP1LOWAM	0.81	0.13	EP1LOWAM	0.86	0.10	EP1LOWAM	0.91	0.06
6	GOESITED	0.82	-0.09	GOESITED	0.87	-0.08	GOESITED	0.91	-0.06
7	CORRATSS	0.83	-0.09	CORRATSS	0.87	-0.07	CORRATSS	0.91	-0.06
8	GP2NO3	0.83	-0.09	RHPH75	0.87	-0.07	RHPH75	0.92	-0.05
9	RHPH75	0.84	-0.08	GP2NO3	0.88	-0.07	GP2NO3	0.92	-0.04
10	COLGW	0.85	0.07	COLGW	0.88	0.06			
11	GP1NO3	0.85	-0.06						

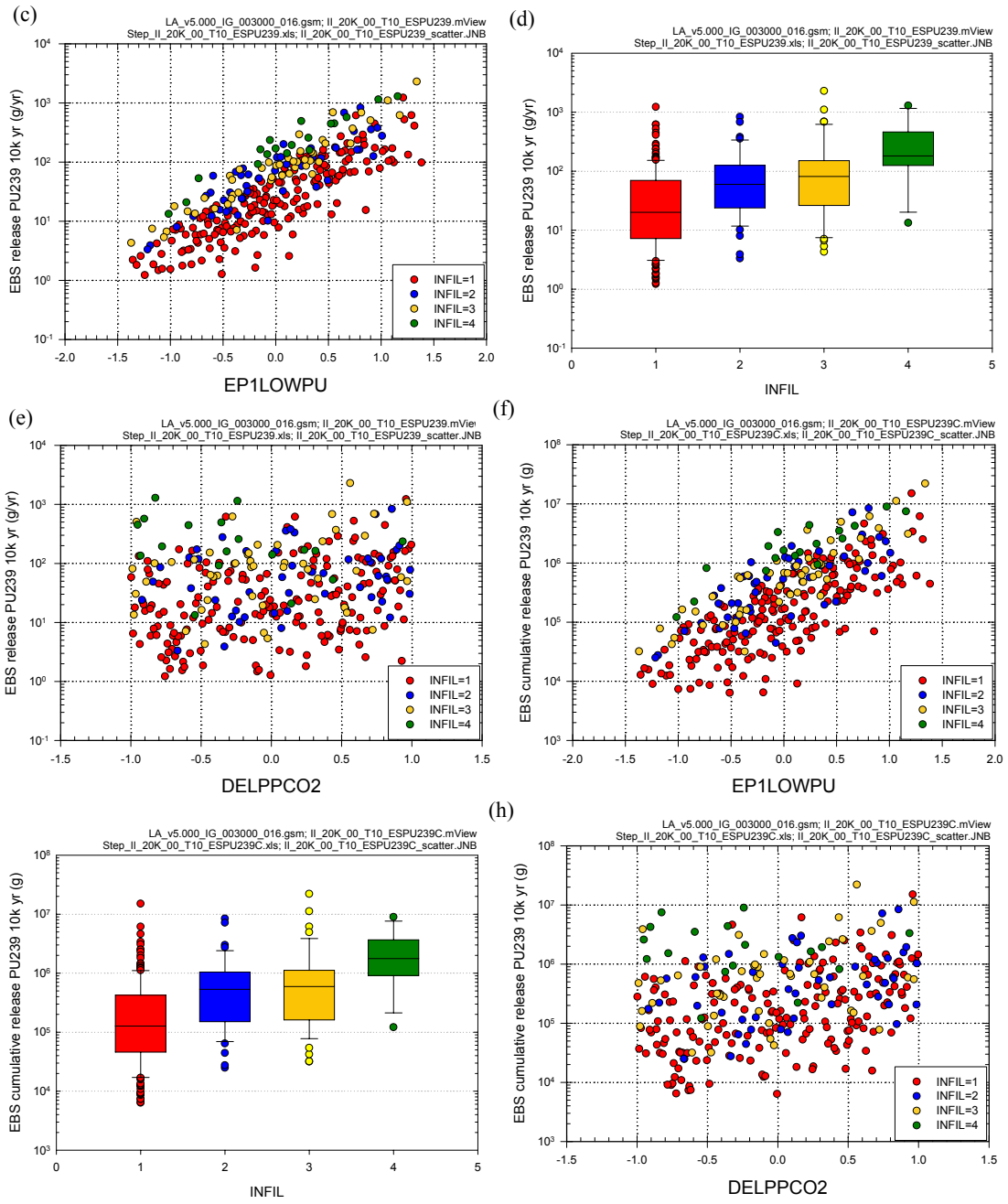
(b)

	ESPU239C: 3000 yr			ESPU239C: 5000 yr			ESPU239C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	EP1LOWPU	0.28	0.54	EP1LOWPU	0.39	0.64	EP1LOWPU	0.53	0.74
2	DELPPCO2	0.49	0.47	DELPPCO2	0.58	0.44	INFIL	0.69	0.41
3	INFIL	0.68	0.42	INFIL	0.77	0.42	DELPPCO2	0.84	0.38
4	PHCSS	0.76	-0.25	PHCSS	0.81	-0.20	PHCSS	0.86	-0.14
5	EP1LOWAM	0.78	0.15	EP1LOWAM	0.83	0.12	EP1LOWAM	0.87	0.10
6	GOESITED	0.79	-0.10	GOESITED	0.83	-0.09	GOESITED	0.88	-0.08
7	GP2NO3	0.80	-0.11	GP2NO3	0.84	-0.08	CORRATSS	0.88	-0.07
8	CORRATSS	0.81	-0.09	CORRATSS	0.85	-0.08	GP2NO3	0.89	-0.07
9	RHPH75	0.81	-0.08	RHPH75	0.85	-0.08	RHPH75	0.89	-0.06
10	COLGW	0.82	0.08	COLGW	0.86	0.06	COLGW	0.90	0.06
11	GP1NO3	0.82	-0.07						

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

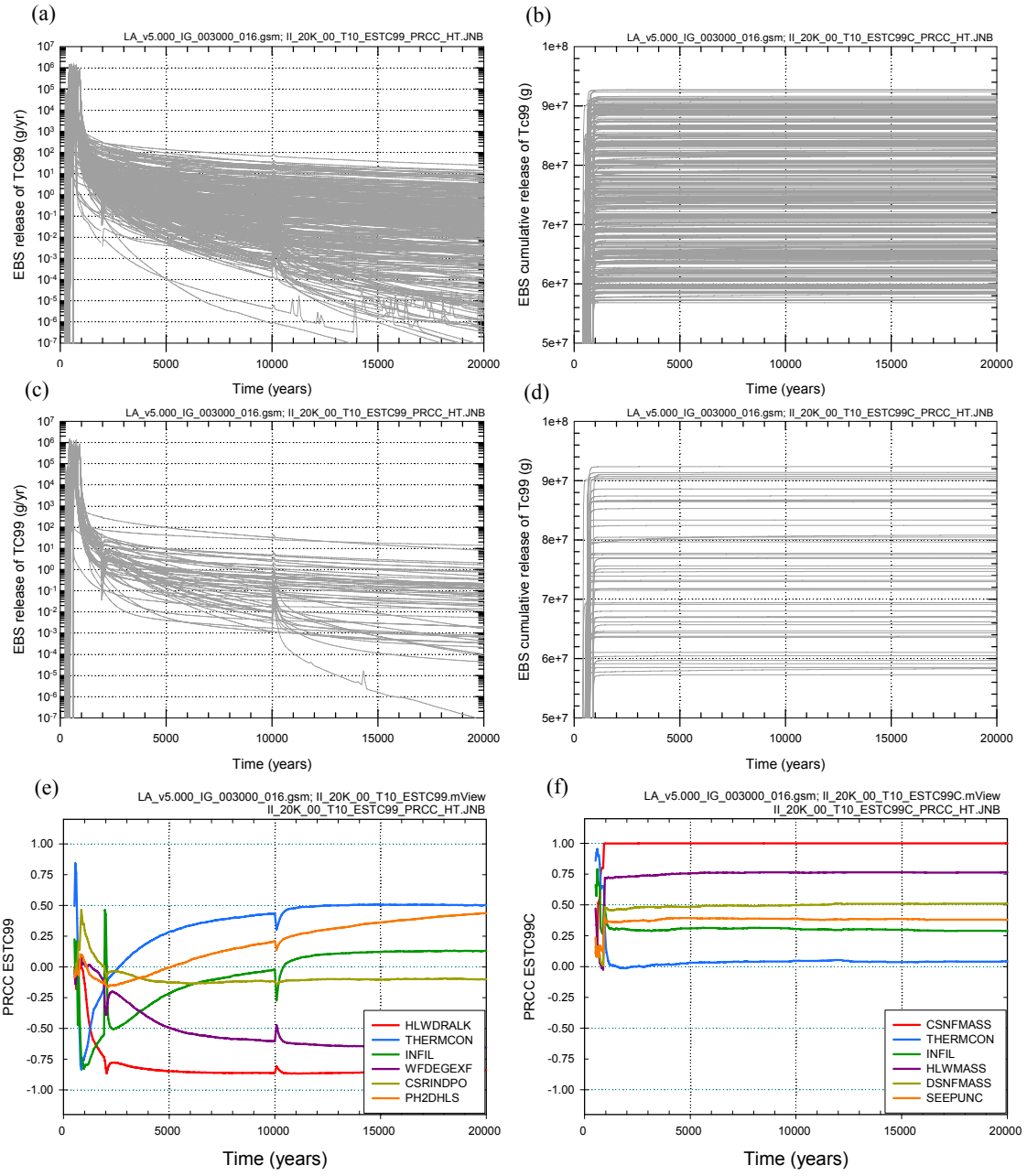
Figure K6.3.1-8. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESPU239*, g/yr) and cumulative (i.e., integrated) releases (*ESPU239*, g) for the movement of dissolved ^{239}Pu from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESPU239* and *ESPU239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESPU239* and *ESPU239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

NOTE: In (c,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.3.1-8. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESPU239*, g/yr) and cumulative (i.e., integrated) releases (*ESPU239*, g) for the movement of dissolved ^{239}Pu from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESPU239* and *ESPU239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESPU239* and *ESPU239C* at 10,000 years (continued).



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.1-9. Time-dependent release rates (*ESTC99*, g/yr) and cumulative (i.e., integrated) releases (*ESTC99C*, g) over 20,000 years for the movement of dissolved ^{99}Tc from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *ESTC99* and *ESTC99C* for all (i.e., 300) sample elements, (c, d) *ESTC99* and *ESTC99C* for first 50 sample elements, and (e, f) PRCCs for *ESTC99* and *ESTC99C*.

(a)

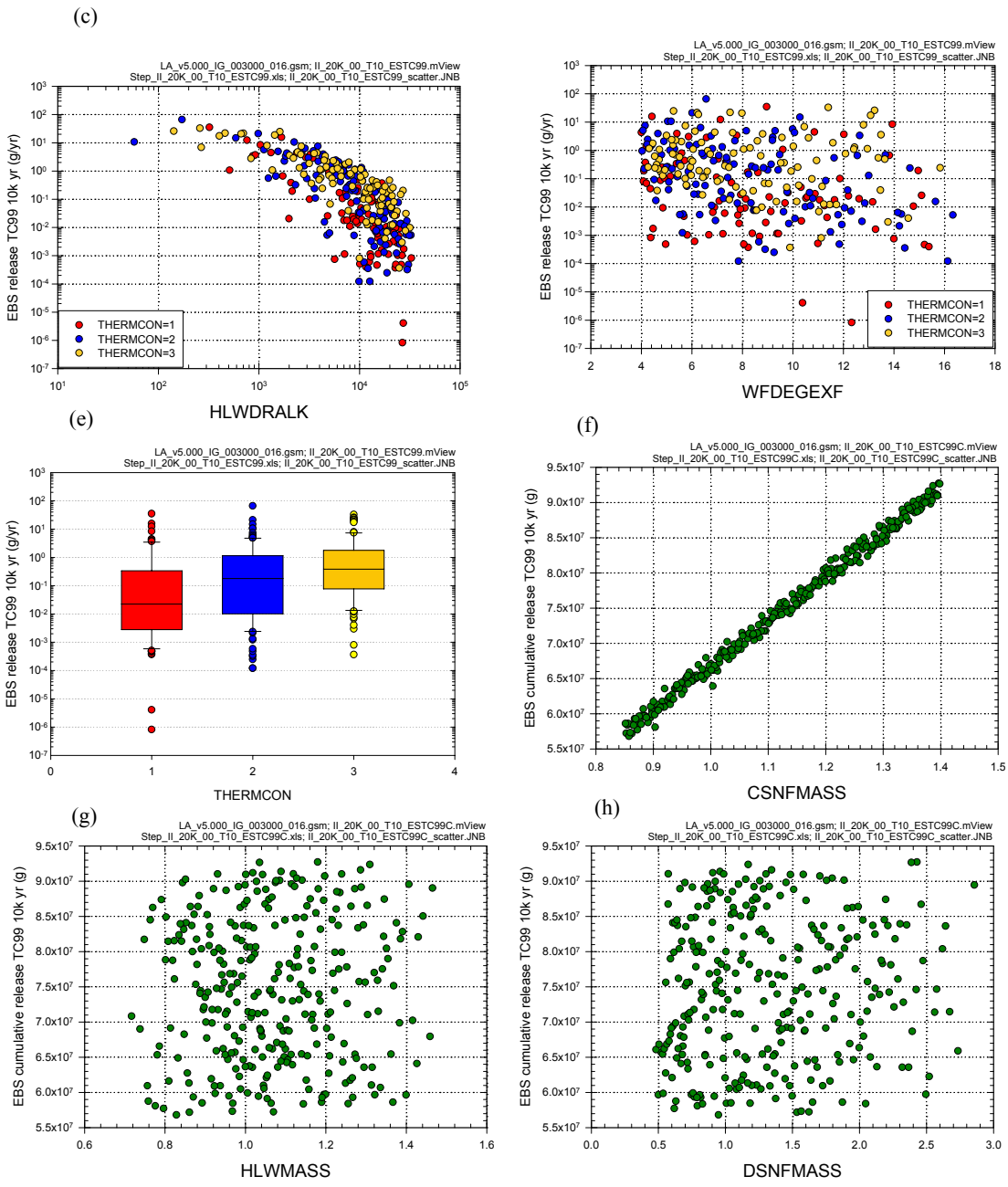
	ESTC99: 3000 yr			ESTC99: 5000 yr			ESTC99: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	HLWDRALK	0.55	-0.76	HLWDRALK	0.62	-0.81	HLWDRALK	0.59	-0.78
2	INFIL	0.64	-0.28	WFDEGEXF	0.72	-0.31	WFDEGEXF	0.72	-0.36
3	WFDEGEXF	0.67	-0.20	THERMCON	0.75	0.17	THERMCON	0.78	0.24
4	IS2DHLNS	0.68	-0.09	INFIL	0.76	-0.11	WDDSBEGC	0.79	0.09
5				WDDSBEGC	0.77	0.09	PH2DHLS	0.80	0.09
6				IS2DHLNS	0.77	-0.09	HLWDRACD	0.81	-0.08
7				IS2DHLS	0.78	-0.07			

	ESTC99C: 3000 yr			ESTC99C: 5000 yr			ESTC99C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CSNFMASS	0.99	0.99	CSNFMASS	0.99	0.99	CSNFMASS	0.99	0.99
2	HLWMASS	1.00	0.05	HLWMASS	1.00	0.05	HLWMASS	1.00	0.05
3	DSNFMASS	1.00	0.02	DSNFMASS	1.00	0.02	DSNFMASS	1.00	0.02
4	SEEPUNC	1.00	0.02	SEEPUNC	1.00	0.02	SEEPUNC	1.00	0.02
5	HLWDRALK	1.00	0.02	HLWDRALK	1.00	0.01	SEEPPRM	1.00	-0.01
6	SEEPPRM	1.00	-0.01	SEEPPRM	1.00	-0.01	INFIL	1.00	0.01
7	INFIL	1.00	0.01	INFIL	1.00	0.01	HLWDRALK	1.00	0.01
8	PHCSNS	1.00	-0.01	INRFRCCS	1.00	-0.01	KDCSCOL	1.00	-0.01
9	INRFRCCS	1.00	-0.01	KDCSCOL	1.00	-0.01	INRFRCCS	1.00	-0.01
10	KDCSCOL	1.00	-0.01	PHCSNS	1.00	-0.01	ALPHAL	1.00	-0.01

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

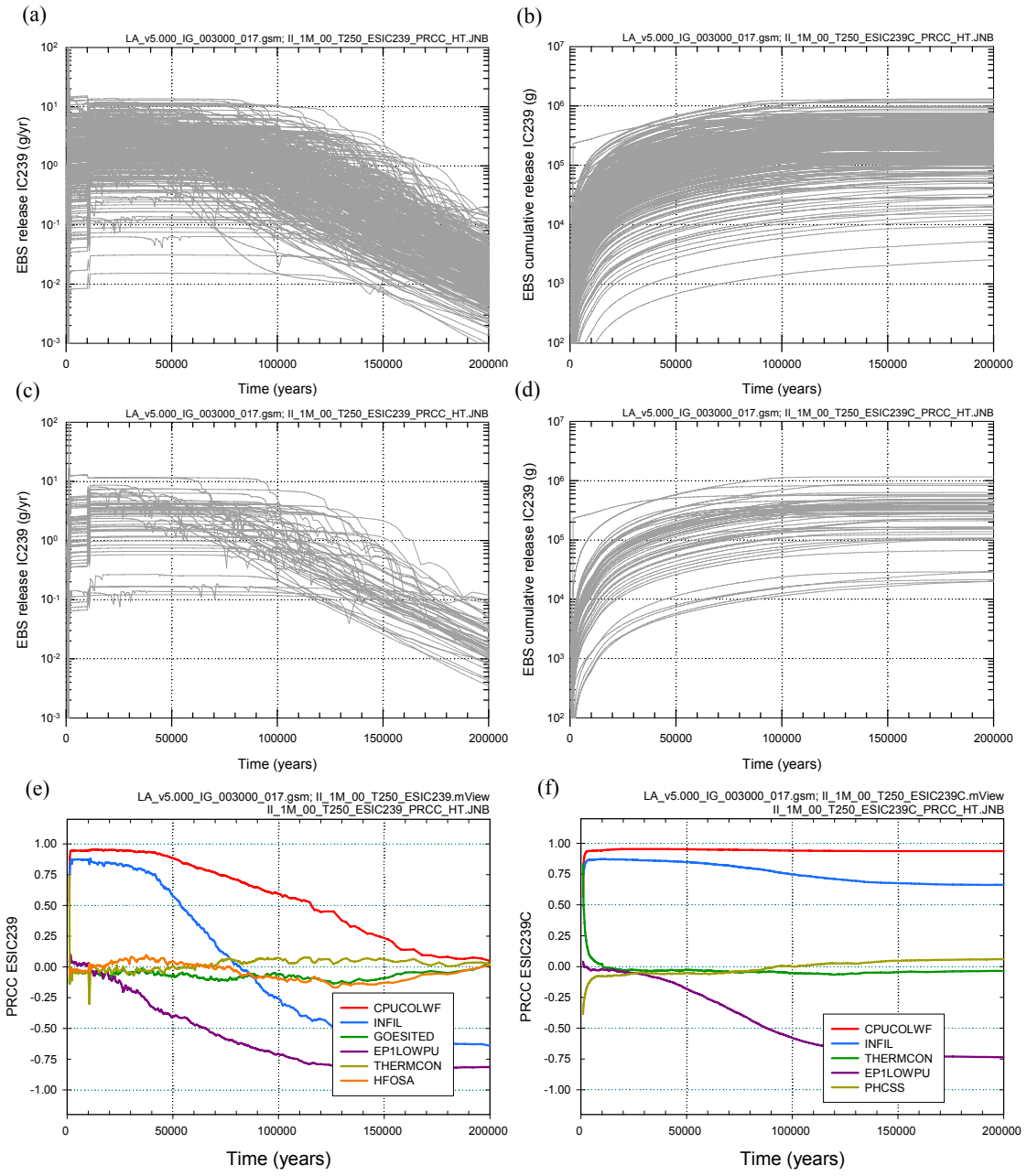
Figure K6.3.1-10. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*ESTC99*, g/yr) and cumulative (i.e., integrated) releases (*ESTC99C*, g) for the movement of dissolved ^{99}Tc from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *ESTC99* and *ESTC99C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESTC99* and *ESTC99C* at 10,000 years.



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

NOTE: In (e), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.3.1-10. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (ESTC99, g/yr) and cumulative (i.e., integrated) releases (ESTC99C, g) for the movement of dissolved 99Tc from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for ESTC99 and ESTC99C at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *ESTC99* and *ESTC99C* at 10,000 years (continued).

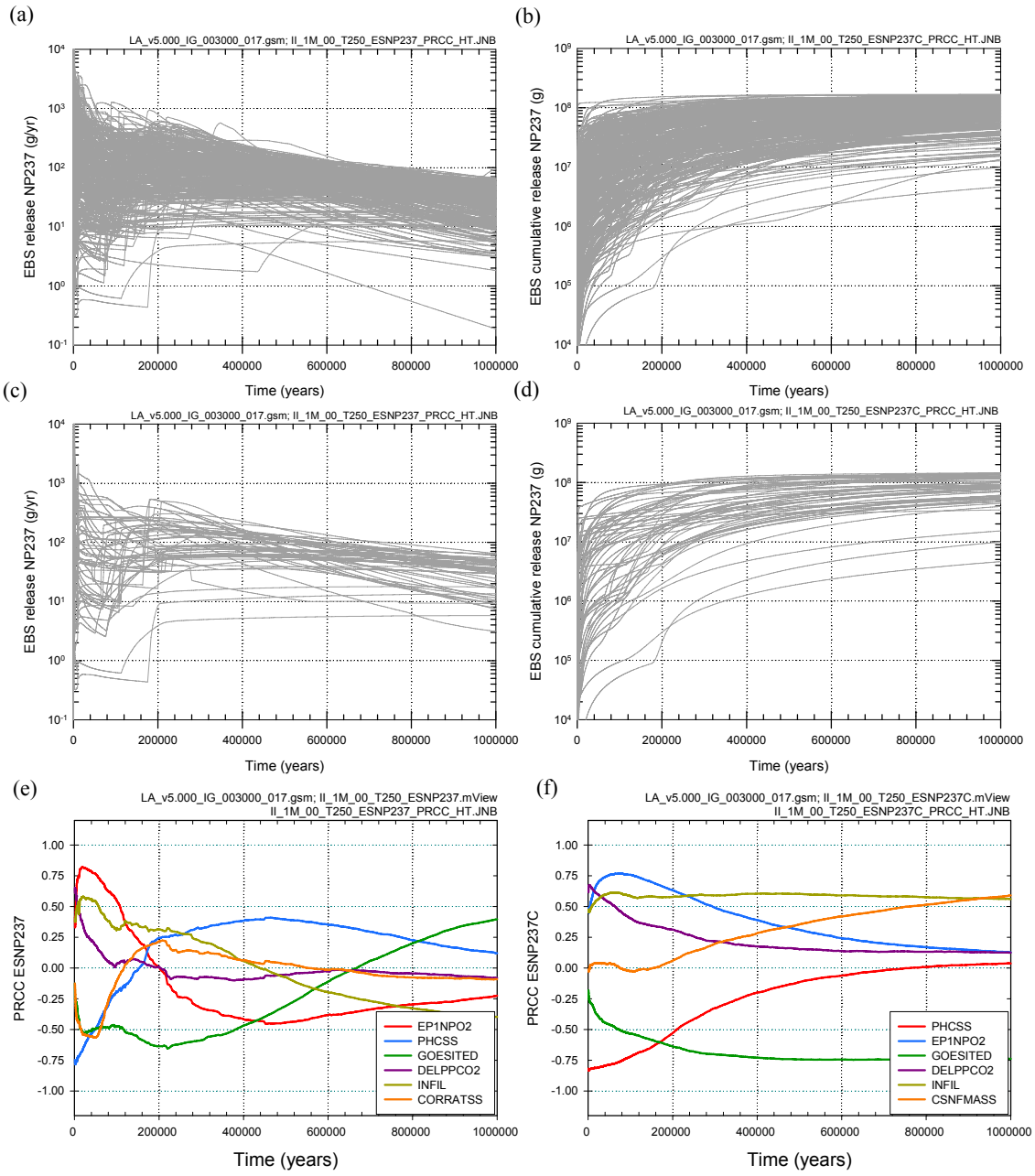


Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.2-1. Time-dependent release rates (*ESIC239*, g/yr) and cumulative (i.e., integrated) releases (*ESIC239C*, g) over 200,000 years for the movement of ^{239}Pu irreversibly attached to glass/ waste form colloids from the EBS to the UZ resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *ESIC239* and *ESIC239C* for all (i.e., 300) sample elements, (c, d) *ESIC239* and *ESIC239C* for first 50 sample elements, and (e, f) PRCCs for *ESIC239* and *ESIC239C*.

