

---

**APPENDIX J**

**Piazza Road Simulation Results**

---

---

---

## APPENDIX J

---

---

### Piazza Road Simulation Results

Section 4.3.6 contains background information on the Piazza Road site and its seven exposure areas (EAs), as well as a complete description of the simulation setup and parameters. The following notation is used in the tables of this appendix.

EA	=	exposure area number (from 1 to 7)
MEAN	=	the true mean for the EA (an average of 96 measurements)
CV	=	the true value of the coefficient of variation for the EA
DES	=	indicator of whether compositing within strata (DES = W) or compositing across strata (DES = X) was used
C	=	the number of specimens per composite
N	=	the number of composite samples chemically analyzed.

The remaining four variables give the estimated error rates at 0.5 SSL and 2 SSL for the Max test (labelled as MAX 0.5SSL and MAX 2.0SSL) and the Chen test at the nominal .10 level (labelled as CHEN 0.5SSL and CHEN 2.0SSL).

Appendix J. Estimated decision error rates for Chen test at the 0.1 level, and Max test, for compositing within sector (DES=W) or across sector (DES=X), based on simulations from Piazza Road Data.

EA = EA # (1 to 7). MEAN and CV denote EA true mean and CV.  
M = # of samples per composite. N = # of composite samples.

----- EA=1 MEAN=2.1 CV=1.0 -----						
DES	M	N	MAX 0.5SSL	MAX 2.0SSL	CHEN 0.5SSL	CHEN 2.0SSL
W	4	4	.01	.03	.02	.00
X	4	4	.00	.12	.12	.00
W	4	6	.01	.01	.04	.00
X	4	6	.00	.04	.11	.00
W	4	8	.02	.00	.01	.00
X	4	8	.00	.01	.15	.00
W	6	4	.00	.01	.01	.00
X	6	4	.00	.11	.13	.00
W	6	6	.00	.01	.04	.00
X	6	6	.00	.04	.12	.00
W	6	8	.01	.00	.01	.00
X	6	8	.00	.01	.12	.00
W	8	4	.00	.02	.00	.00
X	8	4	.00	.09	.12	.00
W	8	6	.00	.01	.02	.00
X	8	6	.00	.04	.13	.00
W	8	8	.00	.00	.01	.00
X	8	8	.00	.02	.10	.00
----- EA=2 MEAN=2.4 CV=1.6 -----						
DES	M	N	MAX 0.5SSL	MAX 2.0SSL	CHEN 0.5SSL	CHEN 2.0SSL
W	4	4	.07	.13	.08	.05
X	4	4	.04	.13	.11	.05
W	4	6	.09	.04	.05	.02
X	4	6	.05	.05	.11	.01
W	4	8	.11	.02	.05	.00
X	4	8	.07	.01	.11	.00
W	6	4	.04	.13	.09	.02
X	6	4	.01	.14	.09	.02
W	6	6	.05	.03	.04	.00
X	6	6	.01	.04	.09	.00
W	6	8	.06	.01	.04	.00
X	6	8	.01	.01	.13	.00
W	8	4	.03	.08	.09	.00
X	8	4	.00	.12	.10	.01
W	8	6	.04	.02	.04	.00
X	8	6	.00	.04	.10	.00
W	8	8	.04	.00	.04	.00
X	8	8	.00	.02	.12	.00

Appendix J. Estimated decision error rates for Chen test at the 0.1 level, and Max test, for compositing within sector (DES=W) or across sector (DES=X), based on simulations from Piazza Road Data.

EA = EA # (1 to 7). MEAN and CV denote EA true mean and CV.  
M = # of samples per composite. N = # of composite samples.

-----EA=3 MEAN=5.1 CV=1.1-----						
DES	M	N	MAX 0.5SSL	MAX 2.0SSL	CHEN 0.5SSL	CHEN 2.0SSL
W	4	4	.01	.03	.03	.01
X	4	4	.00	.11	.14	.00
W	4	6	.02	.00	.00	.00
X	4	6	.00	.03	.11	.00
W	4	8	.06	.00	.00	.00
X	4	8	.00	.01	.10	.00
W	6	4	.00	.02	.01	.00
X	6	4	.00	.09	.12	.00
W	6	6	.01	.00	.00	.00
X	6	6	.00	.03	.11	.00
W	6	8	.02	.00	.00	.00
X	6	8	.00	.01	.11	.00
W	8	4	.00	.02	.01	.00
X	8	4	.00	.10	.14	.00
W	8	6	.01	.00	.00	.00
X	8	6	.00	.03	.12	.00
W	8	8	.03	.00	.00	.00
X	8	8	.00	.01	.12	.00
-----EA=4 MEAN=3.8 CV=1.2-----						
DES	M	N	MAX 0.5SSL	MAX 2.0SSL	CHEN 0.5SSL	CHEN 2.0SSL
W	4	4	.01	.11	.07	.00
X	4	4	.00	.11	.10	.00
W	4	6	.02	.04	.06	.00
X	4	6	.00	.04	.11	.00
W	4	8	.02	.01	.05	.00
X	4	8	.00	.01	.09	.00
W	6	4	.01	.10	.05	.00
X	6	4	.00	.10	.12	.00
W	6	6	.00	.02	.04	.00
X	6	6	.00	.03	.09	.00
W	6	8	.01	.01	.04	.00
X	6	8	.00	.02	.10	.00
W	8	4	.00	.09	.04	.00
X	8	4	.00	.12	.12	.00
W	8	6	.00	.03	.06	.00
X	8	6	.00	.03	.11	.00
W	8	8	.00	.01	.03	.00
X	8	8	.00	.01	.11	.00

