

TABLE 2-1 STUDY DESIGN

Group	Number of Animals	Dose Material Administered	Target Elemental Arsenic Dose (ug/kg-day)
1	3	Control	0
2	5	Sodium Arsenate	25
3	5	Sodium Arsenate	50
4	5	TM1	40
5	5	TM1	80
6	5	TM1	160
7	5	TM2	40
8	5	TM2	80
9	5	TM2	160

TABLE 2-2 TYPICAL FEED COMPOSITION

Nutrient Name	Amount	Nutrient Name	Amount
Protein	20.1021%	Chlorine	0.1911%
Arginine	1.2070%	Magnesium	0.0533%
Lysine	1.4690%	Sulfur	0.0339%
Methionine	0.8370%	Manganese	20.4719 ppm
Met+Cys	0.5876%	Zinc	118.0608 ppm
Tryptophan	0.2770%	Iron	135.3710 ppm
Histidine	0.5580%	Copper	8.1062 ppm
Leucine	1.8160%	Cobalt	0.0110 ppm
Isoleucine	1.1310%	Iodine	0.2075 ppm
Phenylalanine	1.1050%	Selenium	0.3196 ppm
Phe+Tyr	2.0500%	Nitrogen Free Extract	60.2340%
Threonine	0.8200%	Vitamin A	5.1892 kIU/kg
Valine	1.1910%	Vitamin D3	0.6486 kIU/kg
Fat	4.4440%	Vitamin E	87.2080 IU/kg
Saturated Fat	0.5590%	Vitamin K	0.9089 ppm
Unsaturated Fat	3.7410%	Thiamine	9.1681 ppm
Linoleic 18:2:6	1.9350%	Riboflavin	10.2290 ppm
Linoleic 18:3:3	0.0430%	Niacin	30.1147 ppm
Crude Fiber	3.8035%	Pantothenic Acid	19.1250 ppm
Ash	4.3347%	Choline	1019.8600 ppm
Calcium	0.8675%	Pyridoxine	8.2302 ppm
Phos Total	0.7736%	Folacin	2.0476 ppm
Available Phosphorous	0.7005%	Biotin	0.2038 ppm
Sodium	0.2448%	Vitamin B12	23.4416 ppm
Potassium	0.3733%		