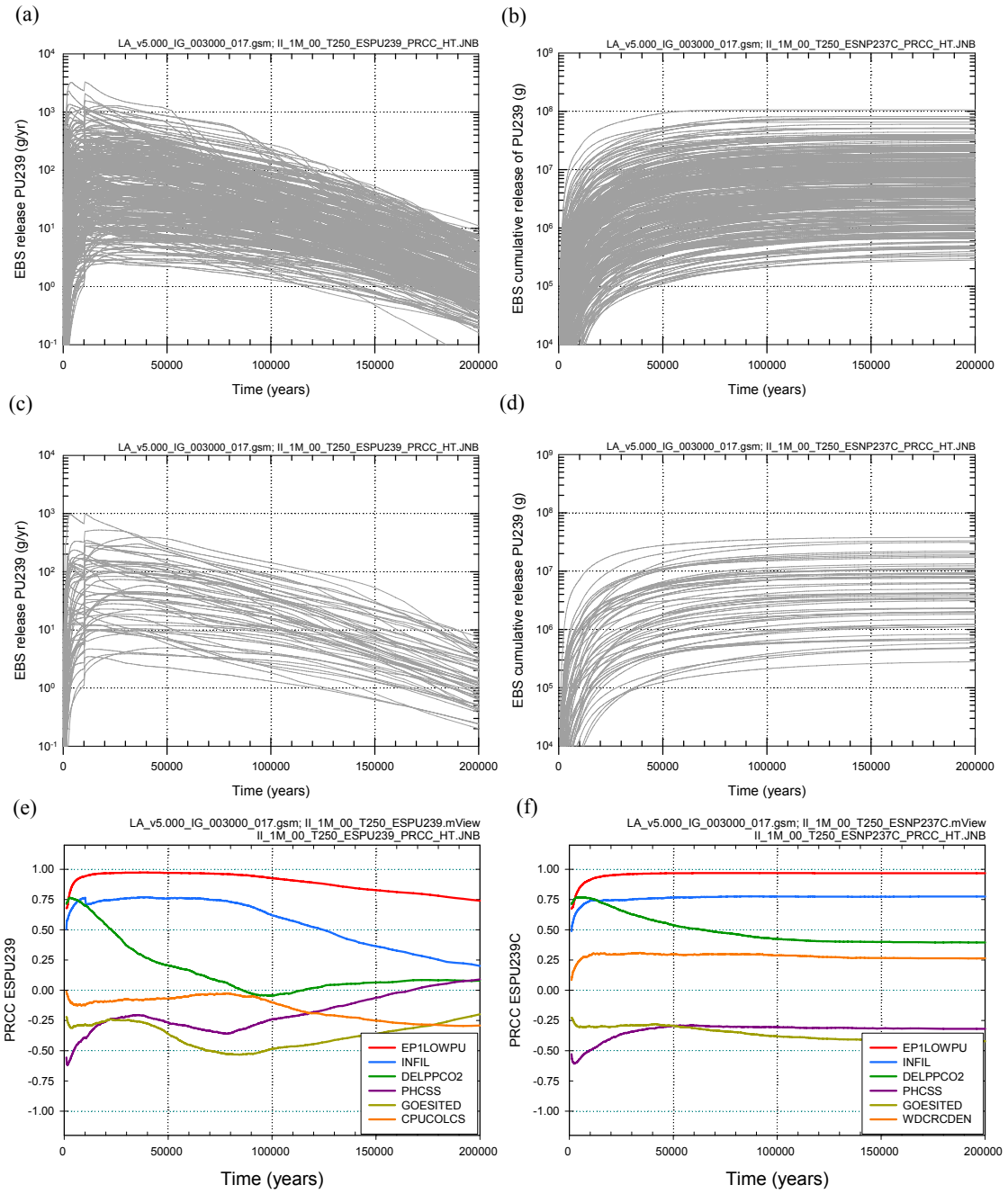
Figure Removed. See discussion in Section K6.3.2.

Figure K6.3.2-2. Time-dependent release rates (*ESIF239*, g/yr) and cumulative (i.e., integrated) releases (*ESIF239C*, g) over 200,000 years for the movement of ^{239}Pu irreversibly attached to glass/ waste form colloids from the EBS to the UZ resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *ESIF239* and *ESIF239C* for all (i.e., 300) sample elements, (c, d) *ESIF239* and *ESIF239C* for first 50 sample elements, and (e, f) PRCCs for *ESIF239* and *ESIF239C*.



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.2-3. Time-dependent release rates (*ESNP237*, g/yr) and cumulative (i.e., integrated) releases (*ESNP237C*, g) over 1,000,000 years for the movement of dissolved ^{237}Np from the EBS to the UZ resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *ESNP237* and *ESNP237C* for all (i.e., 300) sample elements, (c, d) *ESNP237* and *ESNP237C* for first 50 sample elements, and (e, f) PRCCs for *ESNP237* and *ESNP237C*.



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.3.2-4. Time-dependent release rates (*ESPU239*, g/yr) and cumulative (i.e., integrated) releases (*ESPU239C*, g) over 200,000 years for the movement of dissolved ^{239}Pu from the EBS to the UZ resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *ESPU239* and *ESPU239C* for all (i.e., 300) sample elements, (c, d) *ESPU239* and *ESPU239C* for first 50 sample elements, and (e, f) PRCCs for *ESPU239* and *ESPU239C*.

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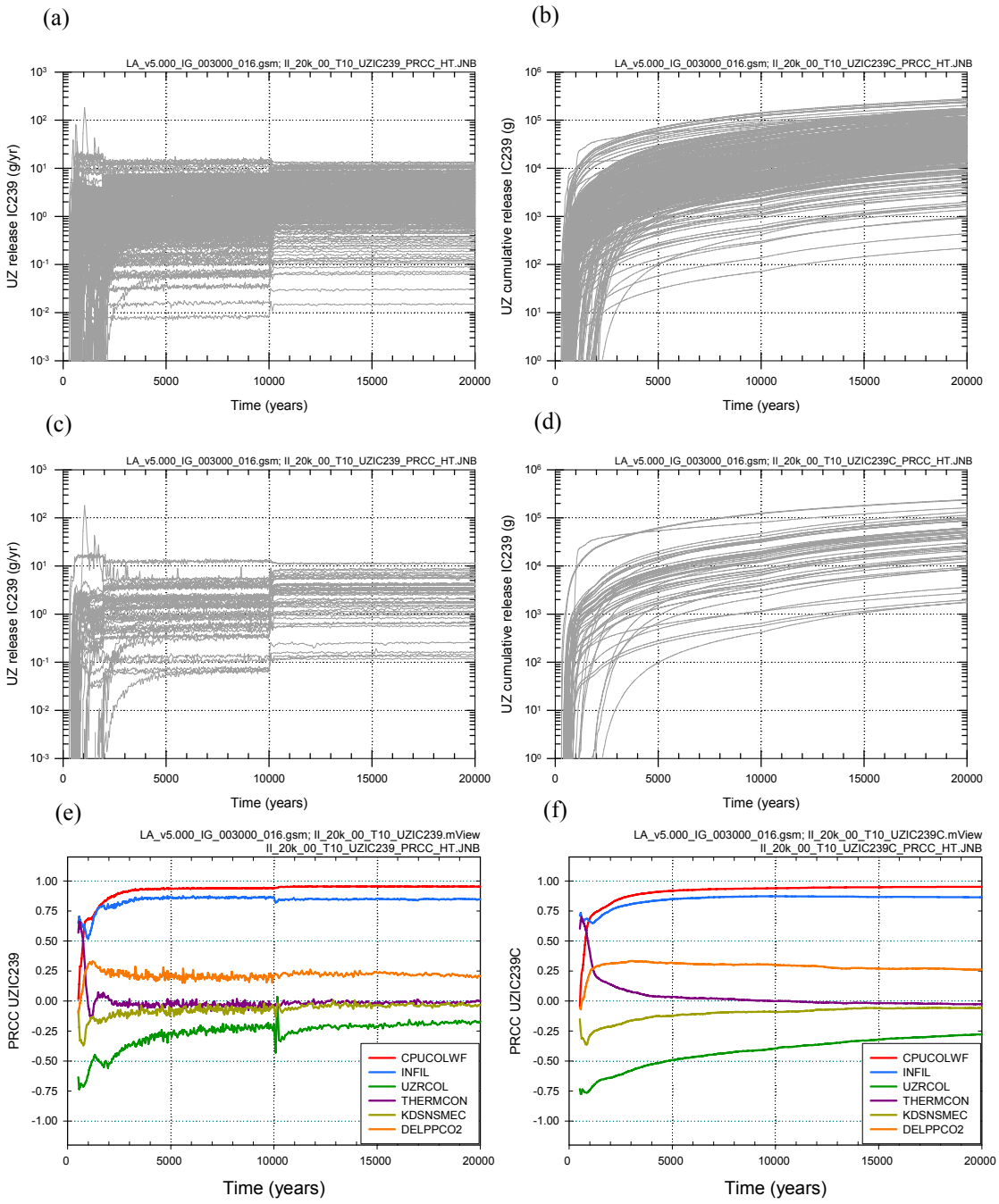


Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.4.1-1. Time-dependent release rates (*UZIC239*, g/yr) and cumulative (i.e., integrated) releases (*UZIC239C*, g) over 20,000 years for the movement of ^{239}Pu irreversibly attached to slow colloids from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *UZIC239* and *UZIC239C* for all (i.e., 300) sample elements, (c, d) *UZIC239* and *UZIC239C* for first 50 sample elements, and (e, f) PRCCs for *UZIC239* and *UZIC239C*

(a)

	UZIC239: 3000 yr			UZIC239: 5000 yr			UZIC239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.56	0.71	CPUCOLWF	0.61	0.73	CPUCOLWF	0.63	0.74
2	INFIL	0.89	0.57	INFIL	0.91	0.55	INFIL	0.92	0.54
3	UZRCOL	0.90	-0.10	UZRCOL	0.91	-0.06	DIFPATHL	0.92	0.05
4	DIFPATHL	0.90	0.05				DWCSTERB	0.92	-0.04

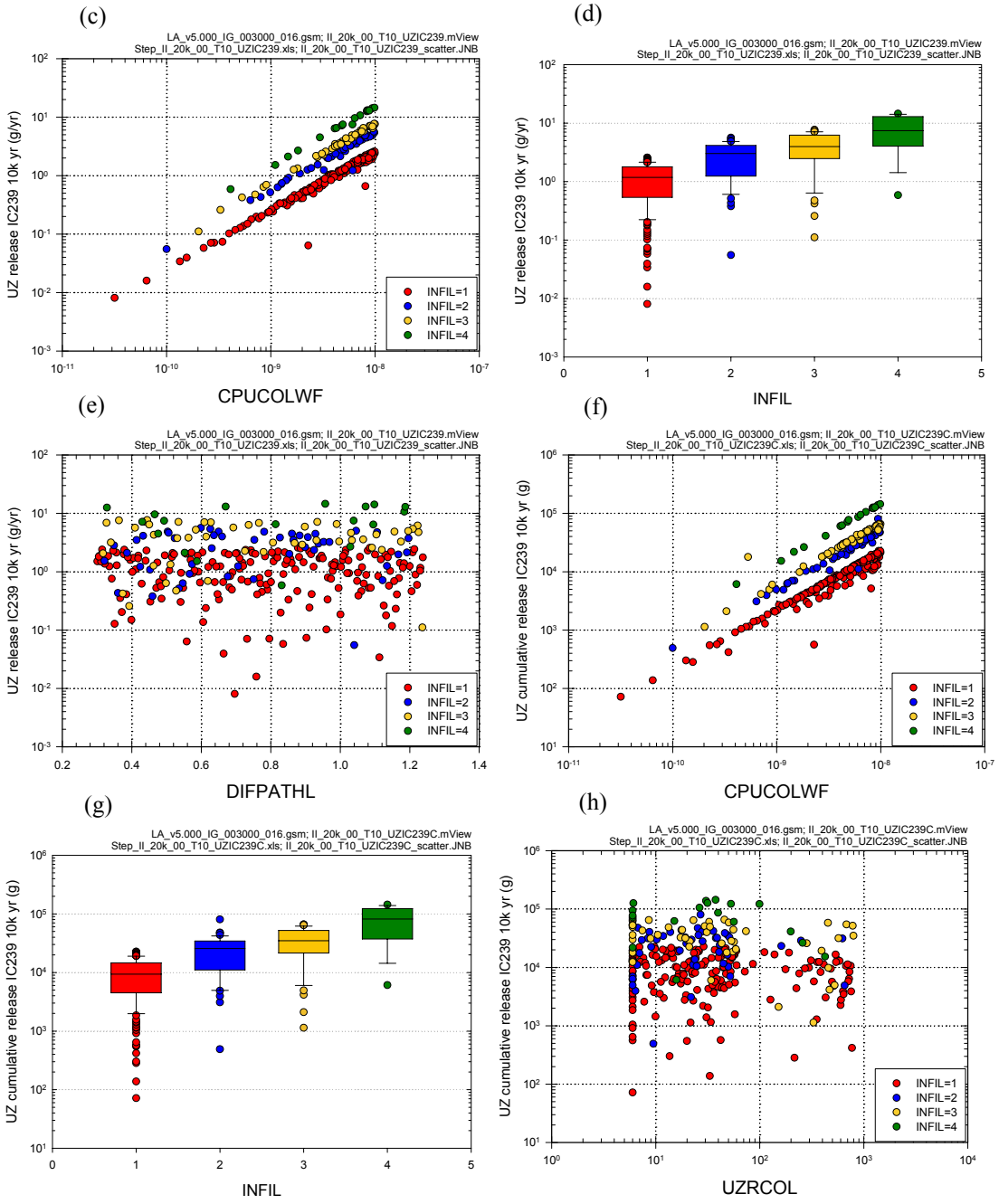
(b)

	UZIC239C: 3000 yr			UZIC239C: 5000 yr			UZIC239C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.44	0.63	CPUCOLWF	0.53	0.69	CPUCOLWF	0.59	0.73
2	INFIL	0.79	0.59	INFIL	0.87	0.58	INFIL	0.91	0.56
3	UZRCOL	0.84	-0.23	UZRCOL	0.89	-0.15	UZRCOL	0.91	-0.10
4	DELPPCO2	0.85	0.09	DELPPCO2	0.89	0.07	DELPPCO2	0.92	0.05
5				DWCSTERB	0.90	-0.05	DWCSTERB	0.92	-0.05
6							KDSNCOL	0.92	-0.04

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

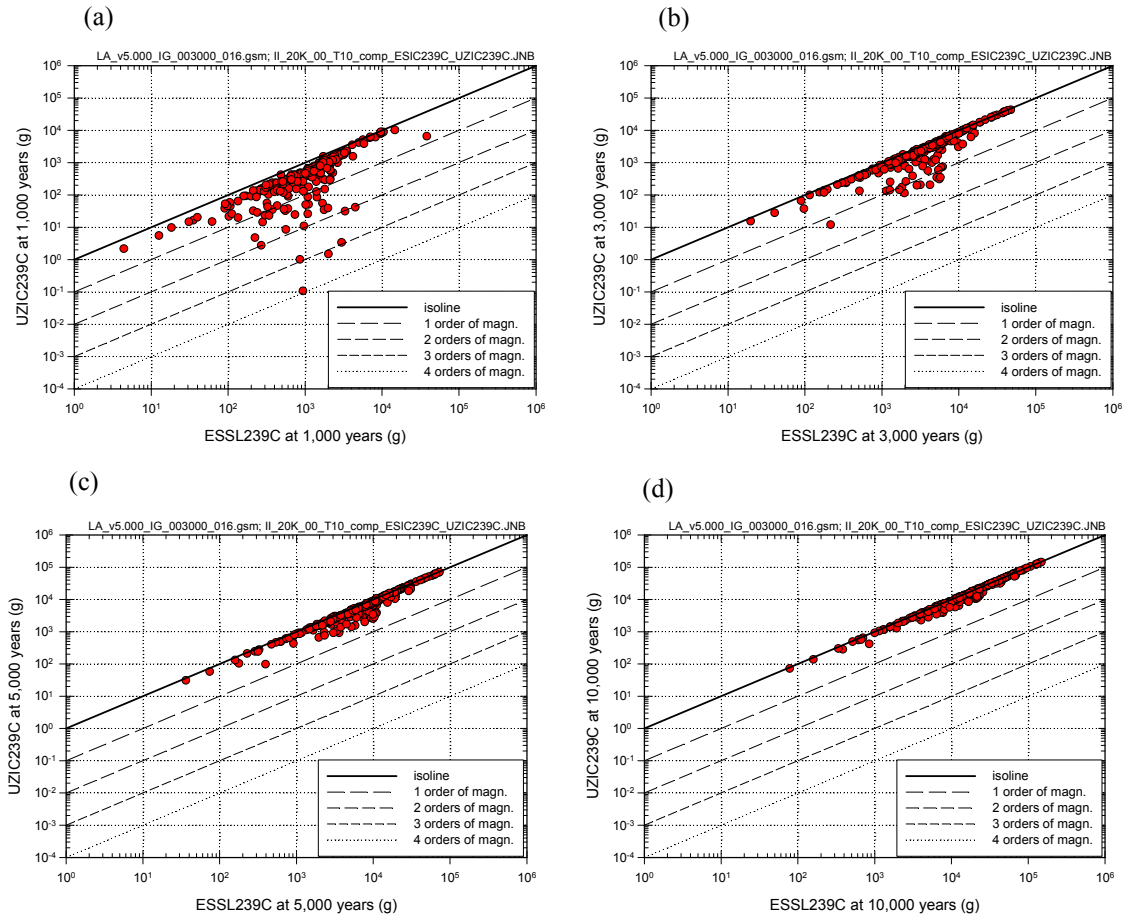
Figure K6.4.1-2. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZIC239*, g/yr) and cumulative (i.e., integrated) releases (*UZIC239C*, g) for the movement of ^{239}Pu irreversibly attached to slow colloids from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZIC239* and *UZIC239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZIC239* and *UZIC239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

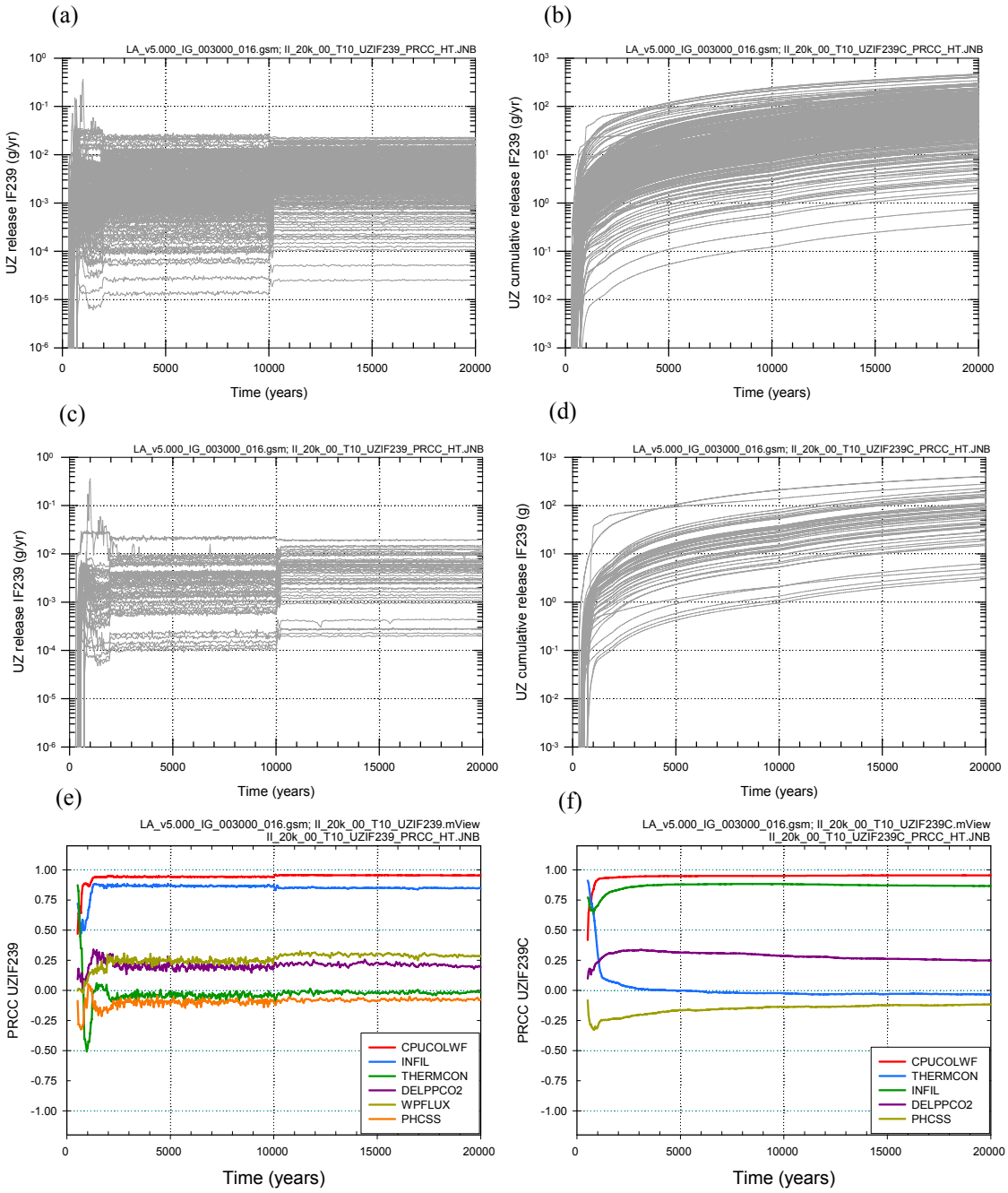
NOTE: In (g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.4.1-2. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZIC239*, g/yr) and cumulative (i.e., integrated) releases (*UZIC239C*, g) for the movement of ^{239}Pu irreversibly attached to slow colloids from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZIC239* and *UZIC239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZIC239* and *UZIC239C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.4.1-3. Comparison of cumulative releases of ^{239}Pu irreversibly attached to slow colloids into the UZ (*ESSL239C*, g) and out of the UZ (*UZIC239C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.4.1-4. Time-dependent release rates (*UZIF239*, g/yr) and cumulative (i.e., integrated) releases (*UZIF239C*, g) over 20,000 years for the movement of ^{239}Pu irreversibly attached to fast colloids from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *UZIF239* and *UZIF239C* for all (i.e., 300) sample elements, (c, d) *UZIF239* and *UZIF239C* for first 50 sample elements, and (e, f) PRCCs for *UZIF239* and *UZIF239C*

(a)