Appendix J. Estimated decision error rates for Chen test at the 0.1 level, and Max test, for compositing within sector (DES=W) or across sector (DES=X), based on simulations from Piazza Road Data.

EA = EA # (1 to 7). MEAN and CV denote EA true mean and CV.  
M = # of samples per composite. N = # of composite samples.

-----EA=5 MEAN=9.3 CV=2.0-----						
DES	M	N	MAX 0.5SSL	MAX 2.0SSL	CHEN 0.5SSL	CHEN 2.0SSL
W	4	4	.22	.13	.01	.12
X	4	4	.03	.17	.07	.04
W	4	6	.48	.03	.00	.02
X	4	6	.03	.06	.08	.00
W	4	8	.71	.00	.00	.00
X	4	8	.05	.03	.10	.00
W	6	4	.18	.06	.00	.05
X	6	4	.00	.10	.10	.01
W	6	6	.47	.01	.00	.00
X	6	6	.00	.02	.10	.00
W	6	8	.76	.00	.00	.00
X	6	8	.00	.01	.11	.00
W	8	4	.19	.05	.00	.03
X	8	4	.00	.08	.12	.00
W	8	6	.45	.01	.00	.00
X	8	6	.00	.03	.14	.00
W	8	8	.76	.00	.00	.00
X	8	8	.00	.01	.10	.00
-----EA=6 MEAN=15.8 CV=2.2-----						
DES	M	N	MAX 0.5SSL	MAX 2.0SSL	CHEN 0.5SSL	CHEN 2.0SSL
W	4	4	.18	.16	.03	.21
X	4	4	.07	.20	.10	.19
W	4	6	.22	.06	.03	.07
X	4	6	.10	.08	.09	.07
W	4	8	.34	.03	.02	.03
X	4	8	.13	.03	.09	.03
W	6	4	.13	.11	.02	.11
X	6	4	.02	.16	.09	.09
W	6	6	.15	.04	.02	.03
X	6	6	.05	.06	.08	.02
W	6	8	.33	.01	.02	.01
X	6	8	.07	.03	.09	.01
W	8	4	.08	.09	.00	.07
X	8	4	.01	.14	.09	.03
W	8	6	.11	.03	.01	.01
X	8	6	.01	.04	.09	.01
W	8	8	.31	.01	.01	.00
X	8	8	.01	.02	.10	.00

Appendix J. Estimated decision error rates for Chen test at the 0.1 level, and Max test, for compositing within sector (DES=W) or across sector (DES=X), based on simulations from Piazza Road Data.

EA = EA # (1 to 7). MEAN and CV denote EA true mean and CV.  
M = # of samples per composite. N = # of composite samples.

-----EA=7 MEAN=2.8 CV=1.4-----

DES	M	N	MAX		CHEN	
			0.5SSL	2.0SSL	0.5SSL	2.0SSL
W	4	4	.03	.11	.02	.00
X	4	4	.00	.13	.09	.00
W	4	6	.09	.03	.02	.00
X	4	6	.01	.06	.07	.00
W	4	8	.16	.01	.02	.00
X	4	8	.01	.02	.09	.00
W	6	4	.02	.08	.01	.00
X	6	4	.00	.10	.12	.00
W	6	6	.06	.02	.01	.00
X	6	6	.00	.03	.09	.00
W	6	8	.10	.00	.01	.00
X	6	8	.00	.02	.09	.00
W	8	4	.01	.06	.01	.00
X	8	4	.00	.10	.12	.00
W	8	6	.04	.01	.00	.00
X	8	6	.00	.03	.10	.00
W	8	8	.06	.00	.00	.00
X	8	8	.00	.01	.11	.00