Feed obtained from and nutritional values provided by Zeigler Bros., Inc

FIGURE 2-1 BODY WEIGHT GAIN

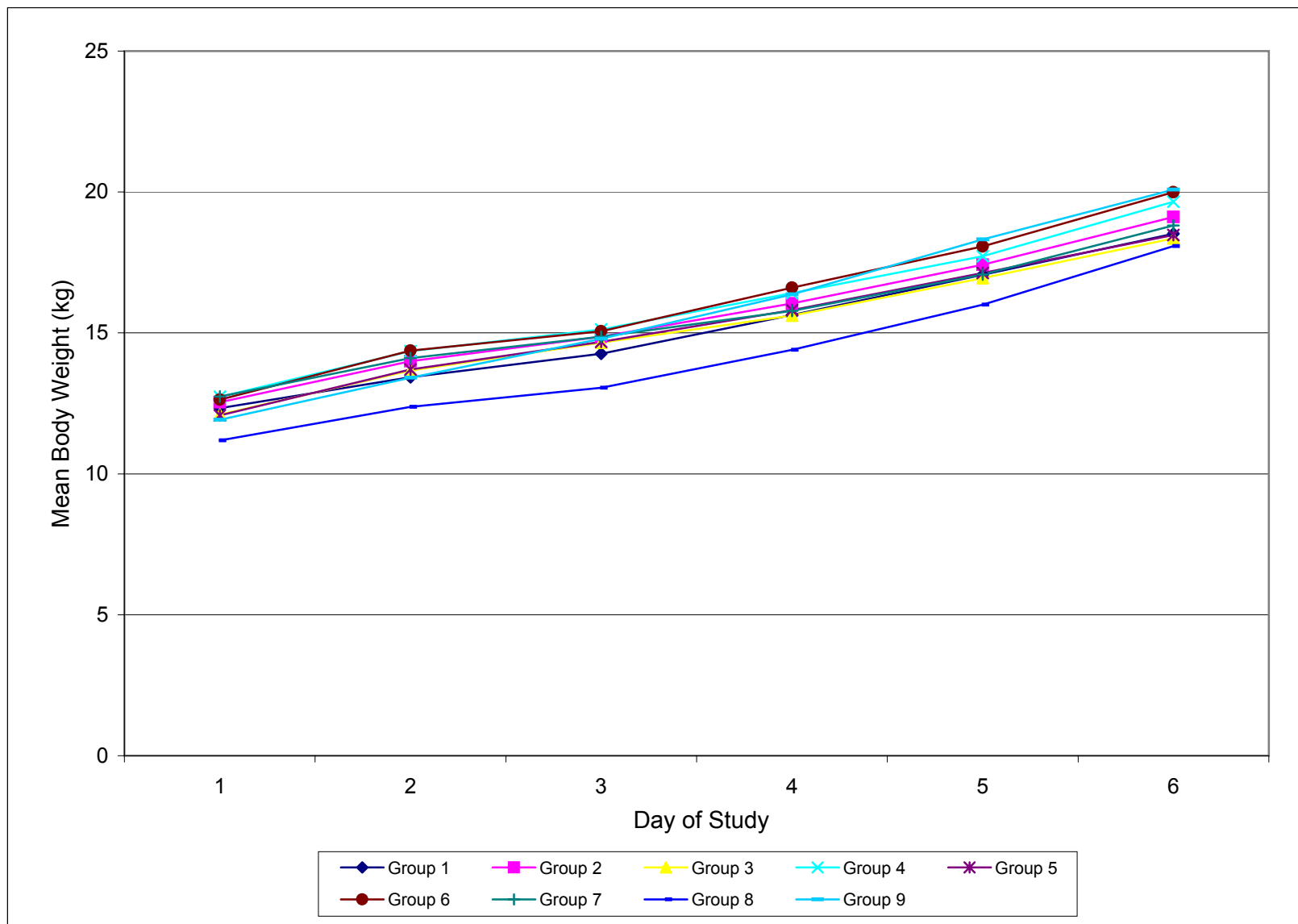


FIGURE 2-2 PERFORMANCE EVALUATION SAMPLES