	UZIF239: 3000 yr			UZIF239: 5000 yr			UZIF239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.63	0.74	CPUCOLWF	0.63	0.74	CPUCOLWF	0.64	0.75
2	INFIL	0.92	0.55	INFIL	0.92	0.54	INFIL	0.92	0.54
3							DIFPATHL	0.93	0.04
4							WPFLUX	0.93	0.04

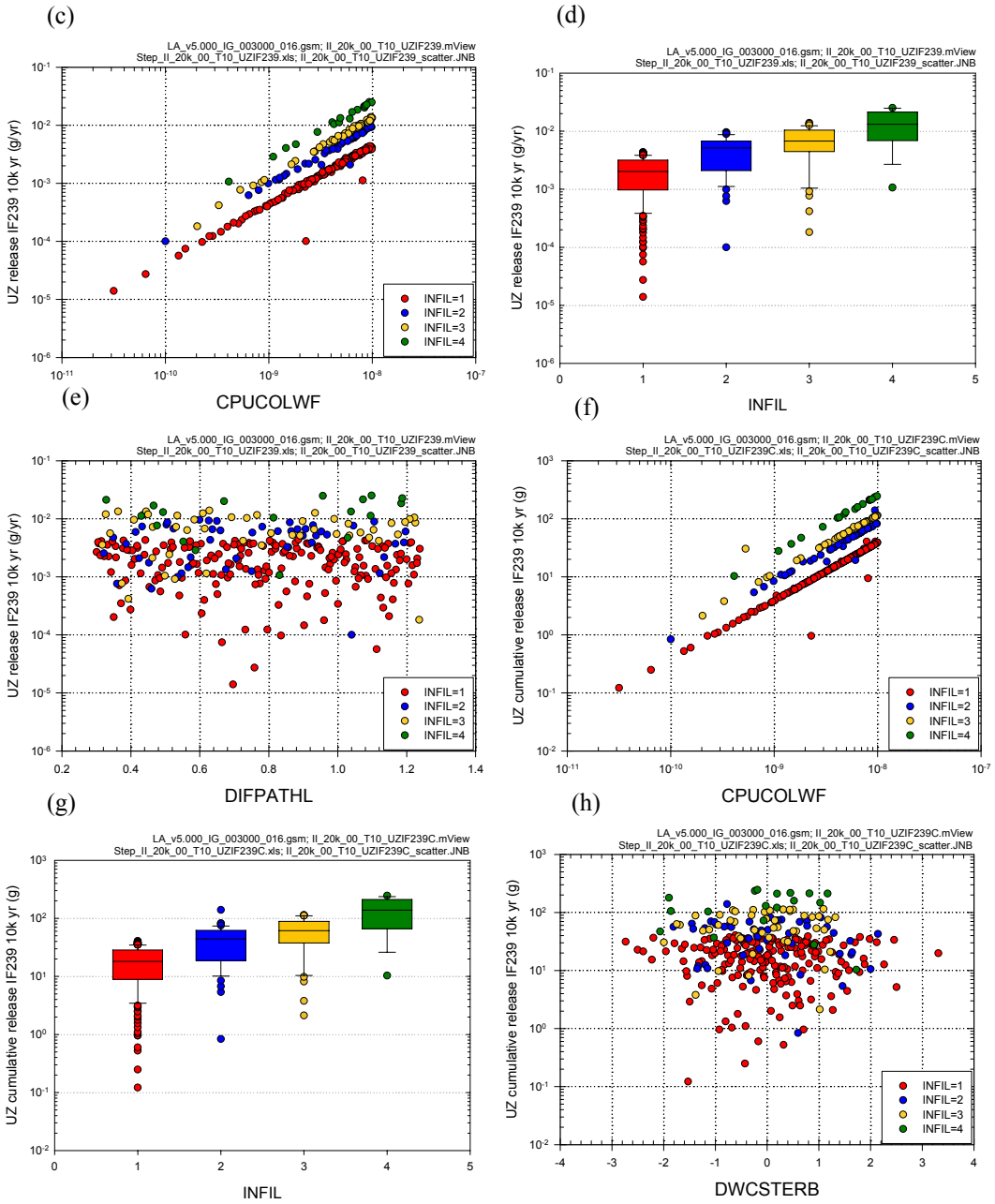
(b)

	UZIF239C: 3000 yr			UZIF239C: 5000 yr			UZIF239C: 10,000 yr		
Step[a]	**Variableb**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.61	0.73	CPUCOLWF	0.61	0.73	CPUCOLWF	0.63	0.74
2	INFIL	0.90	0.55	INFIL	0.92	0.56	INFIL	0.93	0.55
3	DWCSTERB	0.91	-0.06	DWCSTERB	0.92	-0.06	DWCSTERB	0.93	-0.05
4	DELPPCO2	0.91	0.05	RUBMAXL	0.92	-0.05	RUBMAXL	0.93	-0.04
5	RUBMAXL	0.91	-0.04	DELPPCO2	0.92	0.05	DELPPCO2	0.93	0.04
6	THERMCON	0.92	0.05						
7	RHMUNO0	0.92	-0.05						

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

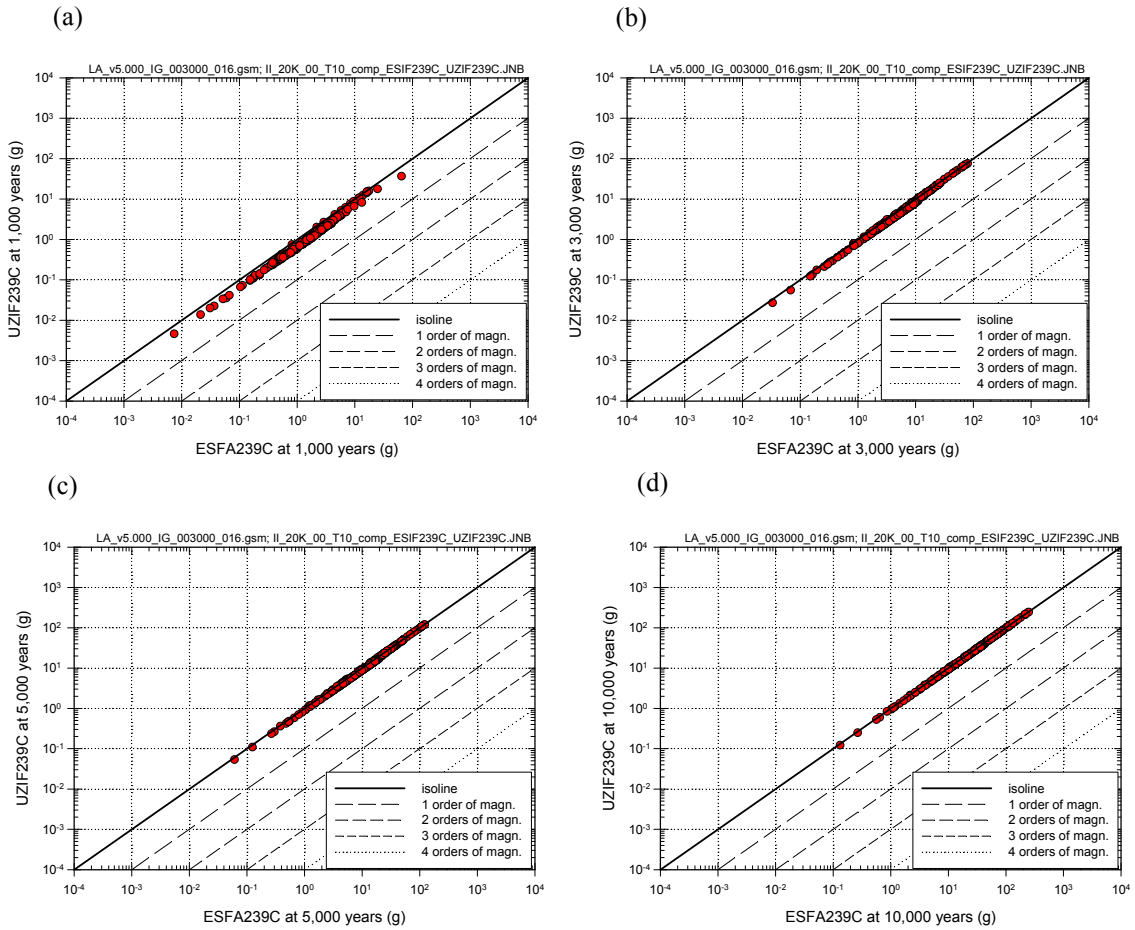
Figure K6.4.1-5. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZIF239*, g/yr) and cumulative (i.e., integrated) releases (*UZIF239C*, g) for the movement of ^{239}Pu irreversibly attached to fast colloids from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZIF239* and *UZIF239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZIF239* and *UZIF239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

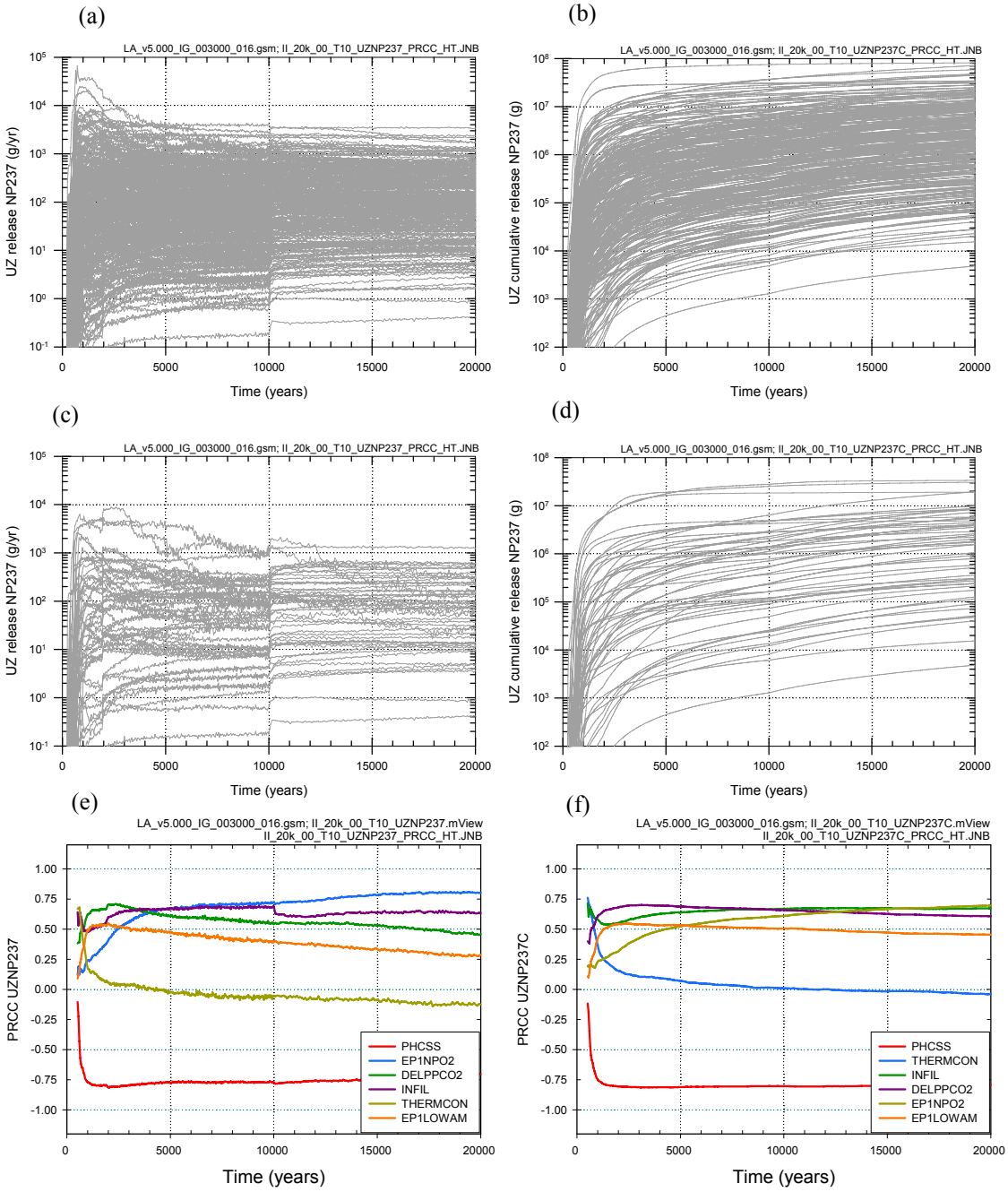
NOTE: In (d,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.4.1-5. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZIF239*, g/yr) and cumulative (i.e., integrated) releases (*UZIF239C*, g) for the movement of ^{239}Pu irreversibly attached to fast colloids from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZIF239* and *UZIF239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZIF239* and *UZIF239C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.4.1-6. Comparison of cumulative releases of ^{239}Pu irreversibly attached to fast colloids into the UZ (*ESFA239C*, g) and out of the UZ (*UZIF239C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.4.1-7. Time-dependent release rates (*UZNP237*, g/yr) and cumulative (i.e., integrated) releases (*UZNP237C*, g) over 20,000 years for the movement of dissolved ^{237}Np from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *UZNP237* and *UZNP237C* for all (i.e., 300) sample elements, (c, d) *UZNP237* and *UZNP237C* for first 50 sample elements, and (e, f) PRCCs for *UZNP237* and *UZNP237C*

(a)

	UZNP237: 3000 yr			UZNP237: 5000 yr			UZNP237: 10,000 yr		
Step[a]	Variable[b]	R^{2c}	SRRC[d]	Variable	R^2	SRRC	Variable	R^2	SRRC
1	PHCSS	0.31	-0.52	PHCSS	0.28	-0.50	PHCSS	0.27	-0.49
2	INFIL	0.49	0.39	INFIL	0.48	0.42	INFIL	0.46	0.42
3	DELPPCO2	0.56	0.31	EP1NPO2	0.59	0.38	EP1NPO2	0.63	0.45
4	EP1LOWAM	0.63	0.30	EP1LOWAM	0.64	0.25	CORRATSS	0.68	-0.19
5	EP1NPO2	0.69	0.26	DELPPCO2	0.69	0.25	EP1LOWAM	0.71	0.20
6	CORRATSS	0.73	-0.18	CORRATSS	0.73	-0.17	DELPPCO2	0.74	0.20
7	EP1LOWNU	0.74	0.11	EP1LOWNU	0.75	0.14	GOESITED	0.76	-0.16
8	COLGW	0.76	0.12	GOESITED	0.77	-0.14	EP1LOWNU	0.78	0.14
9	GOESITED	0.77	-0.11	PH2RGER	0.78	-0.09	PH2RGER	0.79	-0.10
10	WDCRCDEN	0.78	0.10	WDCRCDEN	0.79	0.10	GOERELAB	0.80	0.10
11	SEEPUNC	0.79	0.10	COLGW	0.79	0.10	WDCRCDEN	0.81	0.10
12	PH2RGER	0.79	-0.10	SEEPUNC	0.80	0.09	HFOSA	0.82	-0.08
13	EP1NP2O5	0.80	0.10	GOERELAB	0.81	0.08	COLGW	0.82	0.08
14	KDRACOL	0.80	-0.07	HFOSA	0.81	-0.07	SEEPUNC	0.83	0.08

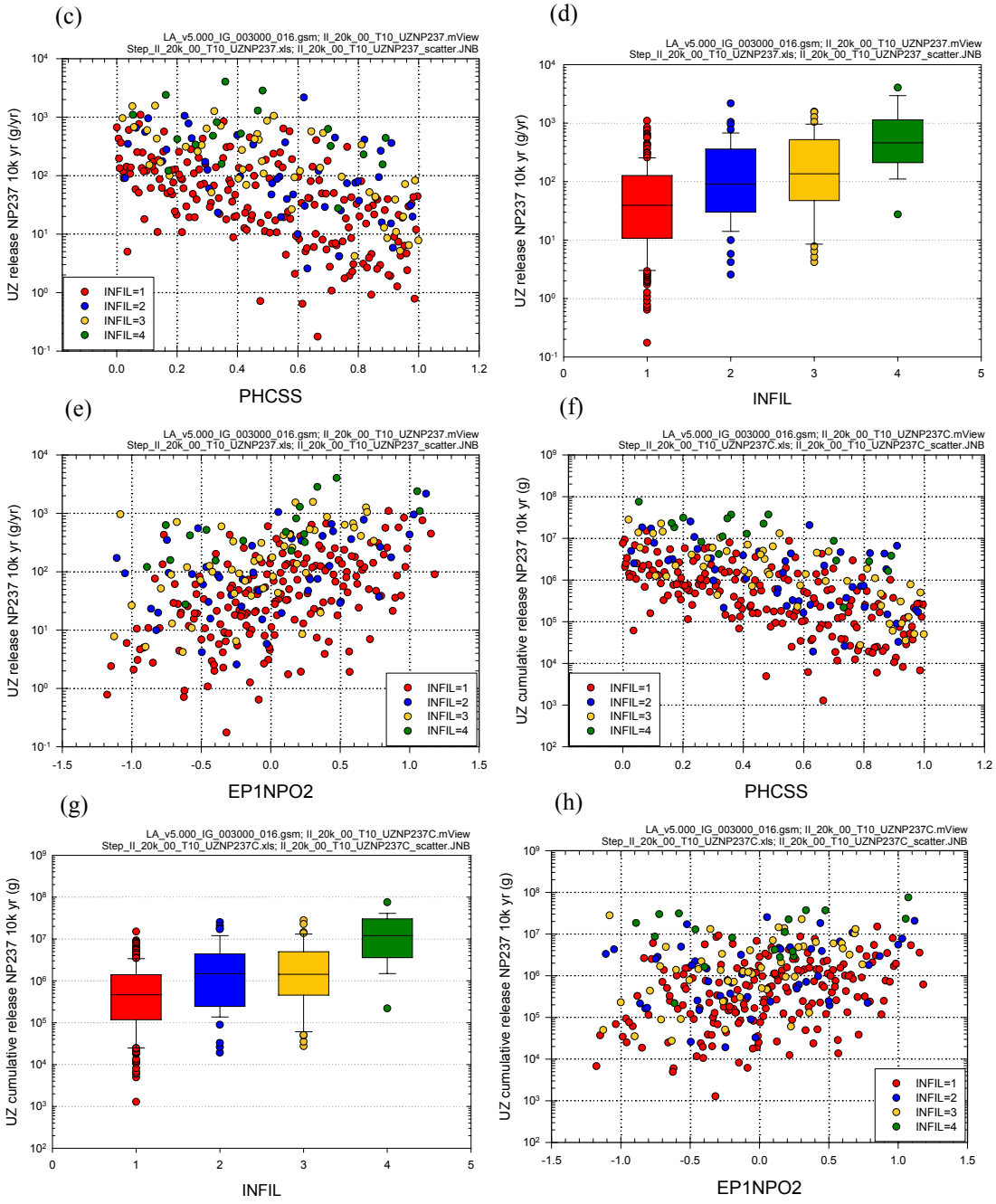
(b)

	UZNP237C: 3000 yr			UZNP237C: 5000 yr			UZNP237C: 10,000 yr		
Step[a]	Variable[b]	R^{2c}	SRRC[d]	Variable	R^2	SRRC	Variable	R^2	SRRC
1	PHCSS	0.37	-0.56	PHCSS	0.35	-0.55	PHCSS	0.32	-0.53
2	INFIL	0.51	0.37	INFIL	0.51	0.38	INFIL	0.51	0.41
3	DELPPCO2	0.60	0.30	DELPPCO2	0.58	0.30	EP1NPO2	0.58	0.31
4	EP1LOWAM	0.68	0.29	EP1LOWAM	0.66	0.29	EP1LOWAM	0.64	0.27
5	EP1NPO2	0.70	0.16	EP1NPO2	0.70	0.23	DELPPCO2	0.70	0.27
6	CORRATSS	0.72	-0.13	CORRATSS	0.73	-0.15	CORRATSS	0.74	-0.17
7	GOESITED	0.74	-0.11	GOESITED	0.74	-0.12	EP1LOWNU	0.75	0.13
8	COLGW	0.75	0.11	EP1LOWNU	0.76	0.11	GOESITED	0.77	-0.13
9	KDAMSMEC	0.76	0.09	COLGW	0.77	0.11	COLGW	0.78	0.10
10	EP1NP2O5	0.77	0.09	EP1NP2O5	0.77	0.10	WDCRCDEN	0.79	0.10
11	EP1LOWNU	0.77	0.08	WDCRCDEN	0.78	0.09	PH2RGER	0.79	-0.10
12	CSRINDPO	0.78	0.08	PH2RGER	0.79	-0.09	EP1NP2O5	0.80	0.09
13				SEEPUNC	0.80	0.09	SEEPUNC	0.81	0.09
14				KDAMSMEC	0.80	0.07			

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

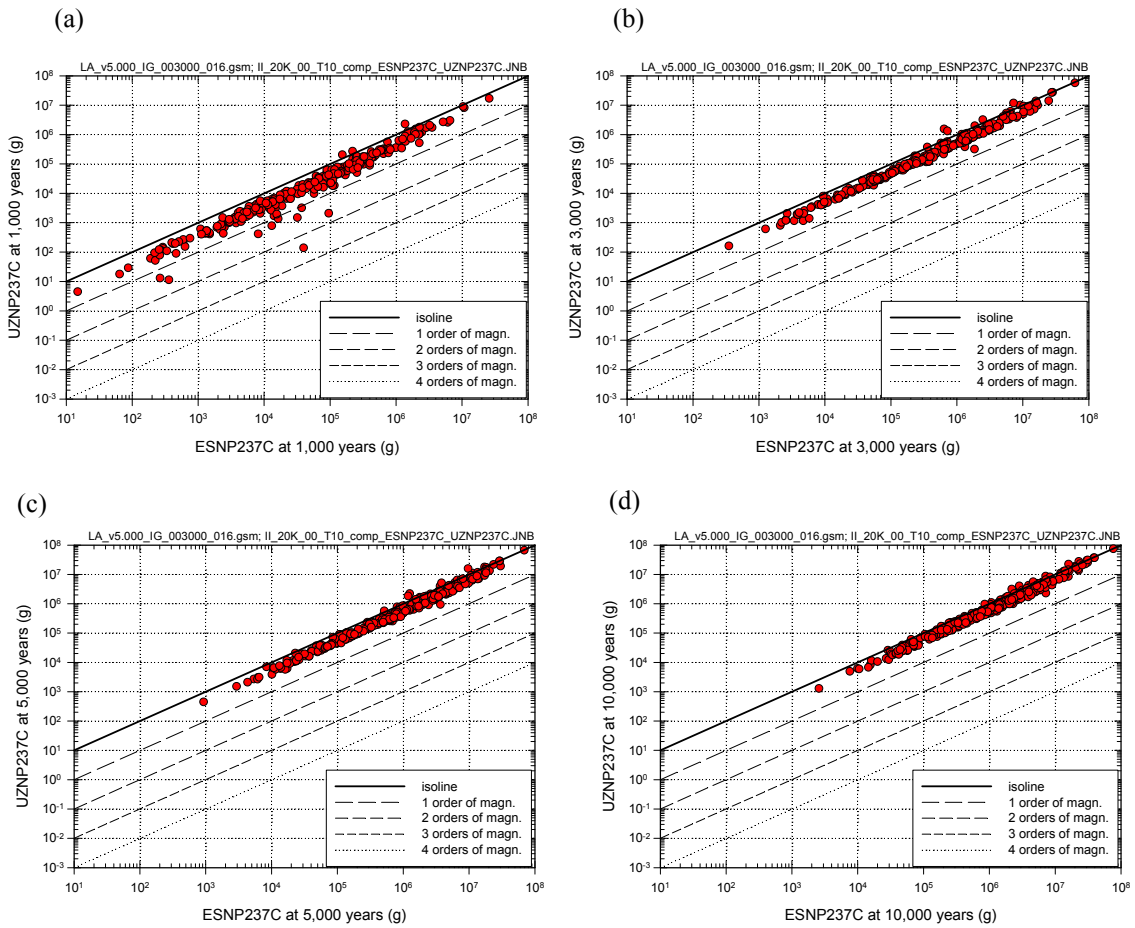
Figure K6.4.1-8. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZNP237*, g/yr) and cumulative (i.e., integrated) releases (*UZNP237C*, g) for the movement of dissolved ^{237}Np from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZNP237* and *UZNP237C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZNP237* and *UZNP237C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

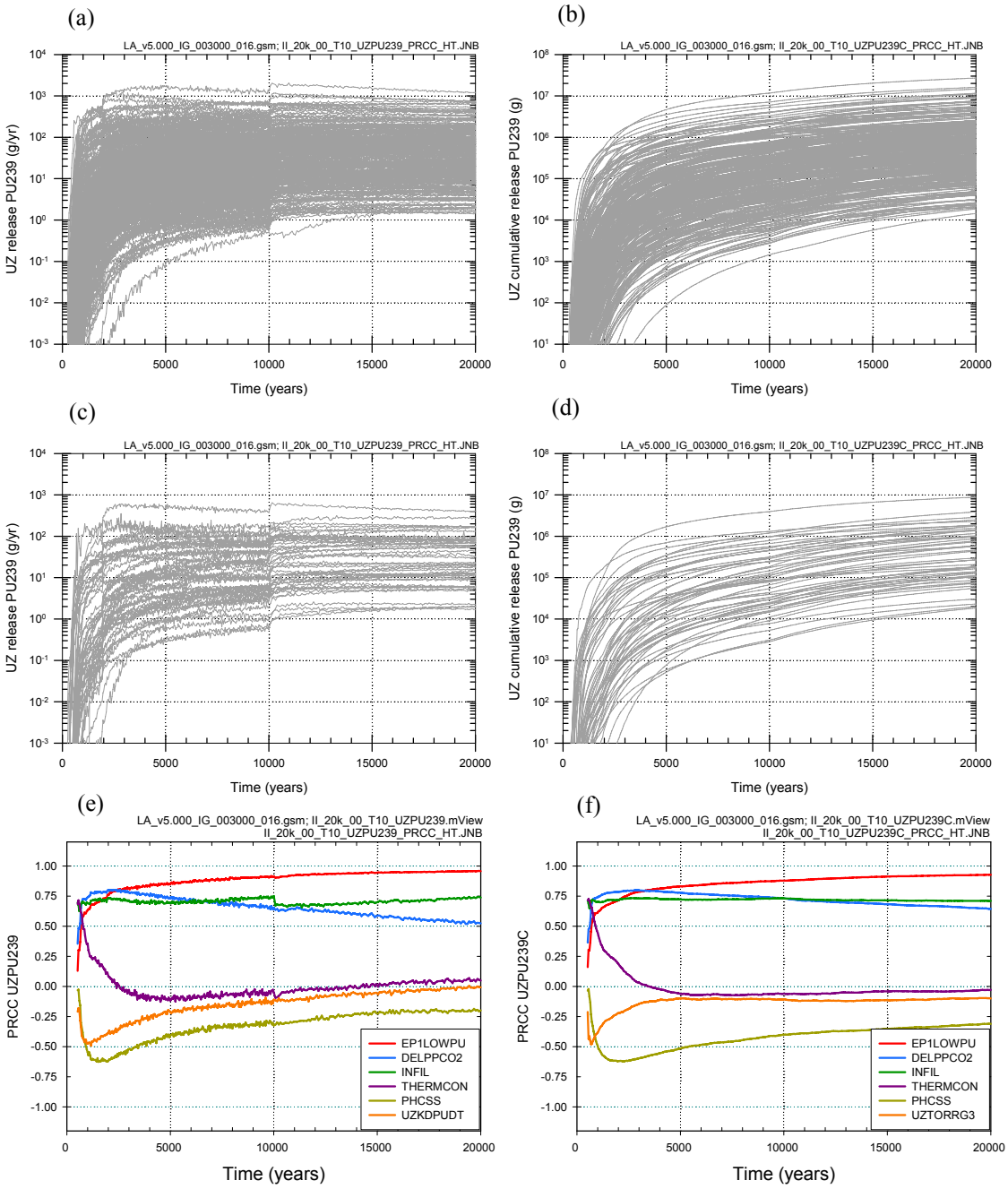
NOTE: In (d,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.4.1-8. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (UZNP237, g/yr) and cumulative (i.e., integrated) releases (UZNP237C, g) for the movement of dissolved 237Np from the EBS to the UZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for UZNP237 and UZNP237C at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for UZNP237 and UZNP237C at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.4.1-9. Comparison of cumulative releases of dissolved ^{237}Np into the UZ (*ESNP237C*, g) and out of the UZ (*UZNP237C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.4.1-10. Time-dependent release rates (*UZPU239*, g/yr) and cumulative (i.e., integrated) releases (*UZPU239C*, g) over 20,000 years for the movement of dissolved ^{239}Pu from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *UZPU239* and *UZPU239C* for all (i.e., 300) sample elements, (c, d) *UZPU239* and *UZPU239C* for first 50 sample elements, and (e, f) PRCCs for *UZPU239* and *UZPU239C*

(a)

	UZPU239: 3000 yr			UZPU239: 5000 yr			UZPU239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	EP1LOWPU	0.30	0.56	EP1LOWPU	0.42	0.65	EP1LOWPU	0.58	0.76
2	INFIL	0.51	0.44	INFIL	0.61	0.43	INFIL	0.77	0.43
3	DELPPCO2	0.69	0.43	DELPPCO2	0.75	0.38	DELPPCO2	0.85	0.28
4	UZKDPUDT	0.74	-0.21	PHCSS	0.78	-0.14	PHCSS	0.86	-0.09
5	PHCSS	0.79	-0.19	UZKDPUDT	0.80	-0.13	COLGW	0.87	0.09
6	EP1LOWAM	0.81	0.15	COLGW	0.81	0.11	EP1LOWAM	0.87	0.08
7	COLGW	0.82	0.10	EP1LOWAM	0.82	0.11	UZKDPUDT	0.88	-0.06
8	CORRATSS	0.82	-0.08	CORRATSS	0.83	-0.08	WDCRCDEN	0.88	0.06
9	FHHISSCP	0.83	0.07	INRFRCTC	0.83	0.07	CORRATSS	0.88	-0.05

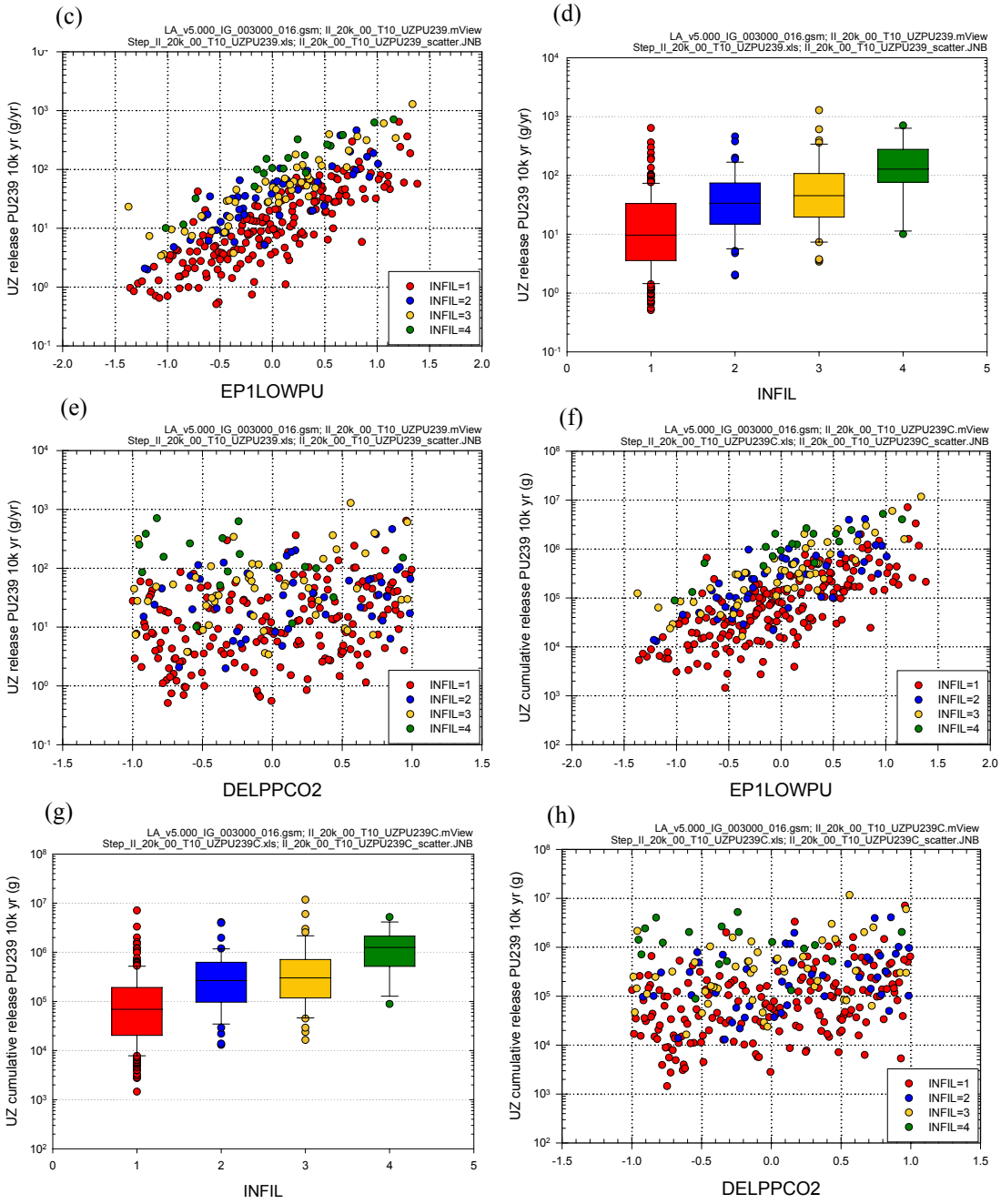
(b)

	UZPU239C: 3000 yr			UZPU239C: 5000 yr			UZPU239C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	EP1LOWPU	0.23	0.49	EP1LOWPU	0.33	0.58	EP1LOWPU	0.46	0.68
2	INFIL	0.45	0.45	INFIL	0.54	0.45	INFIL	0.66	0.44
3	DELPPCO2	0.63	0.45	DELPPCO2	0.71	0.42	DELPPCO2	0.78	0.36
4	UZKDPUDT	0.71	-0.23	UZKDPUDT	0.75	-0.20	PHCSS	0.81	-0.13
5	PHCSS	0.78	-0.23	PHCSS	0.79	-0.18	UZKDPUDT	0.82	-0.12
6	EP1LOWAM	0.80	0.15	EP1LOWAM	0.81	0.14	EP1LOWAM	0.83	0.11
7	COLGW	0.81	0.09	COLGW	0.82	0.10	COLGW	0.84	0.11
8	CORRATSS	0.82	-0.08	CORRATSS	0.83	-0.07	CORRATSS	0.85	-0.07
9	GP2NO3	0.82	-0.08						
10	GOESITED	0.83	-0.07						
11	GP1NO3	0.83	-0.09						
12	UZFAG8	0.84	0.08						
13	INRFRCTC	0.84	0.07						

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

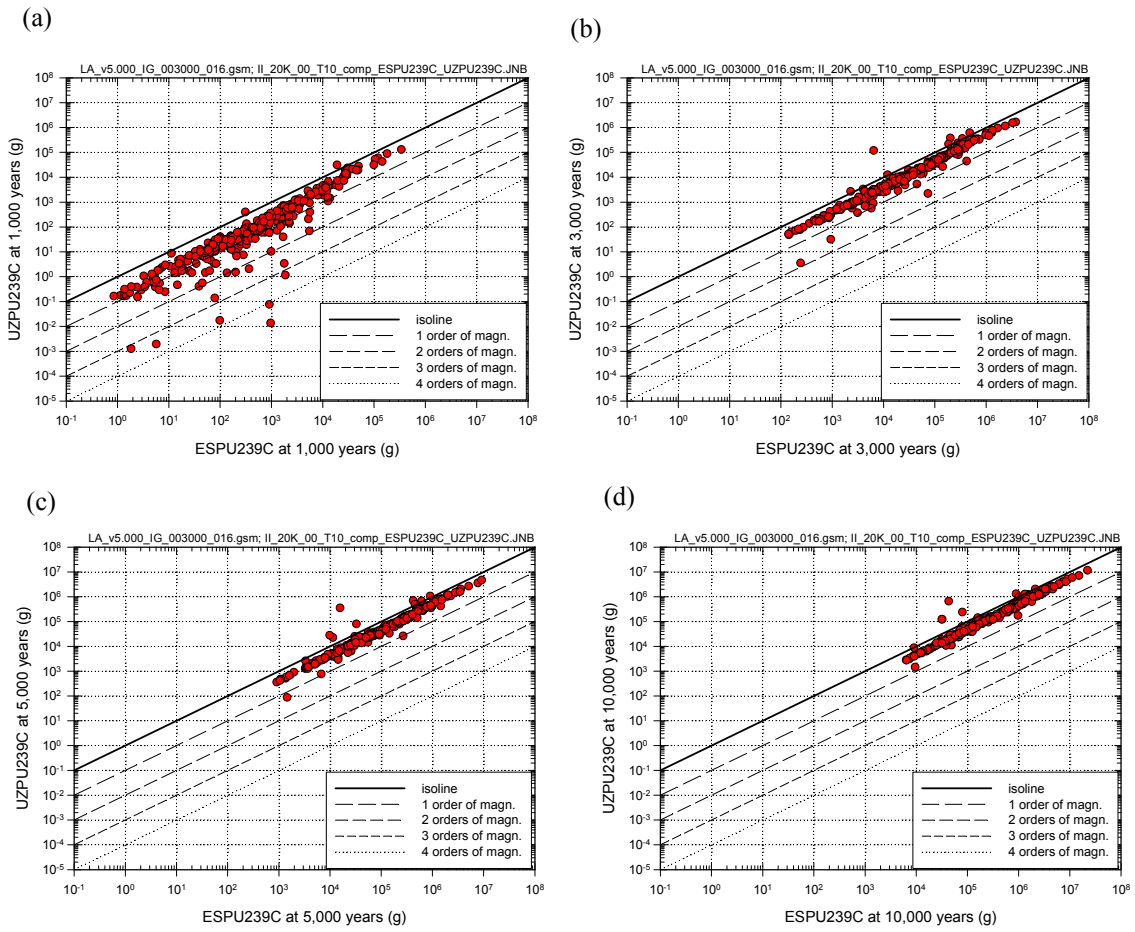
Figure K6.4.1-11. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZPU239*, g/yr) and cumulative (i.e., integrated) releases (*UZPU239*, g) for the movement of dissolved ^{239}Pu from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZPU239* and *UZPU239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZPU239* and *UZPU239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

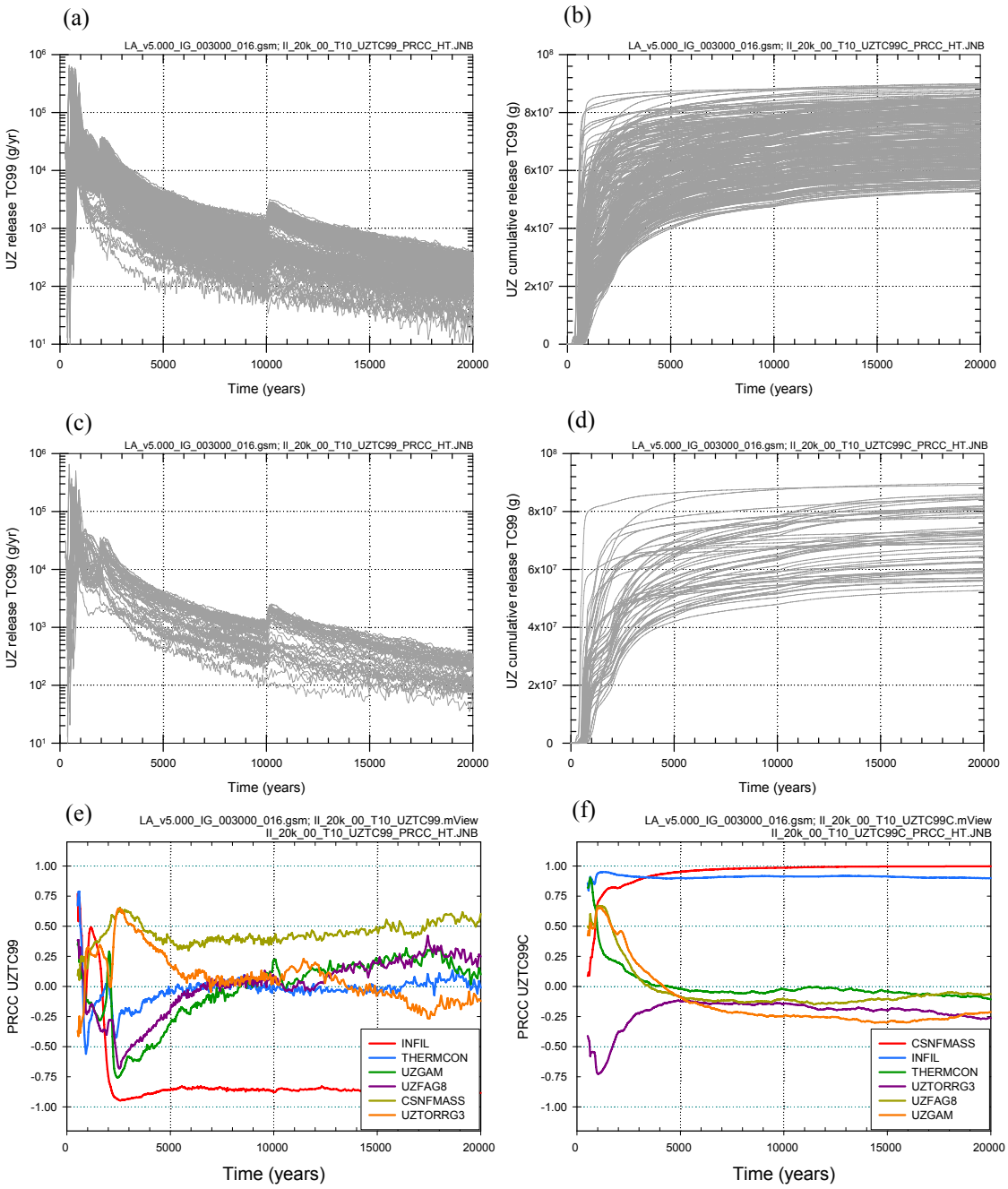
NOTE: In (d,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.4.1-11. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (UZPU239, g/yr) and cumulative (i.e., integrated) releases (UZPU239, g) for the movement of dissolved 239Pu from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for UZPU239 and UZPU239C at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for UZPU239 and UZPU239C at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.4.1-12. Comparison of cumulative releases of dissolved ^{239}Pu into the UZ (*ESPU239C*, g) and out of the UZ (*UZPU239C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.4.1-13. Time-dependent release rates (*UZTC99*, g/yr) and cumulative (i.e., integrated) releases (*UZTC99C*, g) over 20,000 years for the movement of dissolved ^{99}Tc from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *UZTC99* and *UZTC99C* for all (i.e., 300) sample elements, (c, d) *UZTC99* and *UZTC99C* for first 50 sample elements, and (e, f) PRCCs for *UZTC99* and *UZTC99C*

(a)

	UZTC99: 3000 yr			UZTC99: 5000 yr			UZTC99: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	INFIL	0.71	-0.87	INFIL	0.70	-0.86	INFIL	0.67	-0.82
2	CSNFMASS	0.78	0.23	CSNFMASS	0.78	0.26	CSNFMASS	0.74	0.25
3	UZTORRG3	0.82	0.20	UZTORRG3	0.79	0.10	UZFAG5	0.75	-0.11
4	UZGAM	0.86	-0.21	UZGAM	0.79	-0.09	UZTORRG2	0.77	0.12
5	UZFAG8	0.89	-0.20	KDAMSMEC	0.80	-0.08	UZFAG3	0.78	-0.10
6	UZFAG3	0.90	0.08				UZGAM	0.79	0.10
7	THERMCON	0.90	-0.06				EP1NPO2	0.79	0.08
8	BCKALPHA	0.91	-0.07				UZFAG8	0.80	0.07
9	PH2MCOS	0.91	0.05				KDUSMEC	0.80	-0.07
10	KDNPSMEC	0.91	0.06						
11	RHMUN65	0.91	-0.05						
12	IS2MCONS	0.91	-0.05						
13	UZKDCSDT	0.92	-0.05						

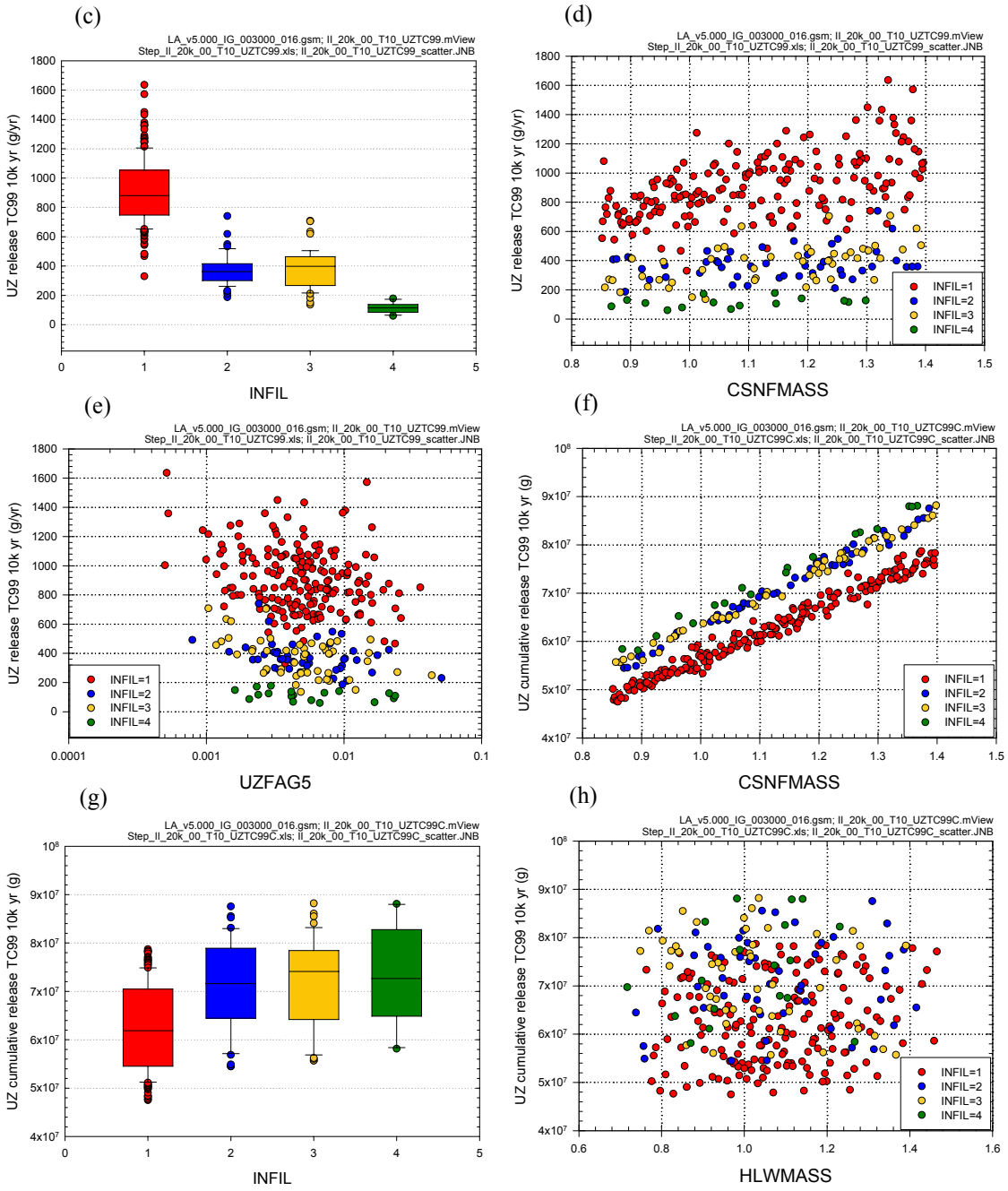
(b)