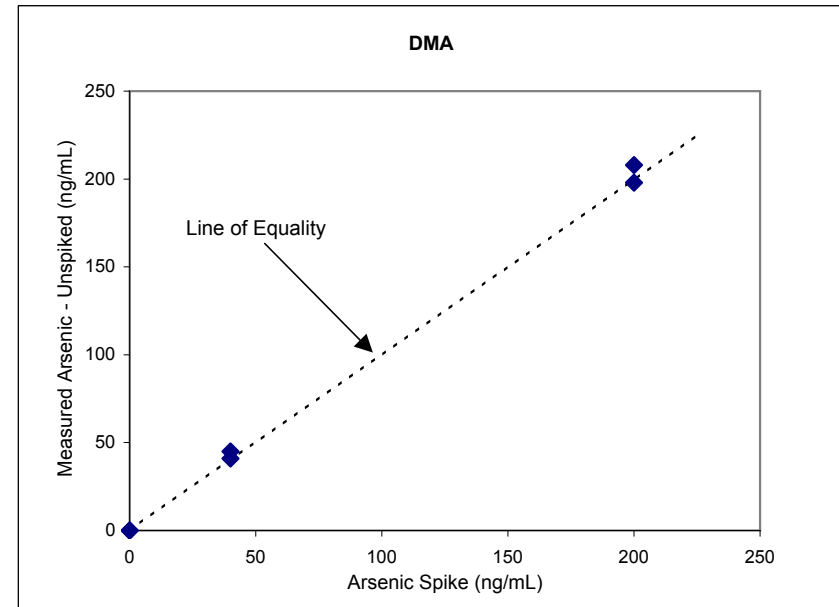
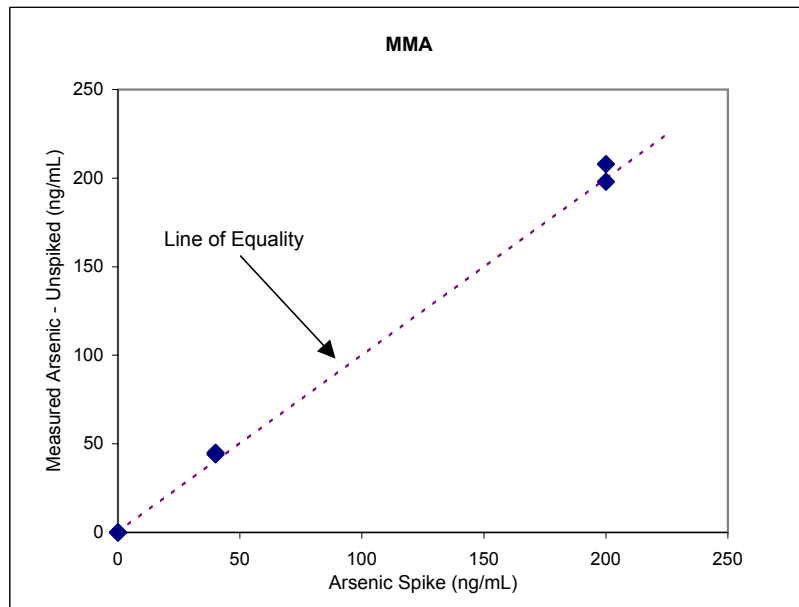
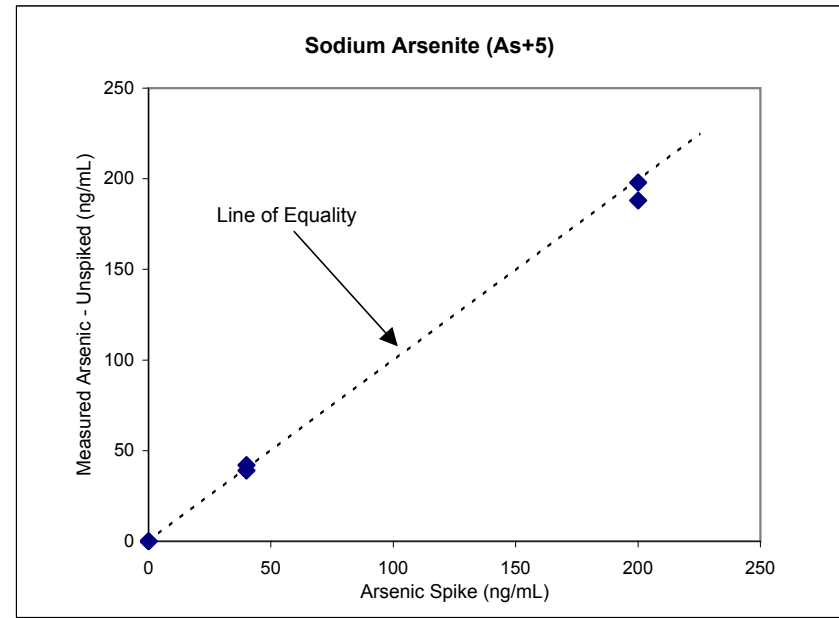
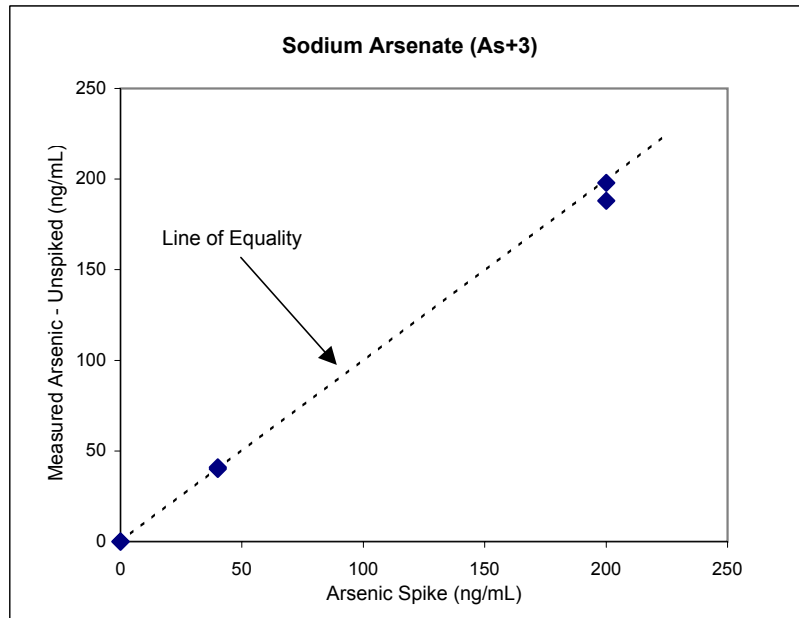