	UZTC99C: 3000 yr			UZTC99C: 5000 yr			UZTC99C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	INFIL	0.59	0.74	CSNFMASS	0.62	0.76	CSNFMASS	0.84	0.89
2	CSNFMASS	0.90	0.56	INFIL	0.94	0.55	INFIL	0.97	0.37
3	UZTORRG3	0.91	-0.06	UZFAG3	0.94	0.08	HLWMASS	0.98	0.04
4	CSWFA3AK	0.91	0.05	RHMUNO0	0.94	-0.04	UZFAG3	0.98	0.03
5				KDAMSMEC	0.95	0.04	UZGAM	0.98	-0.03
6				GOERELAB	0.95	0.04	DSNFMASS	0.98	0.03
7							SEEPUNC	0.98	0.03
8							UZFAG8	0.98	-0.02

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

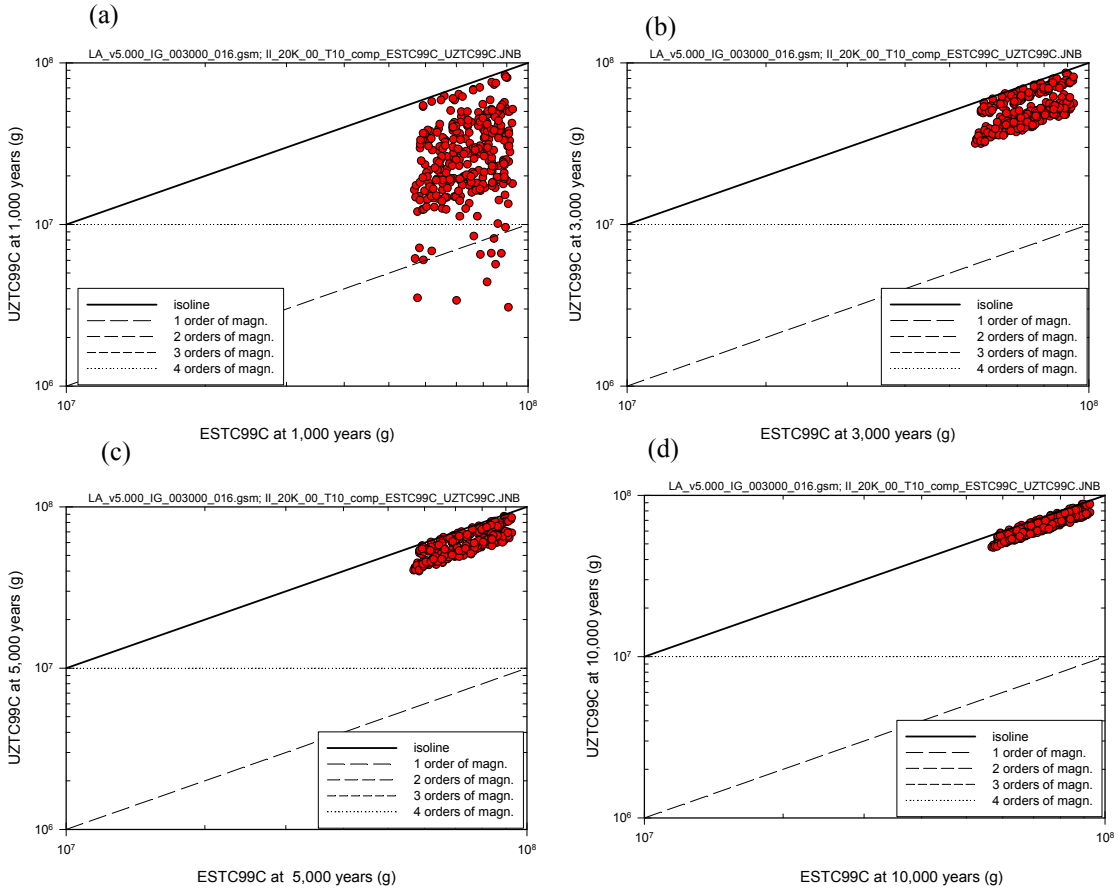
Figure K6.4.1-14. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZTC99*, g/yr) and cumulative (i.e., integrated) releases (*UZTC99*, g) for the movement of dissolved ^{99}Tc from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZTC99* and *UZTC99C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZTC99* and *UZTC99C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

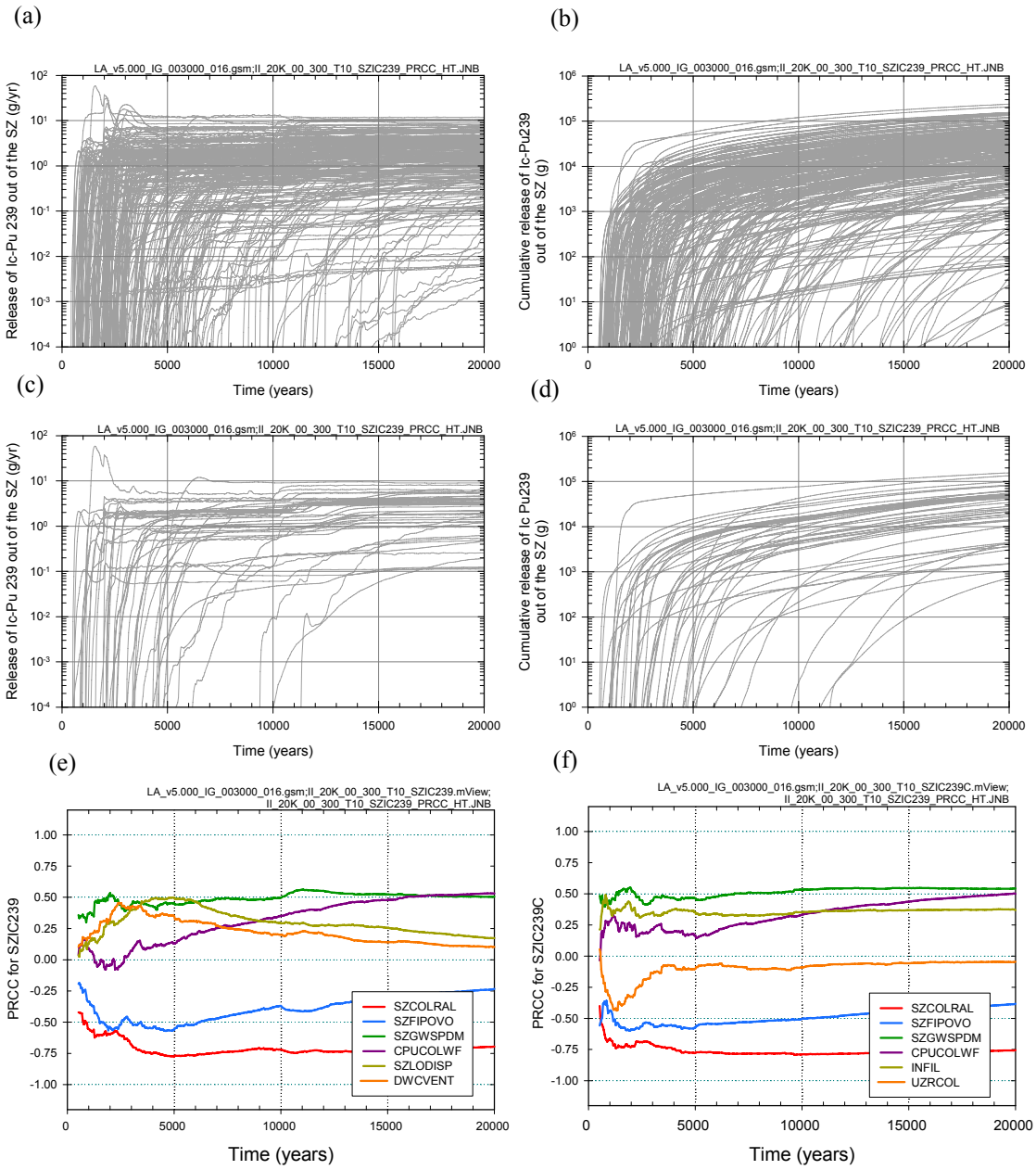
NOTE: In (c,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.4.1-14. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*UZTC99*, g/yr) and cumulative (i.e., integrated) releases (*UZTC99*, g) for the movement of dissolved ^{99}Tc from the UZ to the SZ resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *UZTC99* and *UZTC99C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *UZTC99* and *UZTC99C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.4.1-15. Comparison of cumulative releases of dissolved ^{99}Tc into the UZ (*ESTC99C*, g) and out of the UZ (*UZTC99C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-1. Time-dependent release rates (*SZIC239*, g/yr) and cumulative (i.e., integrated) releases (*SZIC239C*, g) over 20,000 years for the movement of ^{239}Pu irreversibly attached to slow colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *SZIC239* and *SZIC239C* for all (i.e., 300) sample elements, (c, d) *SZIC239* and *SZIC239C* for first 50 sample elements, and (e, f) PRCCs for *SZIC239* and *SZIC239C*

(a)

	SZIC239: 3,000 yr			SZIC239: 5,000 yr			SZIC239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	SZCOLRAL	0.26	-0.56	SZCOLRAL	0.32	-0.64	SZCOLRAL	0.26	-0.59
2	SZFIPOVO	0.38	-0.37	SZFIPOVO	0.44	-0.36	CPUCOLWF	0.35	0.28
3	SZGWSPDM	0.47	0.27	SZGWSPDM	0.52	0.30	SZGWSPDM	0.43	0.31
4	SZKDAMCO	0.49	0.16	CPUCOLWF	0.54	0.16	SZFIPOVO	0.48	-0.26
5	SZCOLRVO	0.51	-0.15	KDRASMEC	0.57	0.15	INFIL	0.53	0.20
6	INFIL	0.52	0.12	SZCOLRVO	0.59	-0.14	RUBMAXNL	0.55	-0.16
7				INFIL	0.60	0.12	SZSREG3Y	0.57	-0.13
8				UZFAG8	0.61	0.13	KDRASMEC	0.58	0.11
9				KDAMCOL	0.62	-0.13			
10				SZLODISP	0.63	0.11			
11				SZKDPUVO	0.64	0.11			

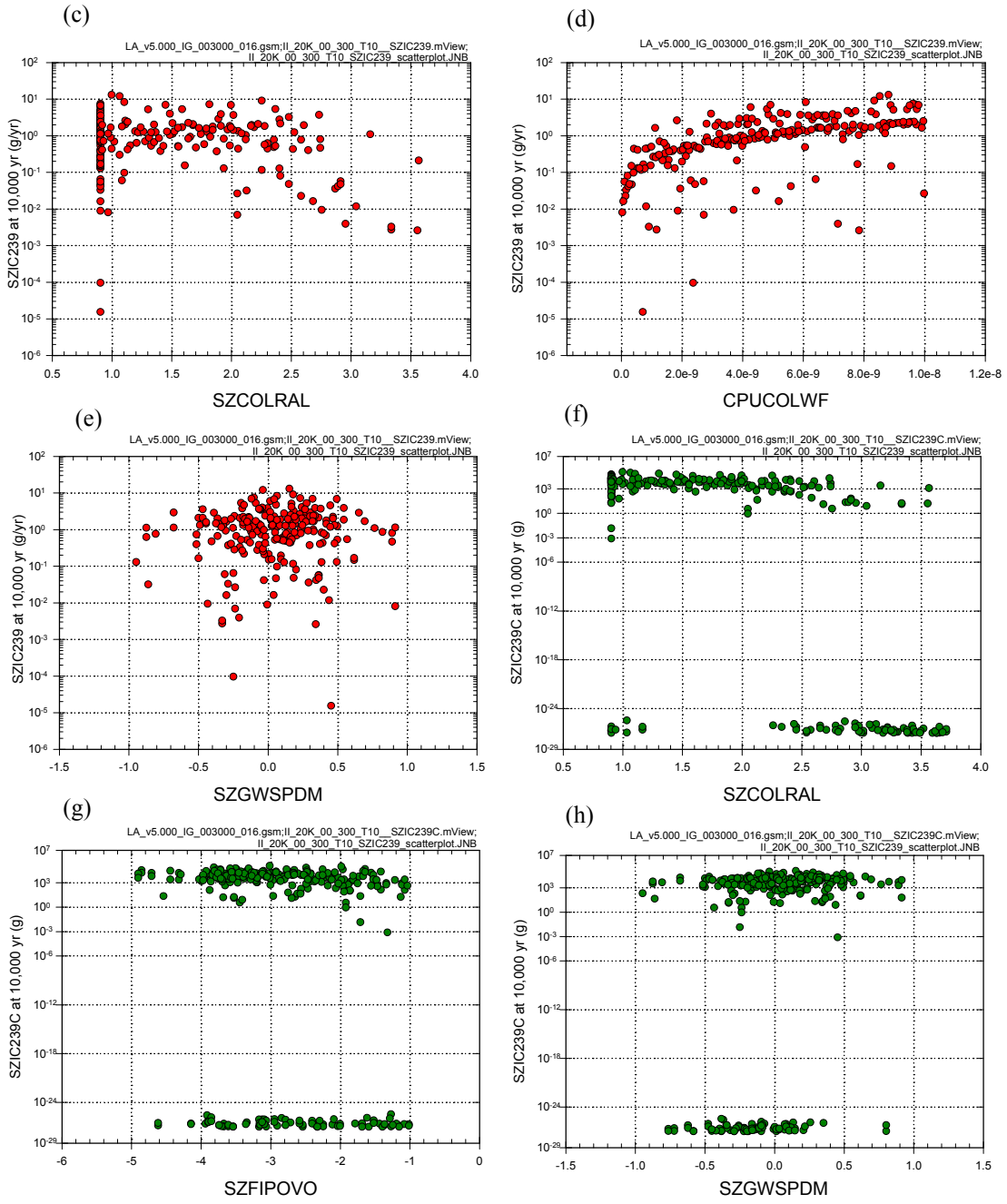
(b)

	SZIC239C: 3,000 yr			SZIC239C: 5,000 yr			SZIC239C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	SZCOLRAL	0.29	-0.59	SZCOLRAL	0.34	-0.66	SZCOLRAL	0.32	-0.66
2	SZFIPOVO	0.43	-0.36	SZFIPOVO	0.47	-0.37	SZFIPOVO	0.41	-0.32
3	SZGWSPDM	0.54	0.33	SZGWSPDM	0.57	0.33	SZGWSPDM	0.51	0.32
4	INFIL	0.58	0.21	INFIL	0.60	0.18	CPUCOLWF	0.57	0.24
5	CPUCOLWF	0.61	0.16	CPUCOLWF	0.63	0.15	INFIL	0.62	0.22
6	SZFISPVO	0.62	-0.13	SZCOLRVO	0.64	-0.13	RUBMAXNL	0.63	-0.12
7	SZKDAMCO	0.64	0.13	SZFISPVO	0.66	-0.12	SZSREG3Y	0.64	-0.10
8	SZCOLRVO	0.65	-0.11	SZLODISP	0.67	0.11	SZFISPVO	0.65	-0.10
9	SZLODISP	0.66	0.11	KDRASMEC	0.68	0.12	SZSREG4Y	0.66	0.11
10	UZRCOL	0.67	-0.09	UZFAG8	0.69	0.12	SZKDSEAL	0.67	-0.22
11	ISCSNS	0.68	0.09	SZKDPUVO	0.71	0.12	SZCOLRVO	0.68	-0.11
12				DWCVENT	0.71	0.11	KDRASMEC	0.69	0.12
13				KDAMCOL	0.72	-0.11	SZKDNPAL	0.70	0.16
14				PH2RGER	0.72	-0.10	SZKDPUVO	0.71	0.10
15				INRFRCSR	0.73	0.09	PHCSNS	0.72	-0.09

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

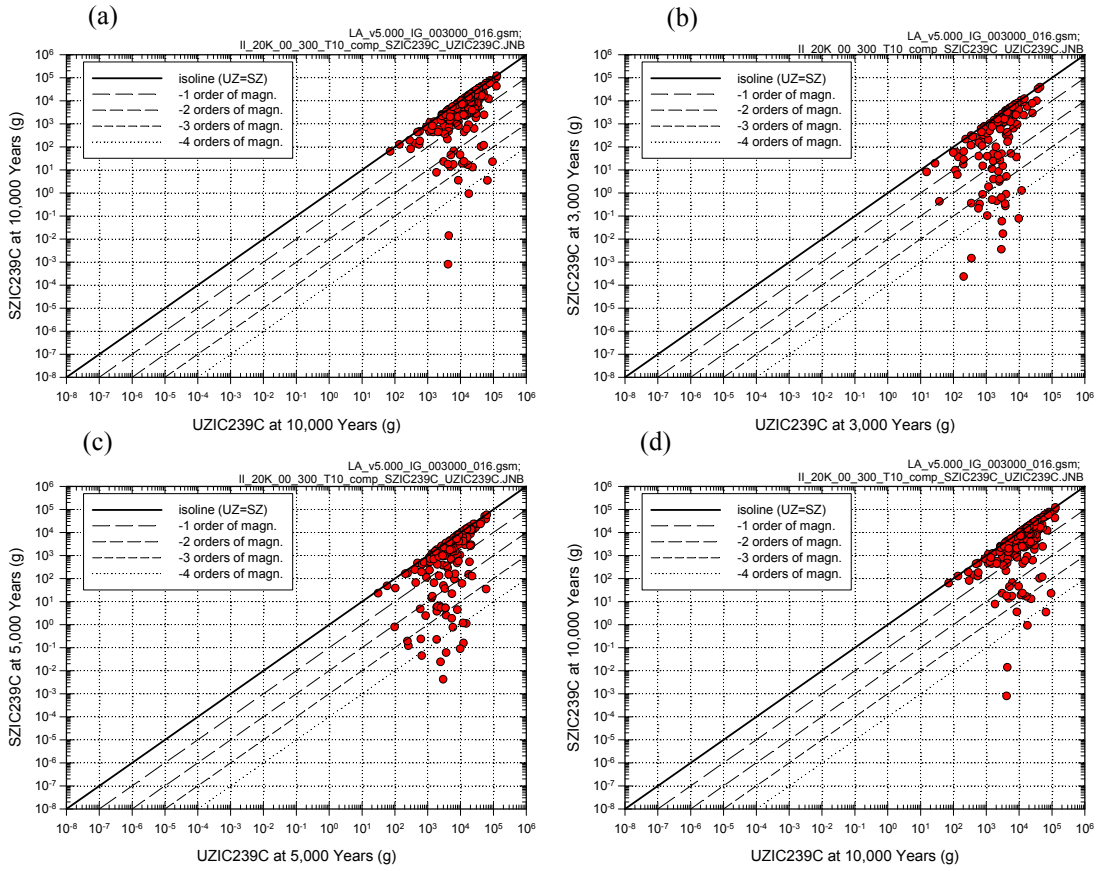
Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-2. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZIC239*, g/yr) and cumulative (i.e., integrated) releases (*SZIC239C*, g) for the movement of ^{239}Pu irreversibly attached to slow colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZIC239* and *SZIC239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZIC239* and *SZIC239C* at 10,000 years



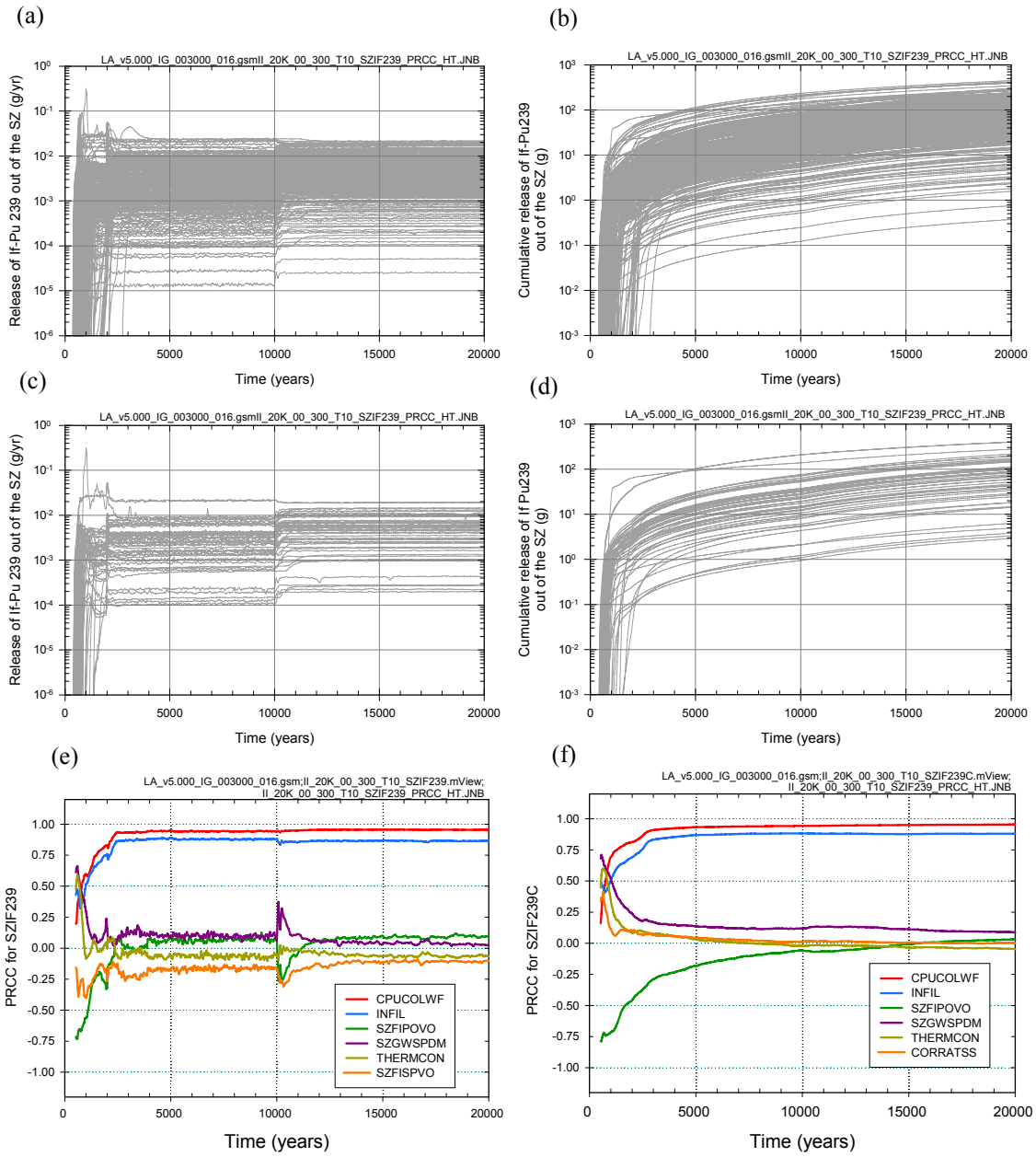
Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-2. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZIC239*, g/yr) and cumulative (i.e., integrated) releases (*SZIC239C*, g) for the movement of ^{239}Pu irreversibly attached to slow colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZIC239* and *SZIC239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZIC239* and *SZIC239C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.5.1-3. Comparison of cumulative releases of ^{239}Pu irreversibly attached to slow colloids into the SZ (*UZIC239C*, g) and across a subsurface plane at the location of the RMEI (*SZIC239C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-4. Time-dependent release rates (*SZIF239*, g/yr) and cumulative (i.e., integrated) releases (*SZIF239C*, g) over 20,000 years for the movement of ^{239}Pu irreversibly attached to fast colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *SZIF239* and *SZIF239C* for all (i.e., 300) sample elements, (c, d) *SZIF239* and *SZIF239C* for first 50 sample elements, and (e, f) PRCCs for *SZIF239* and *SZIF239C*

(a)

	SZIF239: 3,000 yr			SZIF239: 5,000 yr			SZIF239: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.62	0.73	CPUCOLWF	0.63	0.74	CPUCOLWF	0.64	0.75
2	INFIL	0.92	0.55	INFIL	0.93	0.55	INFIL	0.93	0.54
3	DWCSTERB	0.92	-0.04				DIFPATHL	0.93	0.04

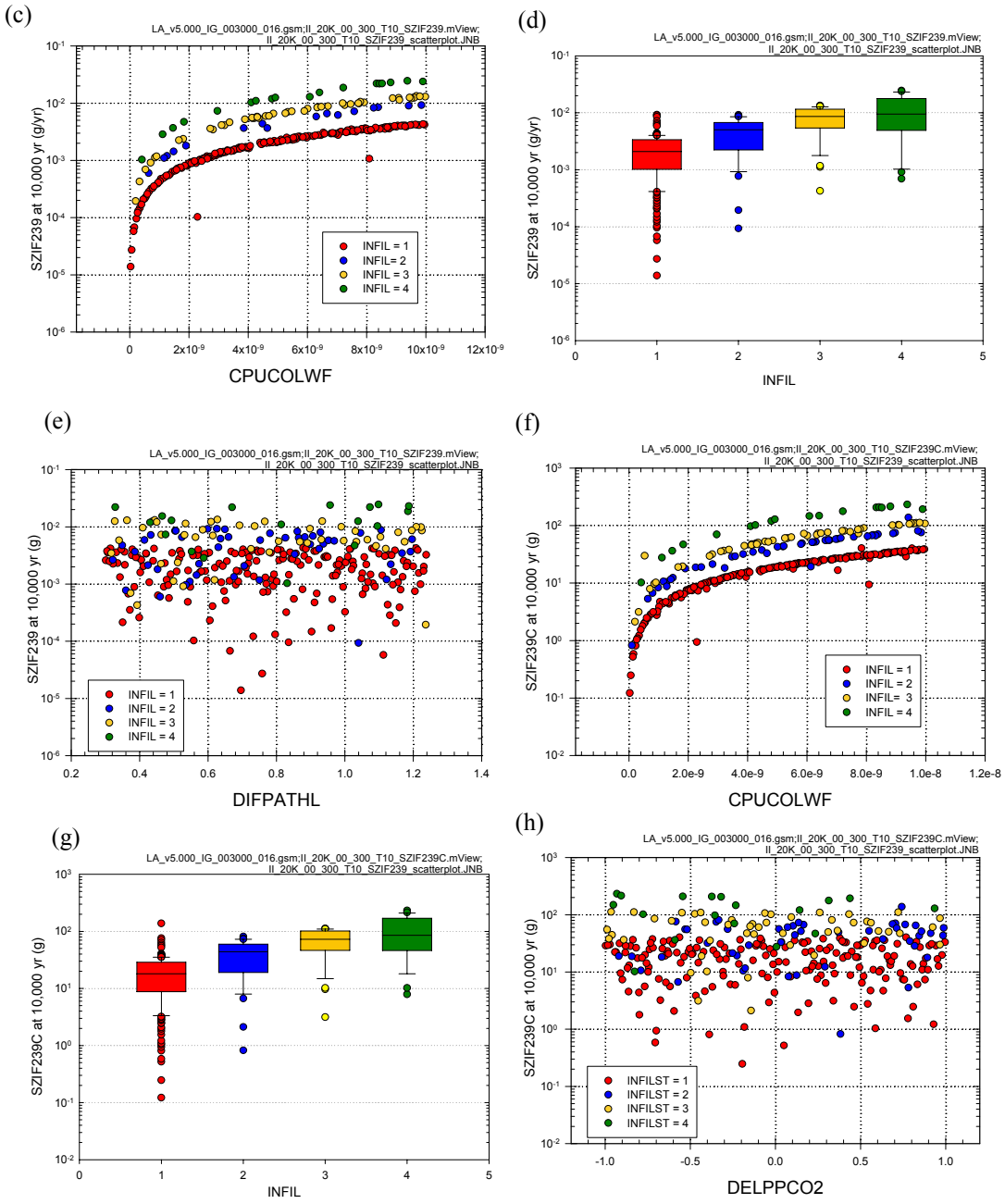
(b)

	SZIF239C: 3,000 yr			SZIF239C: 5,000 yr			SZIF239C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	CPUCOLWF	0.58	0.70	CPUCOLWF	0.60	0.72	CPUCOLWF	0.62	0.74
2	INFIL	0.87	0.55	INFIL	0.91	0.56	INFIL	0.92	0.55
3	SZFIPOVO	0.88	-0.09	SZFIPOVO	0.91	-0.06	DELPPCO2	0.93	0.05
4	DELPPCO2	0.89	0.06	DELPPCO2	0.91	0.06	DWCSTERB	0.93	-0.05
5	THERMCON	0.89	0.06	DWCSTERB	0.92	-0.06	SZSREG4Y	0.93	0.05
6	UZKDPADT	0.89	0.05	RUBMAXL	0.92	-0.05	DWCSTERC	0.93	-0.04
7	DWCSTERB	0.89	-0.06	SZSREG4Y	0.92	0.05	KDAMCOL	0.93	-0.04
8	RHMUNO0	0.90	-0.05						
9	RUBMAXL	0.90	-0.05						
10	SZSREG4Y	0.90	0.05						

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

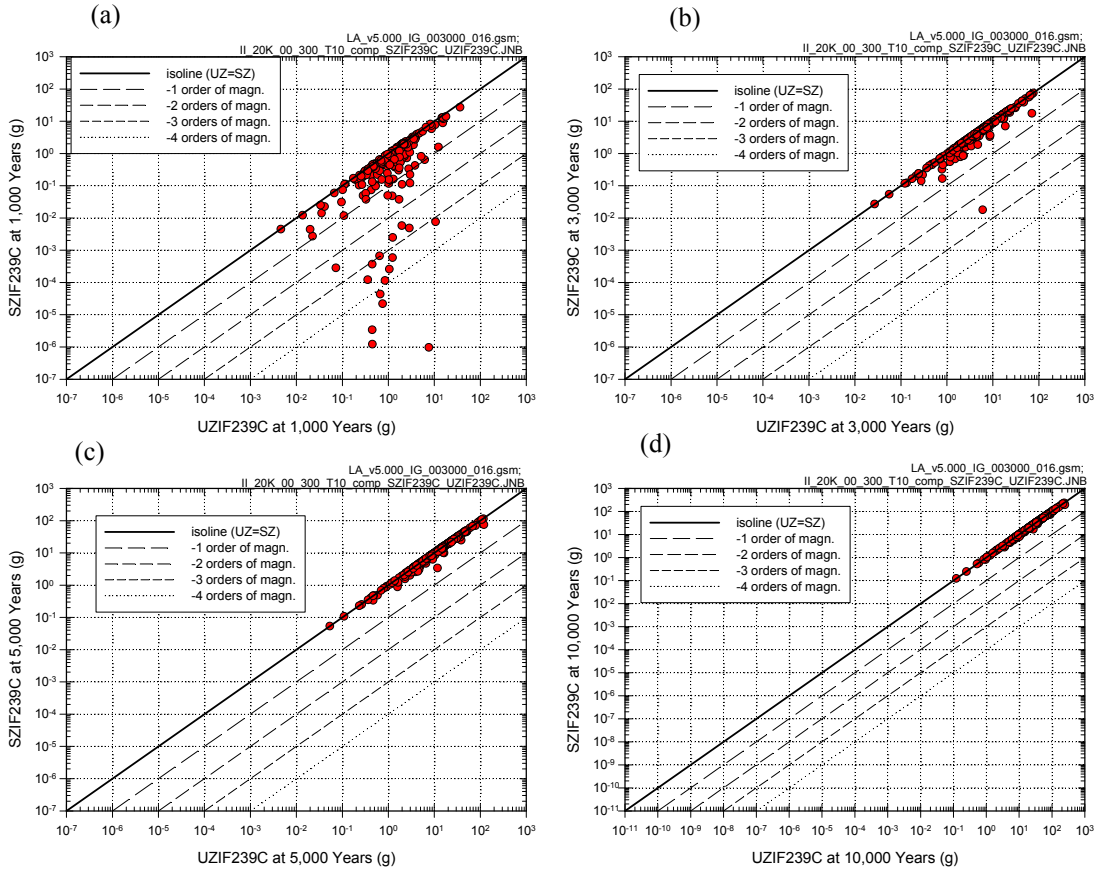
Figure K6.5.1-5. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZIF239*, g/yr) and cumulative (i.e., integrated) releases (*SZIF239C*, g) for the movement of ^{239}Pu irreversibly attached to fast colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZIF239* and *SZIF239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZIF239* and *SZIF239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

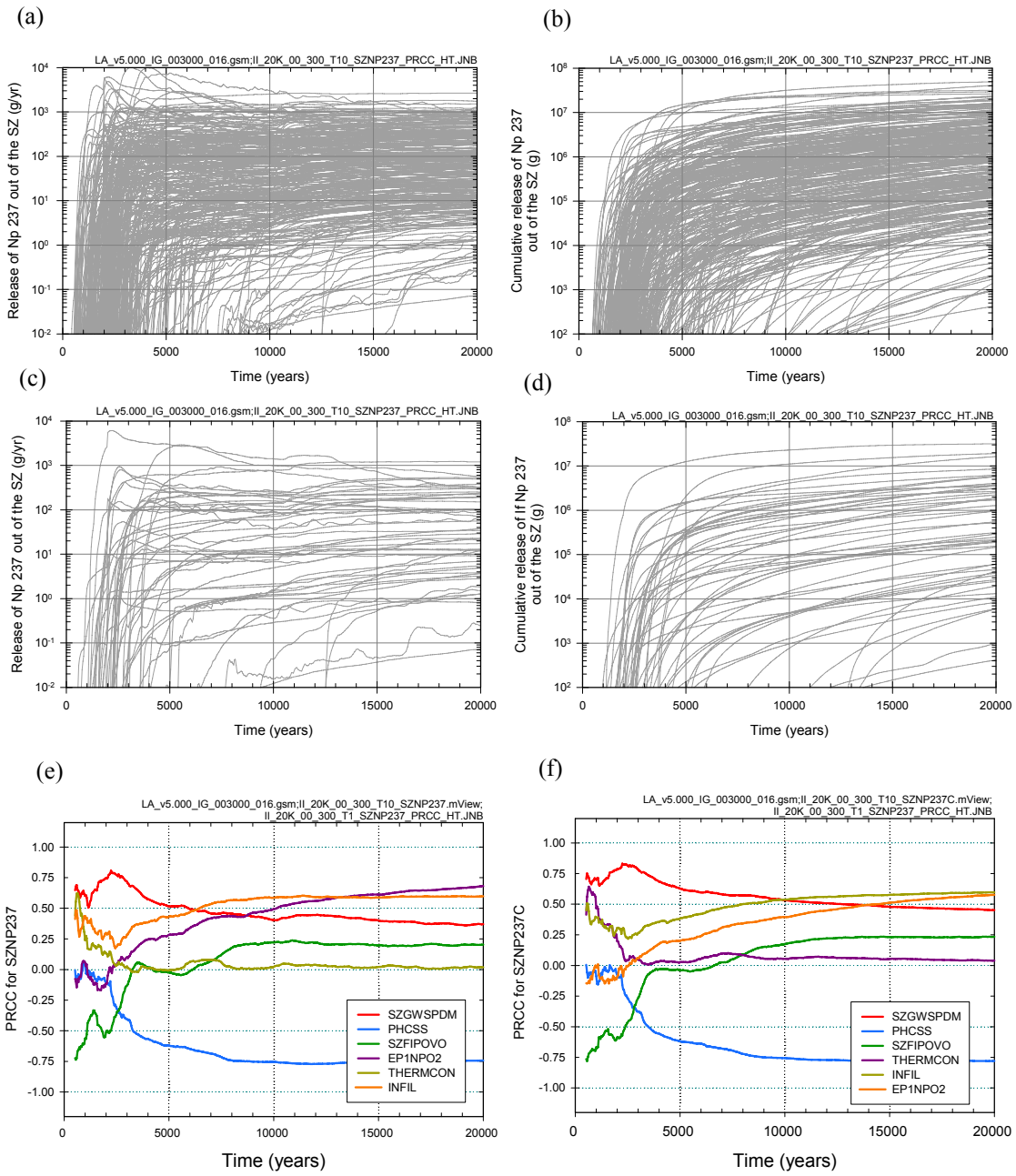
NOTE: In (d,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.5.1-5. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZIF239*, g/yr) and cumulative (i.e., integrated) releases (*SZIF239C*, g) for the movement of ^{239}Pu irreversibly attached to fast colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZIF239* and *SZIF239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZIF239* and *SZIF239C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.5.1-6. Comparison of cumulative releases of ^{239}Pu irreversibly attached to fast colloids into the SZ (*UZIF239C*, g) and across a subsurface plane at the location of the RMEI (*SZIF239C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-7. Time-dependent release rates (*SZNP237*, g/yr) and cumulative (i.e., integrated) releases (*SZNP237C*, g) over 20,000 years for the movement of dissolved ^{237}Np across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *SZNP237* and *SZNP237C* for all (i.e., 300) sample elements, (c, d) *SZNP237* and *SZNP237C* for first 50 sample elements, and (e, f) PRCCs for *SZNP237* and *SZNP237C*

(a)

	SZNP237: 3,000 yr			SZNP237: 5,000 yr			SZNP237: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	SZGWSPDM	0.44	0.68	SZGWSPDM	0.18	0.43	PHCSS	0.21	-0.40
2	PHCSS	0.50	-0.23	PHCSS	0.33	-0.37	INFIL	0.42	0.43
3	INFIL	0.54	0.17	INFIL	0.46	0.32	EP1NPO2	0.49	0.29
4	SZFIPOVO	0.58	-0.19	SZFISPVO	0.49	0.21	SZGWSPDM	0.55	0.25
5	SZKDSEAL	0.61	-0.17	SZDIFCVO	0.52	-0.21	CORRATSS	0.59	-0.17
6	SZFISPVO	0.63	0.16	EP1NPO2	0.54	0.15	SZFISPVO	0.62	0.22
7	SZDIFCVO	0.64	-0.14	DELPPCO2	0.56	0.15	DELPPCO2	0.65	0.17
8	SZPORUAL	0.66	-0.10	EP1LOWNU	0.57	0.13	EP1LOWAM	0.67	0.17
9	EP1LOWAM	0.67	0.12	EP1LOWAM	0.59	0.13	EP1LOWNU	0.69	0.14
10	WDGCA22	0.68	-0.11	SZKDCSVO	0.60	-0.10	SZDIFCVO	0.70	-0.14
11				HLWDRACD	0.61	-0.11	COLGW	0.71	0.11
12				SZKDUAL	0.62	-0.10	SZKDNPVO	0.72	-0.10

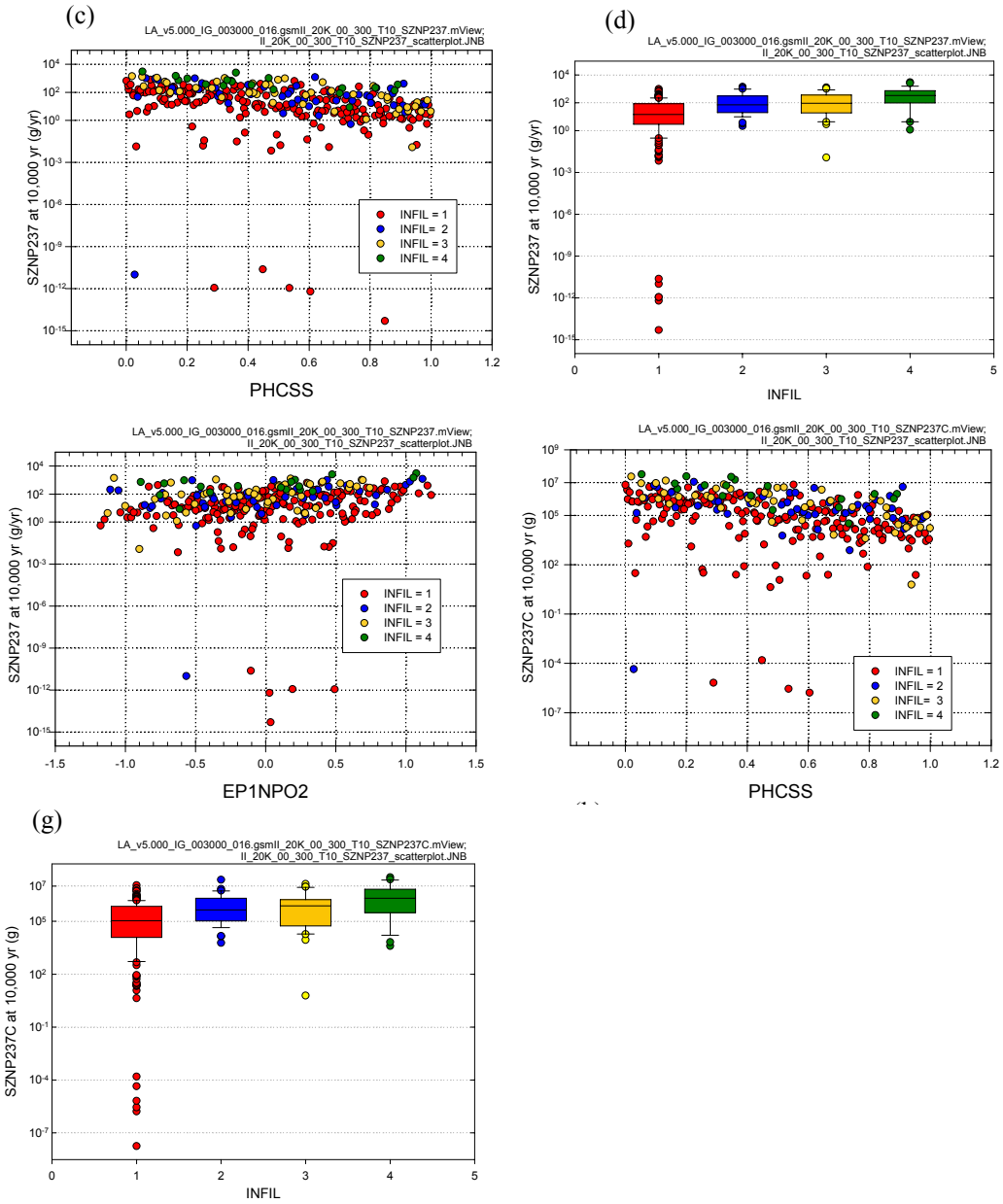
(b)

	SZNP237C: 3,000 yr			SZNP237C: 5,000 yr			SZNP237C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	SZGWSPDM	0.50	0.73	SZGWSPDM	0.27	0.53	PHCSS	0.22	-0.41
2	SZFIPOVO	0.55	-0.22	PHCSS	0.42	-0.37	INFIL	0.39	0.38
3	PHCSS	0.61	-0.21	INFIL	0.51	0.28	SZGWSPDM	0.51	0.35
4	INFIL	0.64	0.15	SZFISPVO	0.55	0.24	SZFISPVO	0.56	0.26
5	SZKDSEAL	0.67	-0.18	SZDIFCVO	0.59	-0.21	EP1NPO2	0.59	0.21
6	SZFISPVO	0.69	0.17	SZKDSEAL	0.61	-0.11	DELPPCO2	0.62	0.18
7	SZPORUAL	0.71	-0.11	EP1LOWAM	0.62	0.14	EP1LOWAM	0.65	0.18
8	SZDIFCVO	0.72	-0.13	DELPPCO2	0.64	0.14	SZDIFCVO	0.67	-0.18
9	EP1LOWAM	0.73	0.10	HLWDRACD	0.65	-0.10	CORRATSS	0.69	-0.13
10	WDGCA22	0.74	-0.10	SZFIPOVO	0.66	-0.11	EP1LOWNU	0.71	0.14
11	WDLCRATE	0.75	0.08	EP1NPO2	0.67	0.10	COLGW	0.72	0.11
12				EP1LOWNU	0.68	0.10	SZKDCSVO	0.73	-0.09
13				SZKDCSVO	0.69	-0.10	SZKDNPVO	0.74	-0.09
14							THERMCON	0.74	0.08

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

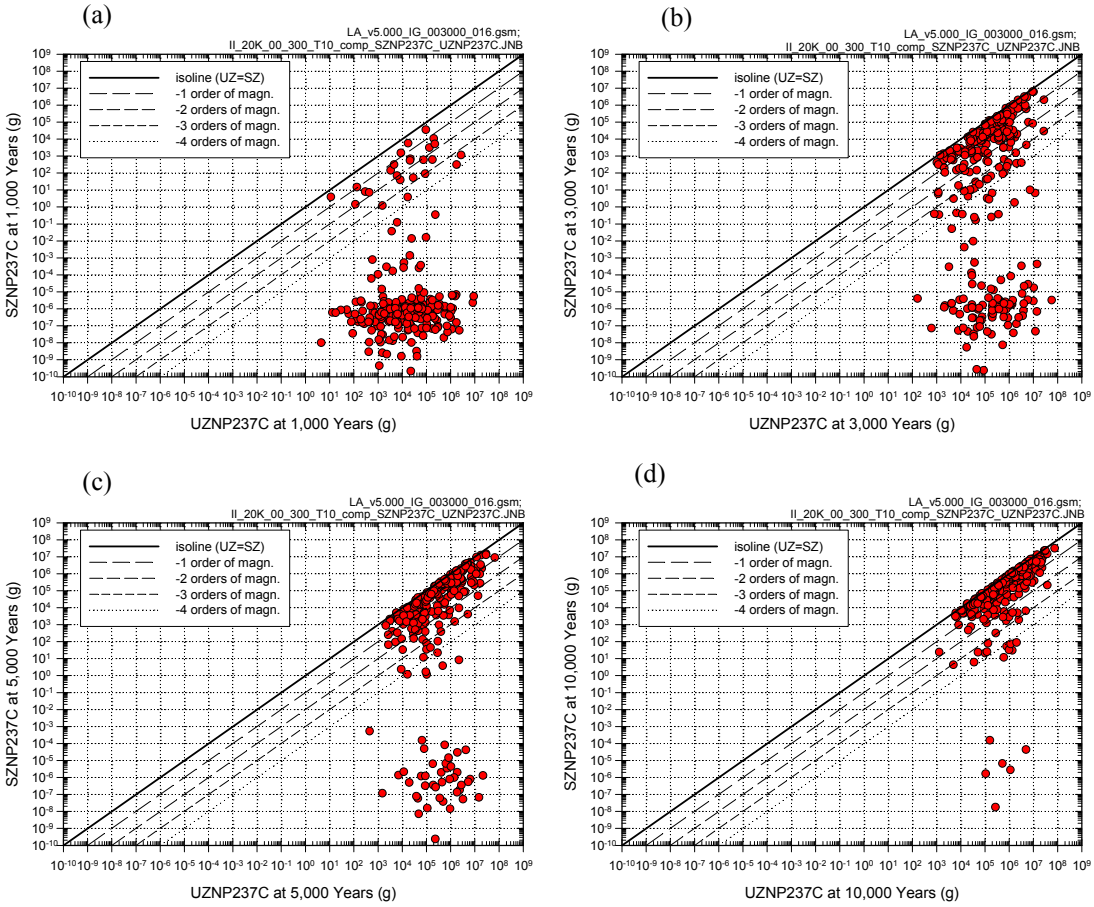
Figure K6.5.1-8. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZNP237*, g/yr) and cumulative (i.e., integrated) releases (*SZNP237C*, g) for the movement of dissolved ^{237}Np across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZNP237* and *SZNP237C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZNP237* and *SZNP237C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