FIGURE 2-3 BLIND DUPLICATE SAMPLES

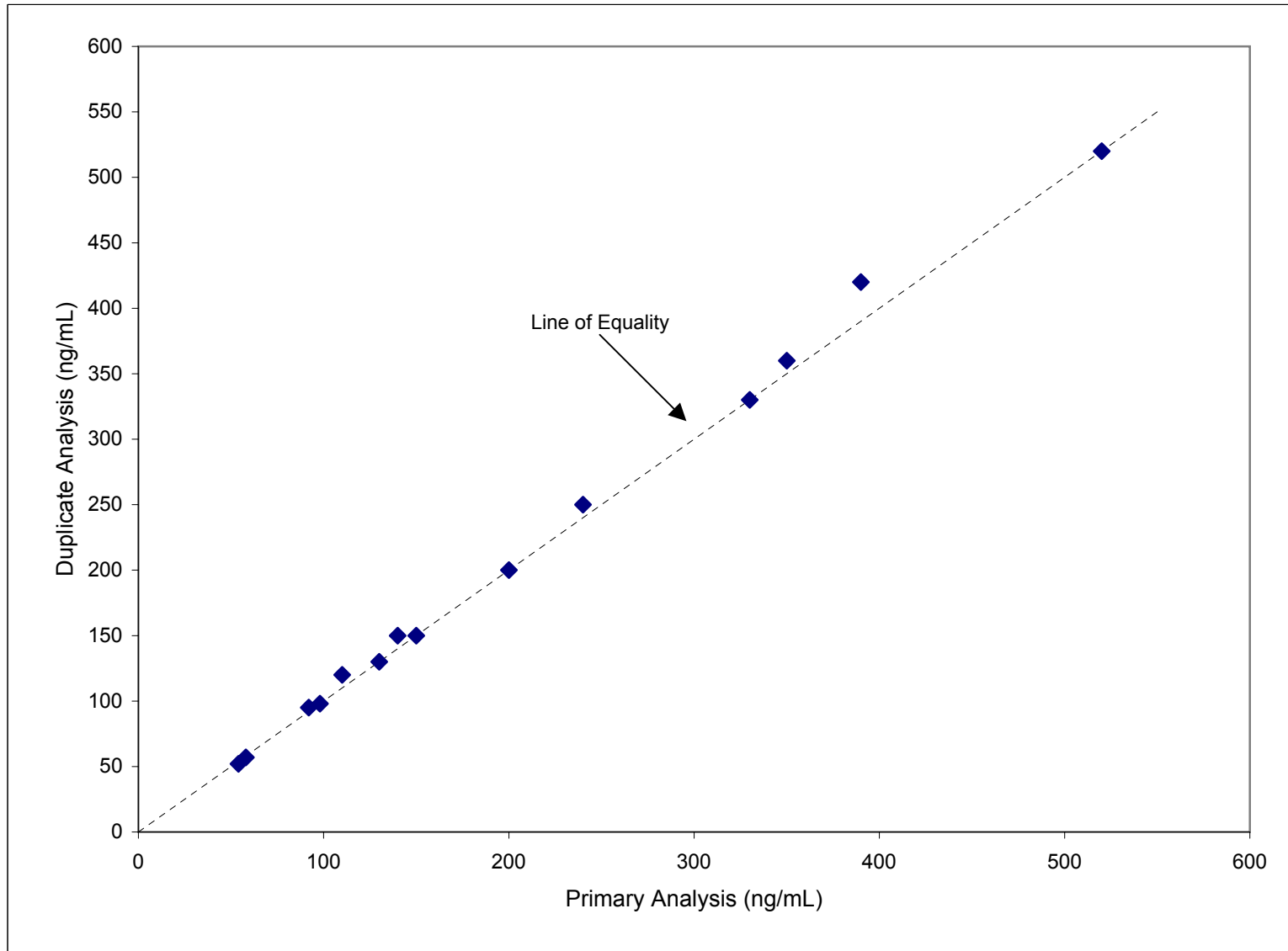
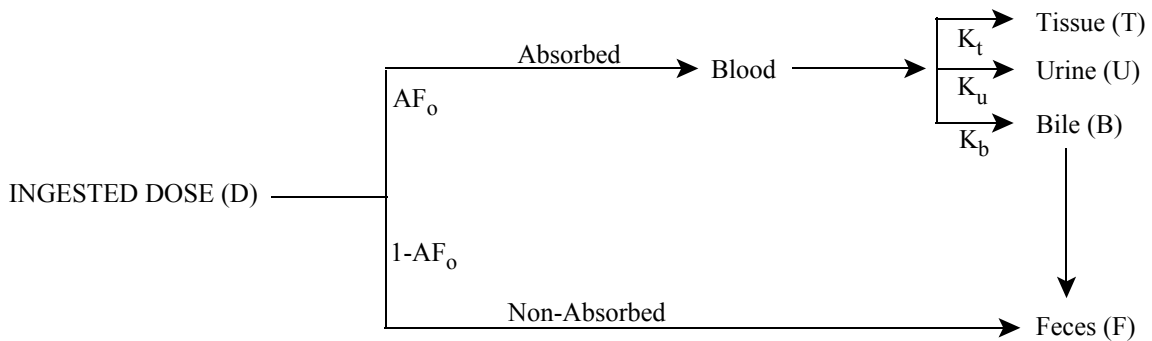