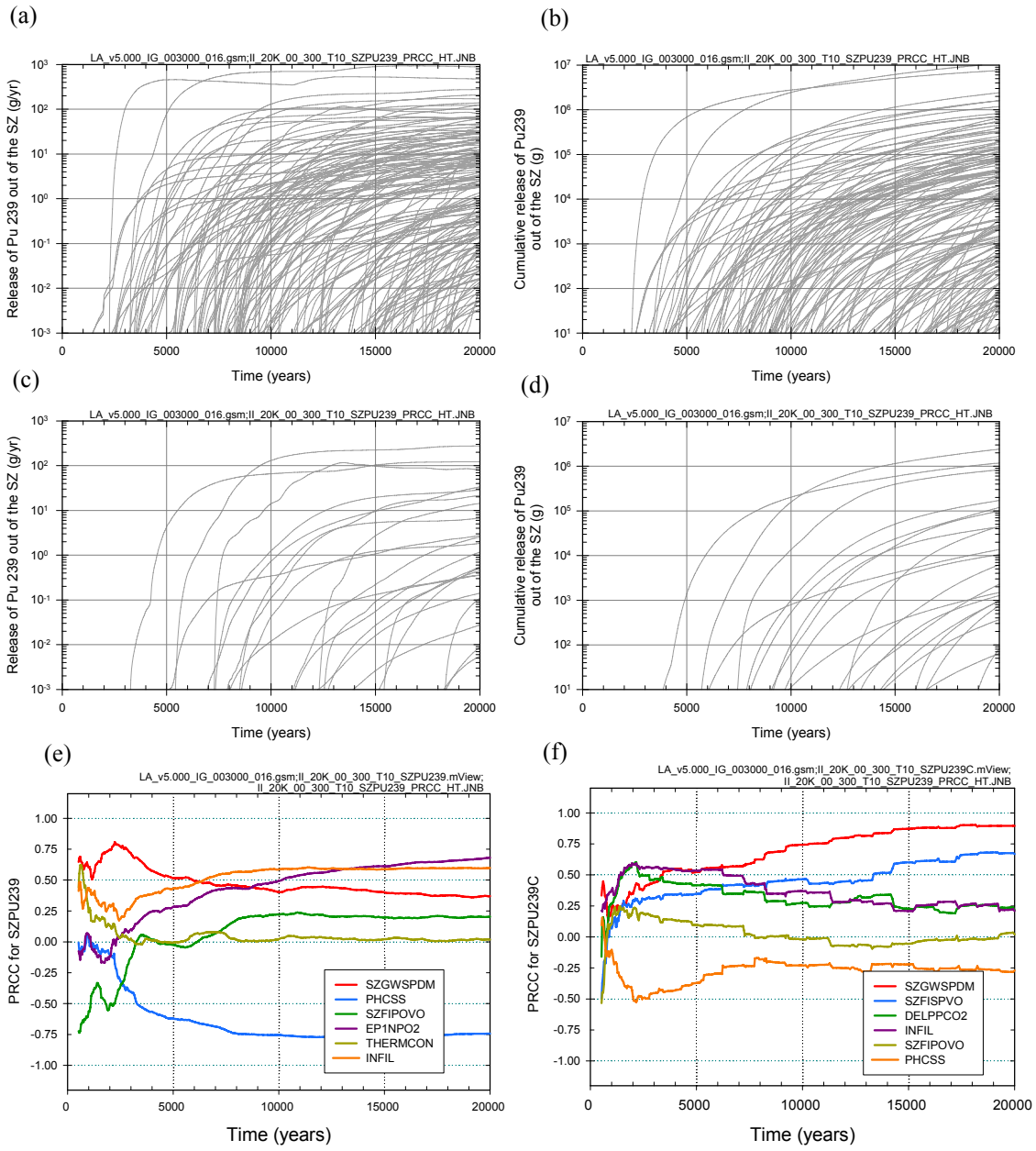
Note: In (d,g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line

Figure K6.5.1-8. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZNP237*, g/yr) and cumulative (i.e., integrated) releases (*SZNP237C*, g) for the movement of dissolved ^{237}Np across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZNP237* and *SZNP237C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZNP237* and *SZNP237C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.5.1-9. Comparison of cumulative releases of dissolved ^{237}Np into the SZ (*UZNP237C*, g) and across a subsurface plane at the location of the RMEI (*SZNP237C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-10. Time-dependent release rates (*SZPU239*, g/yr) and cumulative (i.e., integrated) releases (*SZPU239C*, g) over 20,000 years for the movement of dissolved ^{239}Pu across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *SZPU239* and *SZPU239C* for all (i.e., 300) sample elements, (c, d) *SZPU239* and *SZPU239C* for first 50 sample elements, and (e, f) PRCCs for *SZPU239* and *SZPU239C*

(a)

	SZPU239: 3,000 yr			SZPU239: 5,000 yr			SZPU239: 10,000 yr		
Step[a]	Variable[b]	R^{2c}	SRRC[d]	Variable	R^2	SRRC	Variable	R^2	SRRC
1	SZGWSPDM	0.07	0.26	SZGWSPDM	0.13	0.36	SZGWSPDM	0.44	0.67
2	SZLODISP	0.11	0.20	SZLODISP	0.18	0.24	SZFISPVO	0.49	0.24
3	SZKDAMCO	0.13	0.14	SZPORUAL	0.21	-0.19	SZKDPUVO	0.53	-0.22
4				CSWFA1AK	0.24	-0.17	SZPORUAL	0.56	-0.16
5				SZKDAMCO	0.27	0.17	SZCONCOL	0.58	0.14
6				CPUPERCS	0.28	0.13	SZLODISP	0.60	0.13
7				SZKDCSCO	0.30	0.15	SZSREG1X	0.61	-0.12
8				SZKDPUVO	0.32	-0.15			
9				SZKDSNAL	0.34	-0.14			

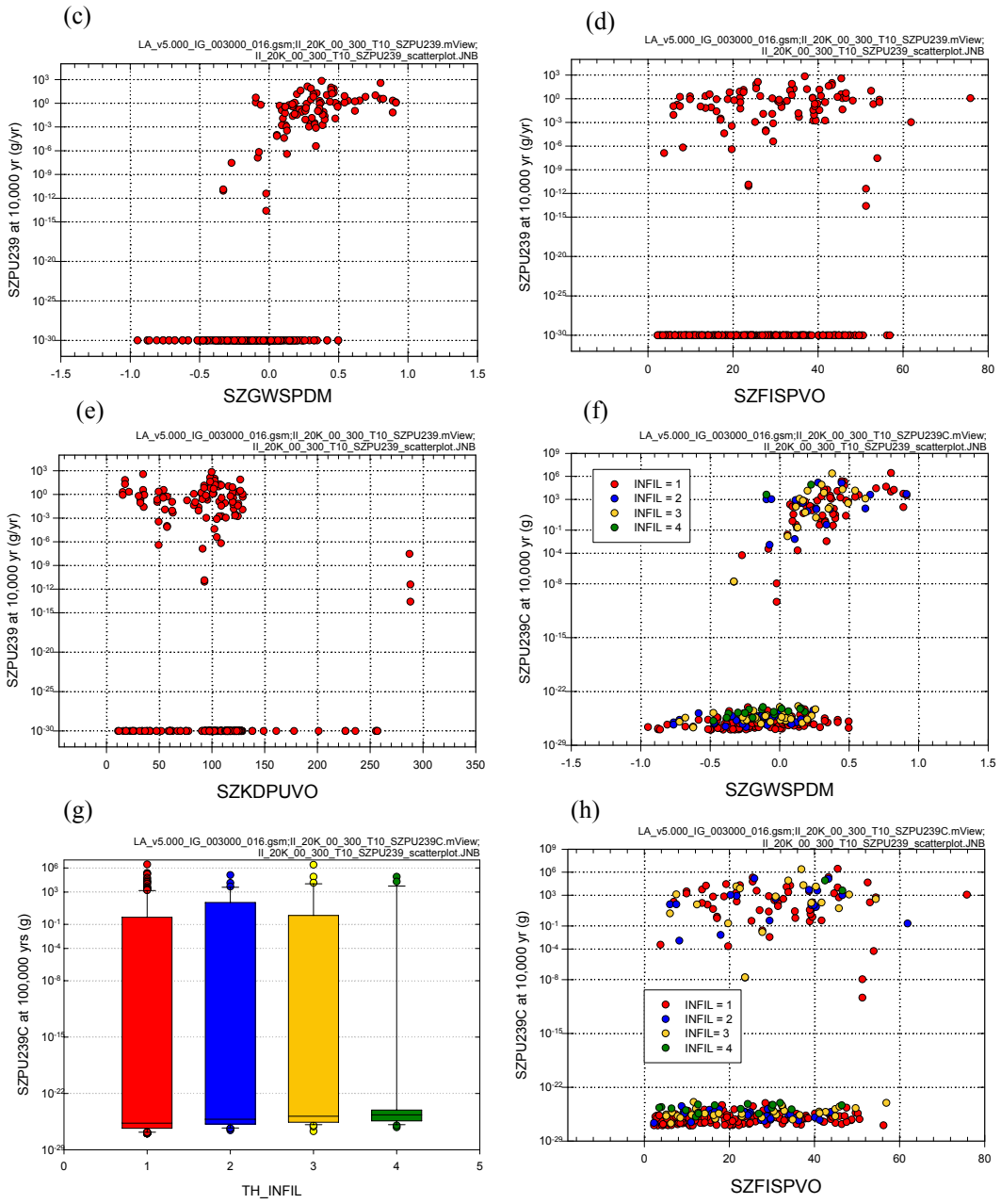
(b)

	SZPU239C: 3,000 yr			SZPU239C: 5,000 yr			SZPU239C: 10,000 yr		
Step[a]	Variable[b]	R^{2c}	SRRC[d]	Variable	R^2	SRRC	Variable	R^2	SRRC
1	INFIL	0.18	0.42	SZGWSPDM	0.21	0.44	SZGWSPDM	0.43	0.62
2	SZGWSPDM	0.34	0.37	INFIL	0.37	0.38	INFIL	0.51	0.26
3	EP1LOWPU	0.42	0.31	EP1LOWPU	0.45	0.33	SZFISPVO	0.57	0.27
4	PHCSS	0.49	-0.20	PHCSS	0.49	-0.15	EP1LOWPU	0.60	0.24
5	DELPPCO2	0.54	0.25	DELPPCO2	0.51	0.19	SZKDPUVO	0.63	-0.17
6	UZKDPUDT	0.58	-0.19	SZKDAMCO	0.54	0.14	SZCONCOL	0.65	0.15
7	EP1LOWAM	0.60	0.14	UZKDPUDT	0.55	-0.14	SZPORUAL	0.66	-0.13
8	SZFISPVO	0.61	0.13	SZCONCOL	0.57	0.13	DELPPCO2	0.68	0.11
9	SZPORUAL	0.62	-0.12	SZFISPVO	0.59	0.13	SZLODISP	0.69	0.12
10	SZCONCOL	0.64	0.11	CORRATSS	0.60	-0.12	PHCSS	0.70	-0.12
11	CORRATSS	0.65	-0.12	EP1LOWAM	0.61	0.11	IS2MCONS	0.71	0.11
12	DWCSTERB	0.66	-0.10	SZKDPUVO	0.63	-0.12	SZDIFCVO	0.72	-0.10
13	SZKDPUVO	0.67	-0.09	SZPORUAL	0.64	-0.12	UZKDPUDT	0.73	-0.09
14	SZKDAMCO	0.68	0.11						
15	UZFAG8	0.69	0.10						

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

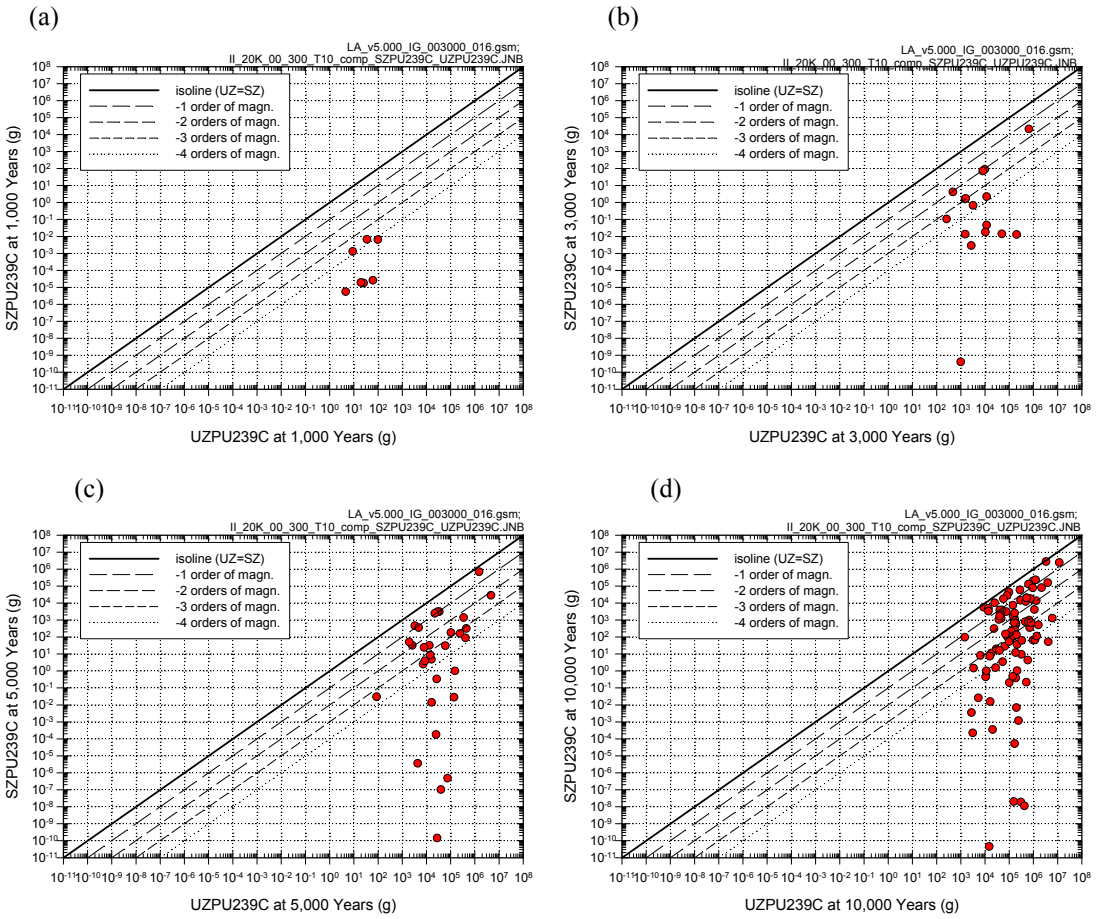
Figure K6.5.1-11. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZPU239*, g/yr) and cumulative (i.e., integrated) releases (*SZPU239C*, g) for the movement of dissolved ^{239}Pu across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZPU239* and *SZPU239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZPU239* and *SZPU239C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

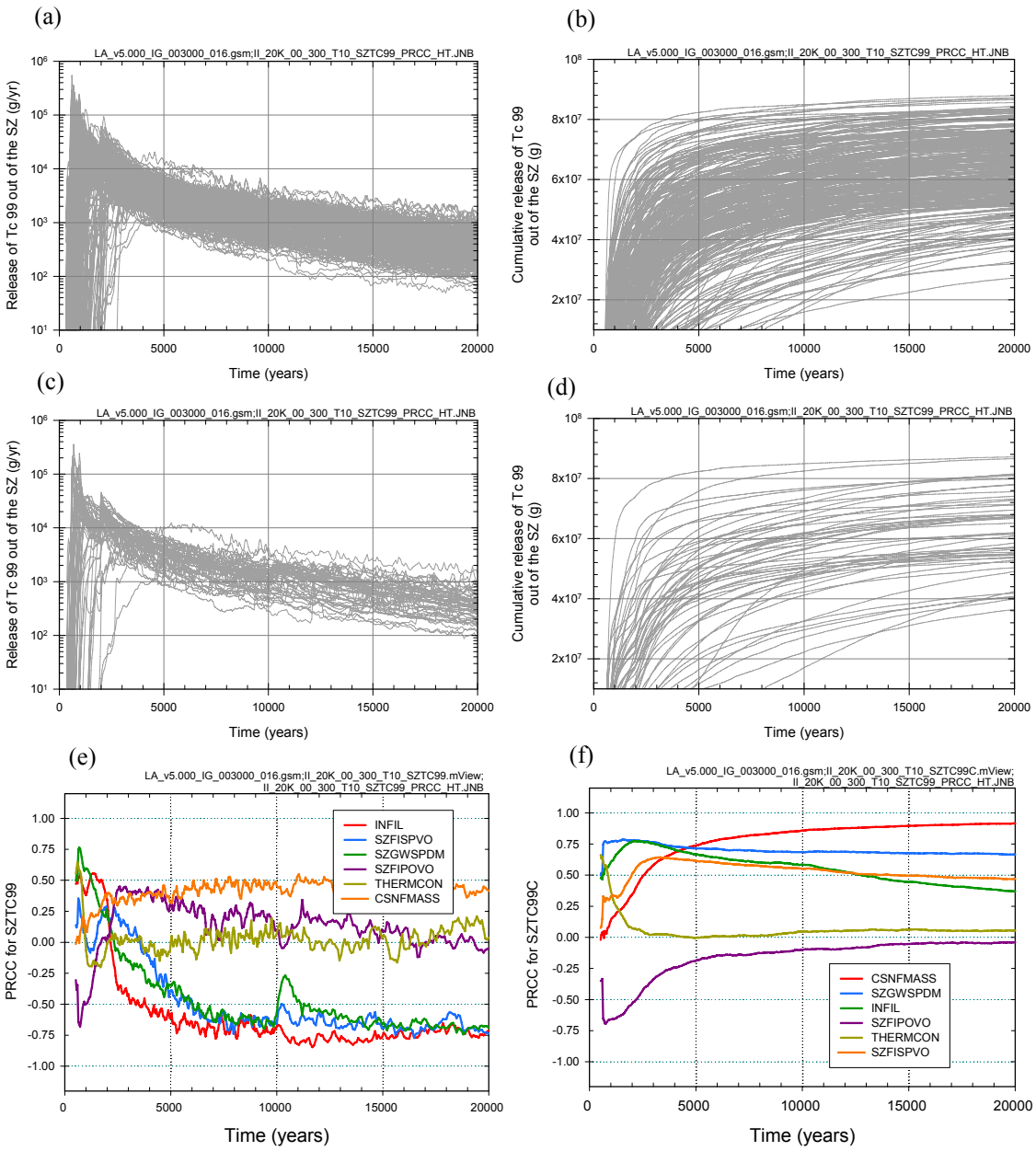
NOTE: In (g), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.5.1-11. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZPU239*, g/yr) and cumulative (i.e., integrated) releases (*SZPU239C*, g) for the movement of dissolved ^{239}Pu across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZPU239* and *SZPU239C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZPU239* and *SZPU239C* at 10,000 years (continued).



Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.5.1-12. Comparison of cumulative releases of dissolved ^{239}Pu into the SZ (*UZPU239C*, g) and across a subsurface plane at the location of the RMEI (*SZPU239C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.1-13. Time-dependent release rates (*SZTC99*, g/yr) and cumulative (i.e., integrated) releases (*SZTC99C*, g) over 20,000 years for the movement of dissolved ^{99}Tc across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) *SZTC99* and *SZTC99C* for all (i.e., 300) sample elements, (c, d) *SZTC99* and *SZTC99C* for first 50 sample elements, and (e, f) PRCCs for *SZTC99* and *SZTC99C*

(a)

	SZTC99: 3,000 yr			SZTC99: 5,000 yr			SZTC99: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	INFIL	0.14	-0.41	INFIL	0.27	-0.53	INFIL	0.32	-0.57
2	CSNFMASS	0.26	0.33	SZGWSPDM	0.39	-0.34	SZGWSPDM	0.52	-0.41
3	UZFAG8	0.31	-0.24	CSNFMASS	0.46	0.26	SZFISPVO	0.60	-0.37
4	SZFIPOVO	0.36	0.26	SZFISPVO	0.52	-0.28	CSNFMASS	0.68	0.27
5	UZGAM	0.37	-0.17	SZDIFCVO	0.55	0.17	SZDIFCVO	0.70	0.17
6	SZGWSPDM	0.39	-0.16	SZFIPOVO	0.57	0.20	HLWDRACD	0.71	0.10
7	GP4NO3	0.42	0.15	UZFAG8	0.59	-0.15			
8				UZGAM	0.61	-0.14			
9				WDDEFSZE	0.62	0.11			
10				SZKDSNCO	0.63	0.10			
11				GP2NO3	0.64	-0.10			
12				DWCSTERC	0.64	0.10			

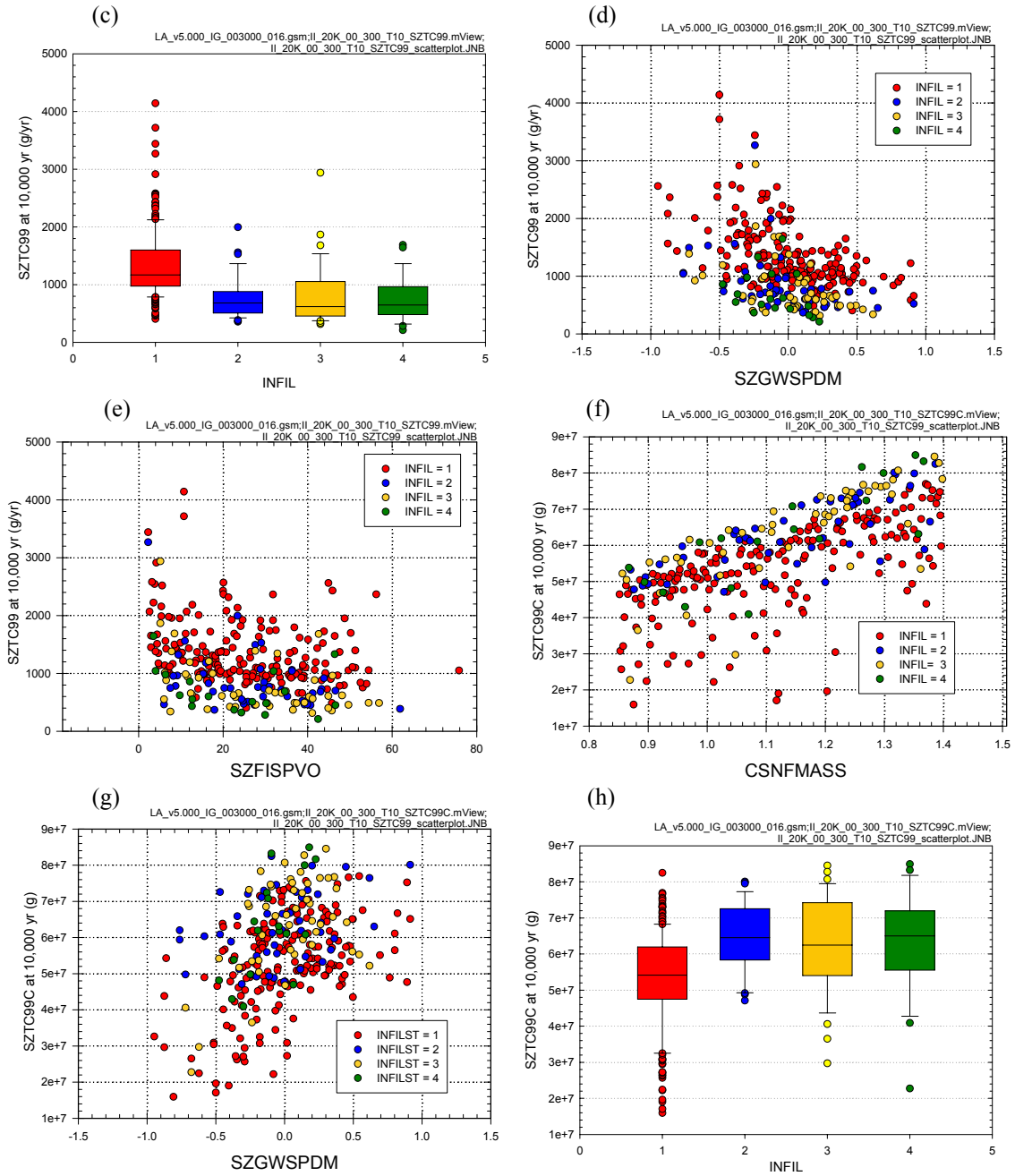
(b)

	SZTC99C: 3,000 yr			SZTC99C: 5,000 yr			SZTC99C: 10,000 yr		
Step[a]	**Variable[b]**	**R^{2c}**	**SRRC[d]**	**Variable**	**R^2**	**SRRC**	**Variable**	**R^2**	**SRRC**
1	INFIL	0.27	0.49	CSNFMASS	0.26	0.47	CSNFMASS	0.47	0.65
2	SZGWSPDM	0.54	0.51	SZGWSPDM	0.49	0.46	SZGWSPDM	0.64	0.40
3	SZFISPVO	0.66	0.36	INFIL	0.68	0.41	INFIL	0.75	0.30
4	CSNFMASS	0.75	0.31	SZFISPVO	0.77	0.35	SZFISPVO	0.81	0.29
5	SZDIFCVO	0.80	-0.25	SZDIFCVO	0.81	-0.24	SZDIFCVO	0.85	-0.21
6	SZFIPOVO	0.81	-0.12	HLWDRACD	0.82	-0.09	SEEPCOND	0.86	-0.06
7	HLWDRACD	0.82	-0.10	SZFIPOVO	0.83	-0.07			
8	SZRAHAVO	0.83	0.08	SZRAHAVO	0.83	0.07			

a: Steps in stepwise rank regression analysis
b: Variables listed in order of selection in stepwise regression
c: Cumulative R^2 value with entry of each variable into regression model
d: Standardized rank regression coefficients (SRRCs) in final regression model

Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

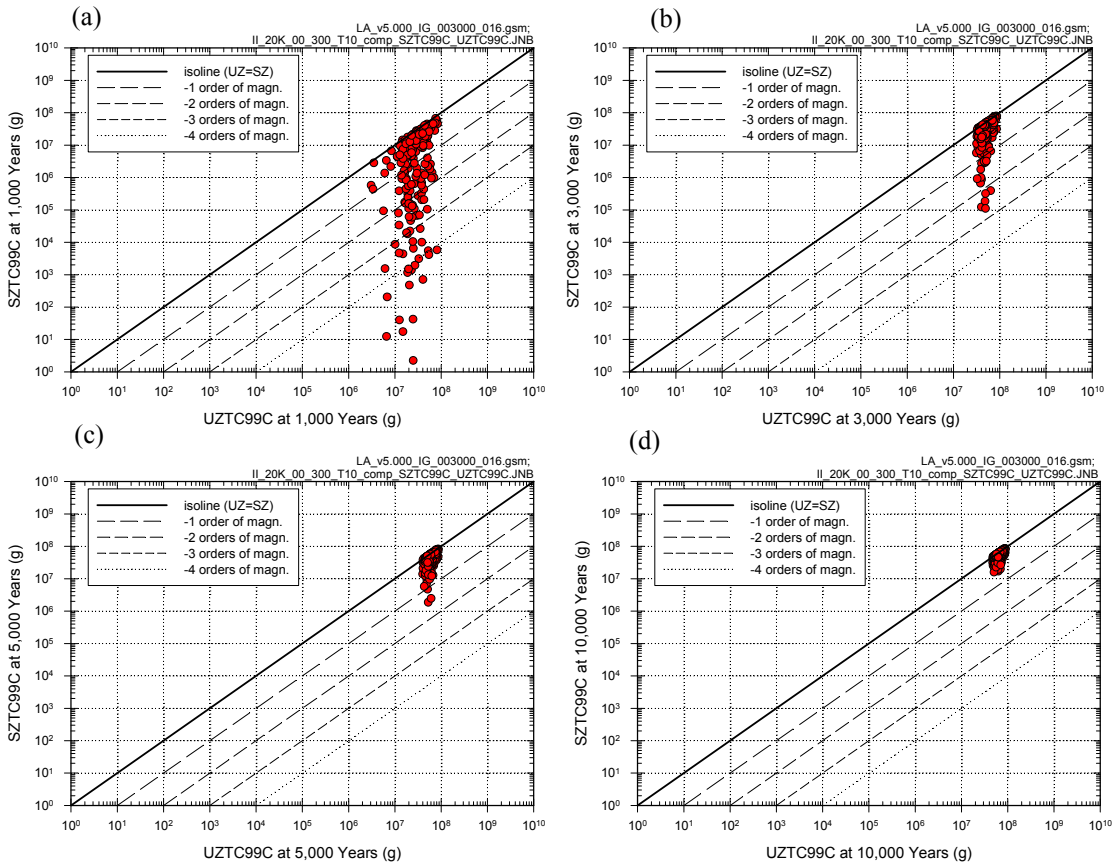
Figure K6.5.1-14. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZTC99*, g/yr) and cumulative (i.e., integrated) releases (*SZTC99C*, g) for the movement of dissolved ^{99}Tc across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZTC99* and *SZTC99C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZTC99* and *SZTC99C* at 10,000 years



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

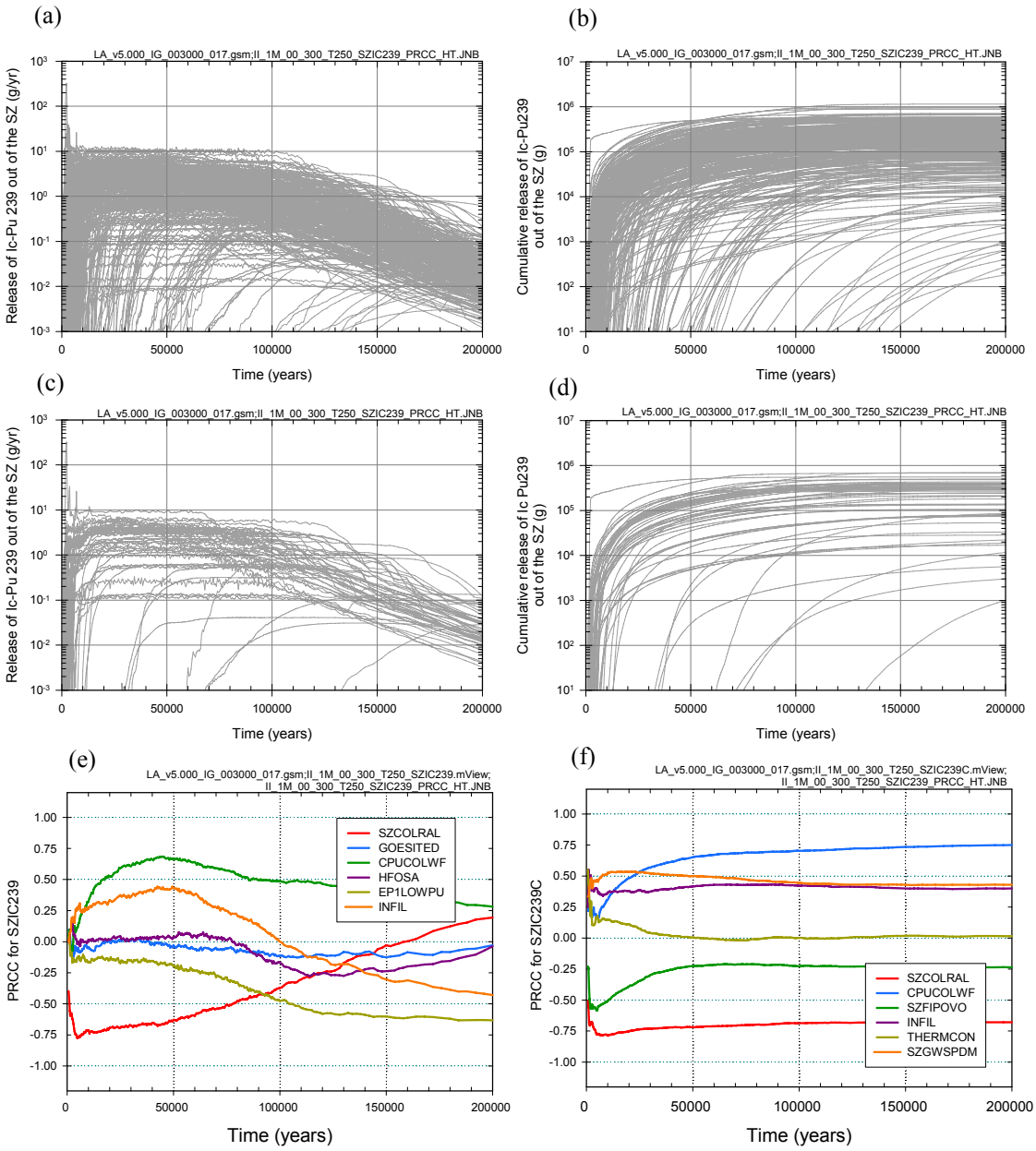
NOTE: In (c,h), the box extends from 0.25 to 0.75 quantile; lower and upper bar and whisker extend to 0.1 and 0.9 quantile, respectively; dots represent values outside 0.1 to 0.9 quantile range; median indicated by light horizontal line.

Figure K6.5.1-14. Stepwise rank regression analyses and selected scatterplots for time-dependent release rates (*SZTC99*, g/yr) and cumulative (i.e., integrated) releases (*SZTC99C*, g) for the movement of dissolved ^{99}Tc across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 10 years that destroys all WPs in the repository: (a, b) Regressions for *SZTC99* and *SZTC99C* at 3000, 5000 and 10,000 years, and (c-h) Scatterplots for *SZTC99* and *SZTC99C* at 10,000 years (continued).



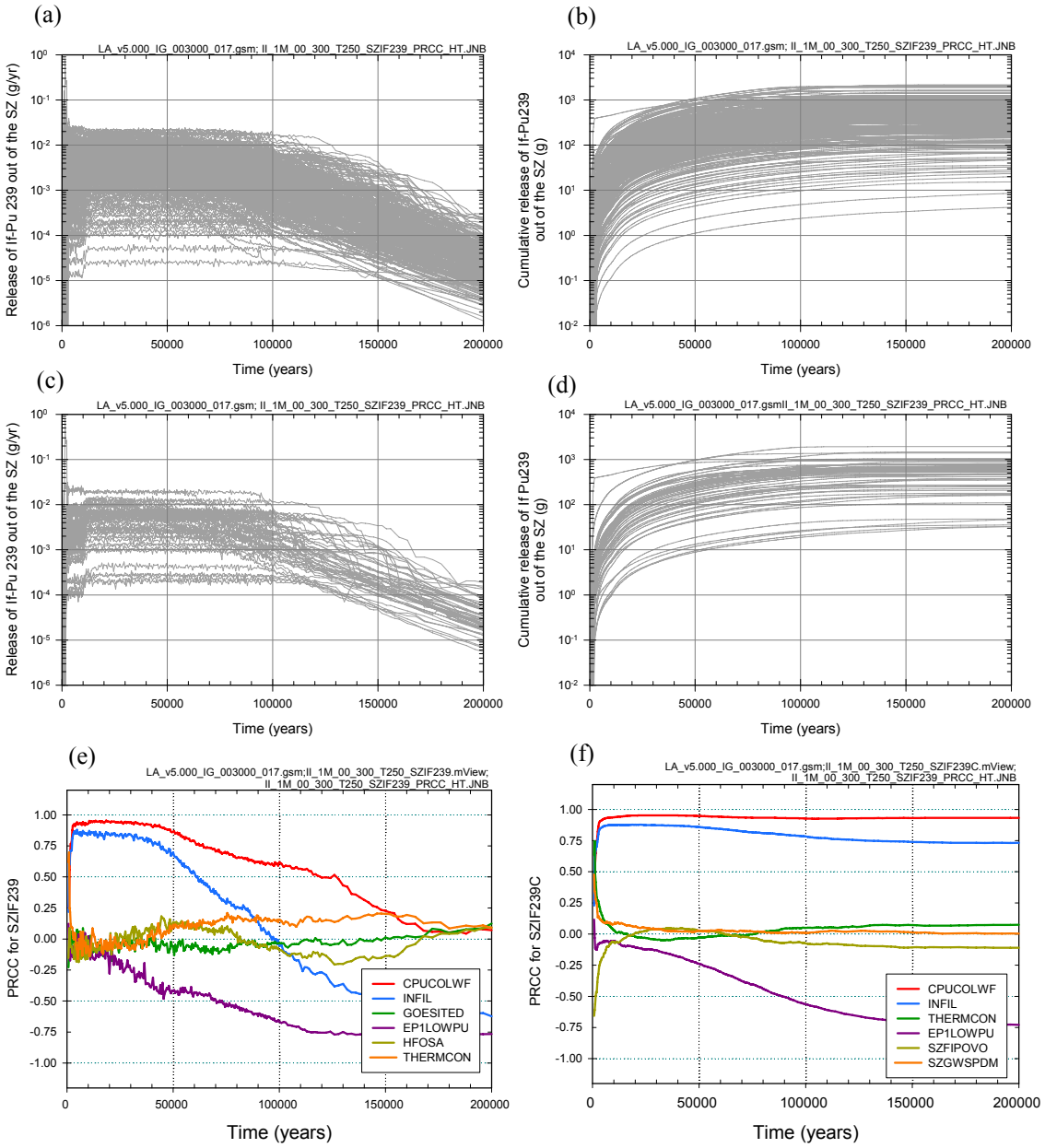
Source: Output DTN: MO0709TSPAREGS.000 [DIRS 182976].

Figure K6.5.1-15. Comparison of cumulative releases of dissolved ^{99}Tc into the SZ (*UZTC99C*, g) and across a subsurface plane at the location of the RMEI (*SZTC99C*, g) at (a) 1000 years, (b) 3000 years, (c) 5000 years and (d) 10,000 years for an igneous intrusive event at 10 years that destroys all WPs in the repository



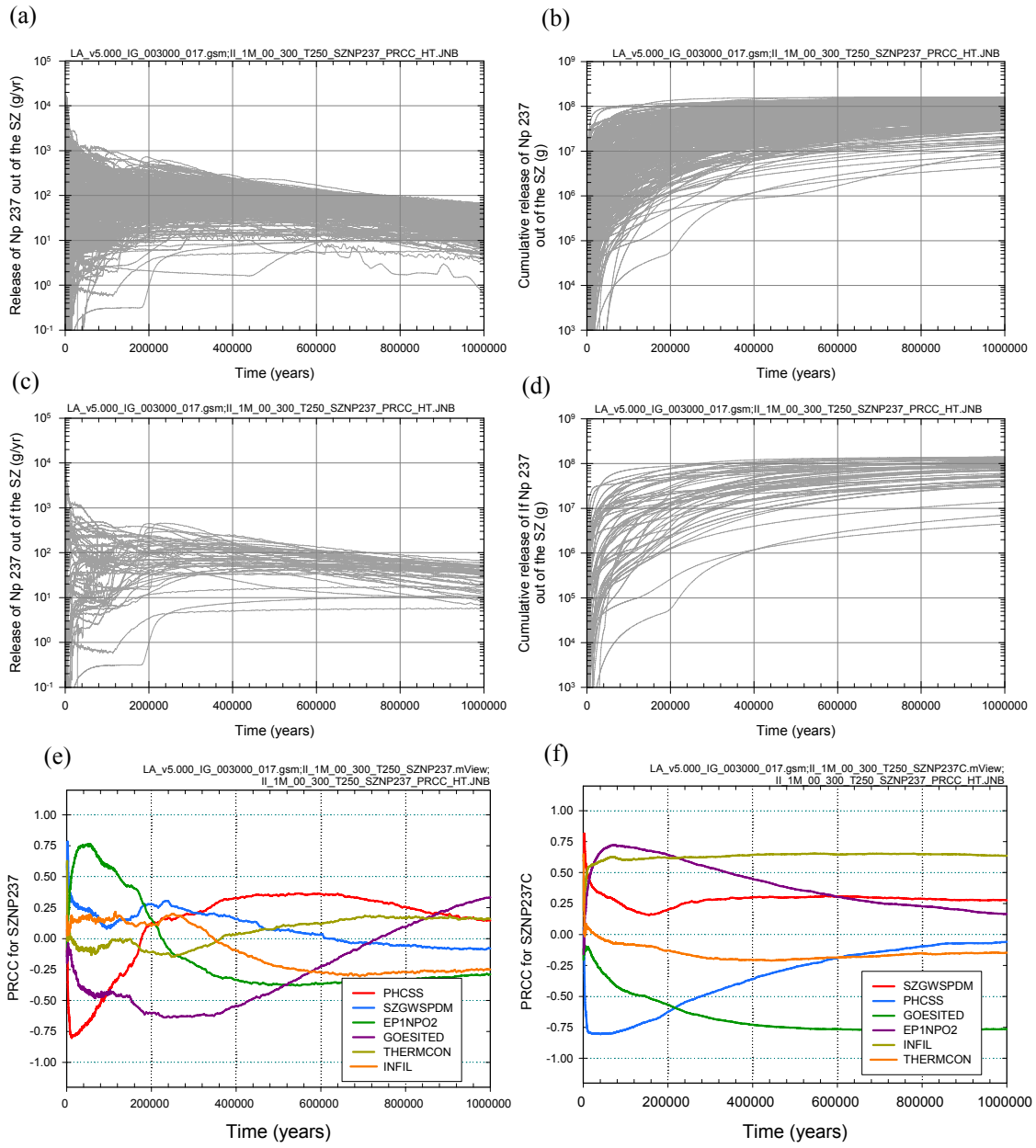
Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.2-1. Time-dependent release rates (*SZIC239*, g/yr) and cumulative (i.e., integrated) releases (*SZIC239C*, g) over 200,000 years for the movement of ^{239}Pu irreversibly attached to slow colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *SZIC239* and *SZIC239C* for all (i.e., 300) sample elements, (c, d) *SZIC239* and *SZIC239C* for first 50 sample elements, and (e, f) PRCCs for *SZIC239* and *SZIC239C*



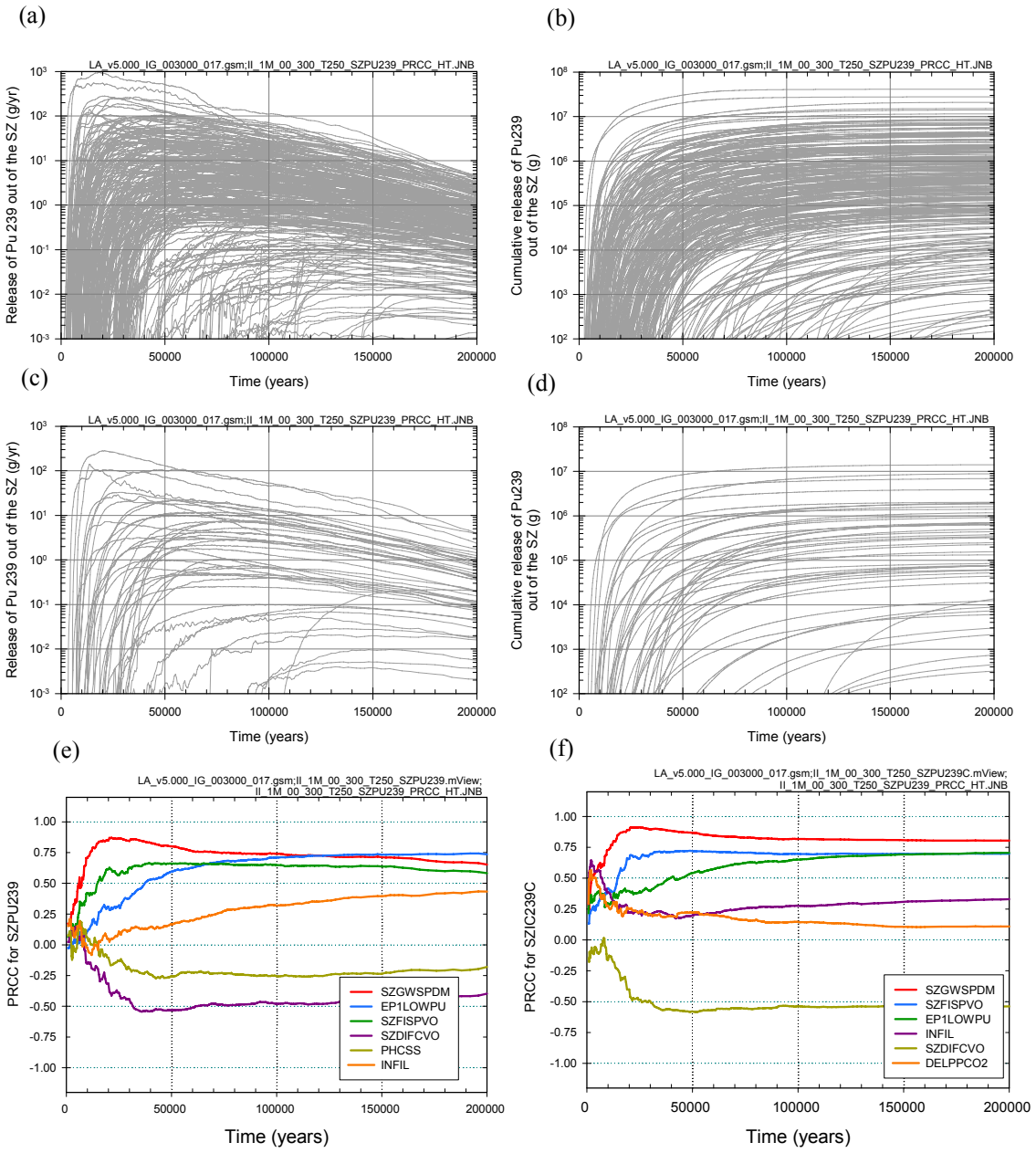
Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.2-2. Time-dependent release rates (*SZIF239*, g/yr) and cumulative (i.e., integrated) releases (*SZIF239C*, g) over 200,000 years for the movement of ^{239}Pu irreversibly attached to fast colloids across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *SZIF239* and *SZIF239C* for all (i.e., 300) sample elements, (c, d) *SZIF239* and *SZIF239C* for first 50 sample elements, and (e, f) PRCCs for *SZIF239* and *SZIF239C*



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.2-3. Time-dependent release rates (*SZNP237*, g/yr) and cumulative (i.e., integrated) releases (*SZNP237C*, g) over 1,000,000 years for the movement of dissolved ^{237}Np across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *SZNP237* and *SZNP237C* for all (i.e., 300) sample elements, (c, d) *SZNP237* and *SZNP237C* for first 50 sample elements, and (e, f) PRCCs for *SZNP237* and *SZNP237C*



Source: Output DTNs: MO0709TSPAREGS.000 [DIRS 182976]; and MO0709TSPAPLOT.000 [DIRS 183010].

Figure K6.5.2-4. Time-dependent release rates (*SZPU239*, g/yr) and cumulative (i.e., integrated) releases (*SZPU239C*, g) over 200,000 years for the movement of dissolved ^{239}Pu across a subsurface plane at the location of the RMEI resulting from an igneous intrusive event at 250 years that destroys all WPs in the repository: (a, b) *SZPU239* and *SZPU239C* for all (i.e., 300) sample elements, (c, d) *SZPU239* and *SZPU239C* for first 50 sample elements, and (e, f) PRCCs for *SZPU239* and *SZPU239C*