Figure 3-1. Conceptual Model for Arsenic Toxicokinetics



where:

D = Ingested dose (ug)

AF_o = Oral Absorption Fraction

K_t = Fraction of absorbed arsenic which is retained in tissues

K_u = Fraction of absorbed arsenic which is excreted in urine

K_b = Fraction of absorbed arsenic which is excreted in the bile

BASIC EQUATIONS:

$$\text{Amount Absorbed (ug)} = D \cdot AF_o$$

$$\begin{aligned} \text{Amount Excreted (ug)} &= \text{Amount absorbed} \cdot K_u \\ &= D \cdot AF_o \cdot K_u \end{aligned}$$

$$\begin{aligned} \text{Urinary Excretion Fraction (UEF)} &= \text{Amount excreted} / \text{Amount Ingested} \\ &= (D \cdot AF_o \cdot K_u) / D \\ &= AF_o \cdot K_u \end{aligned}$$

$$\begin{aligned} \text{Relative Bioavailability (x vs. y)} &= \text{UEF}(x) / \text{UEF}(y) \\ &= (AF_o(x) \cdot K_u) / (AF_o(y) \cdot K_u) \\ &= AF_o(x) / AF_o(y) \end{aligned}$$

FIGURE 4-1 URINARY EXCRETION OF ARSENIC FROM SODIUM ARSENATE

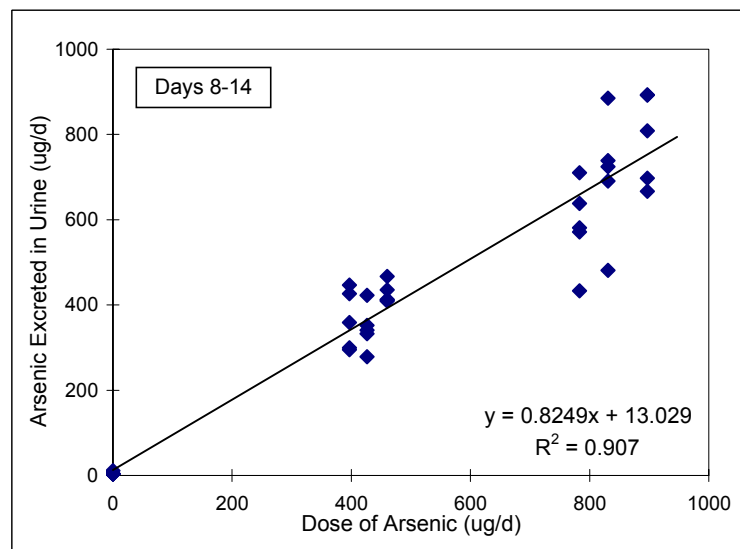
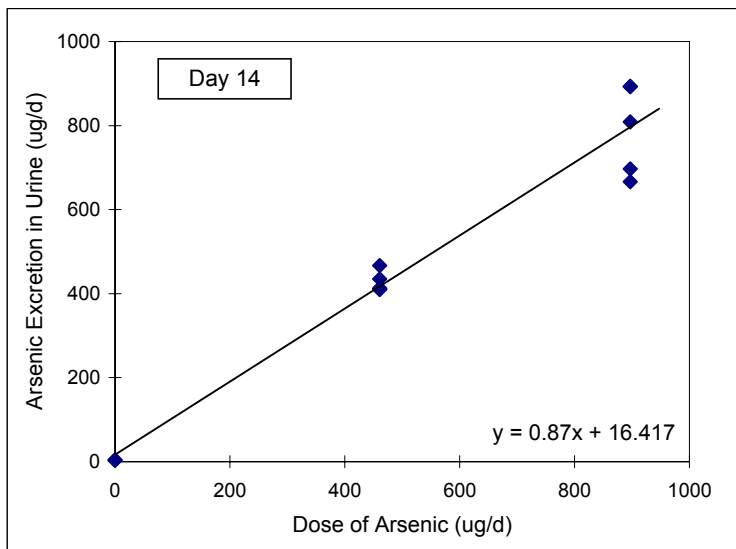
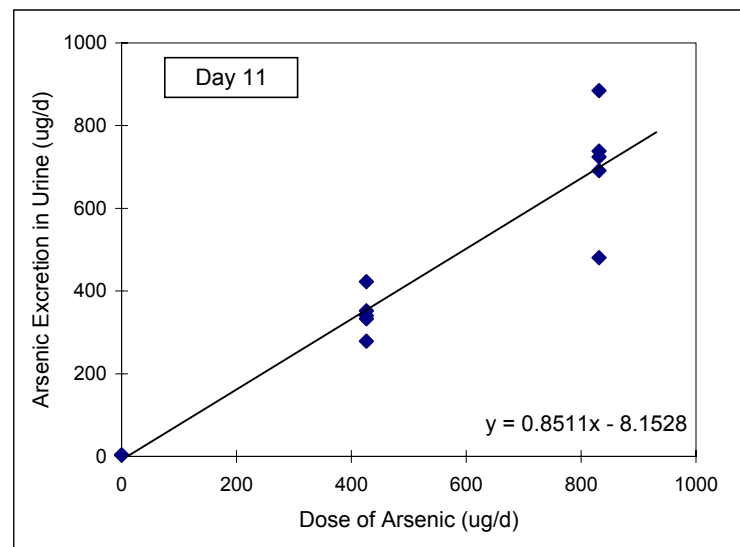
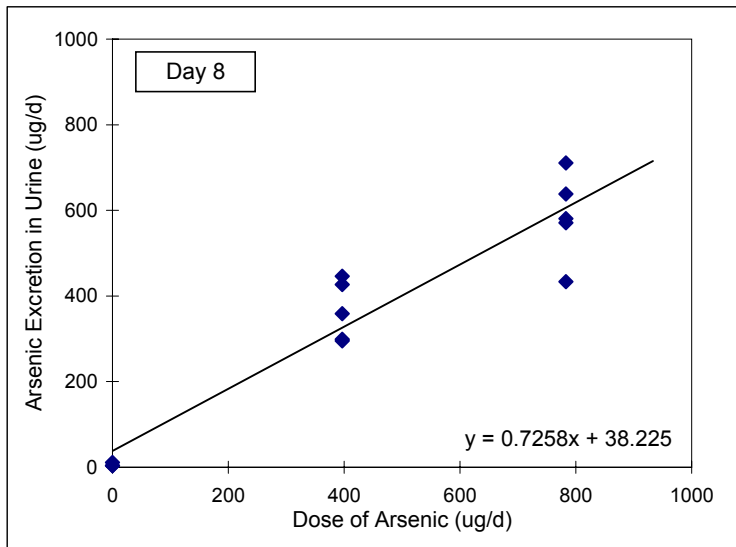


FIGURE 4-2 URINARY EXCRETION OF ARSENIC FROM TEST MATERIAL 1

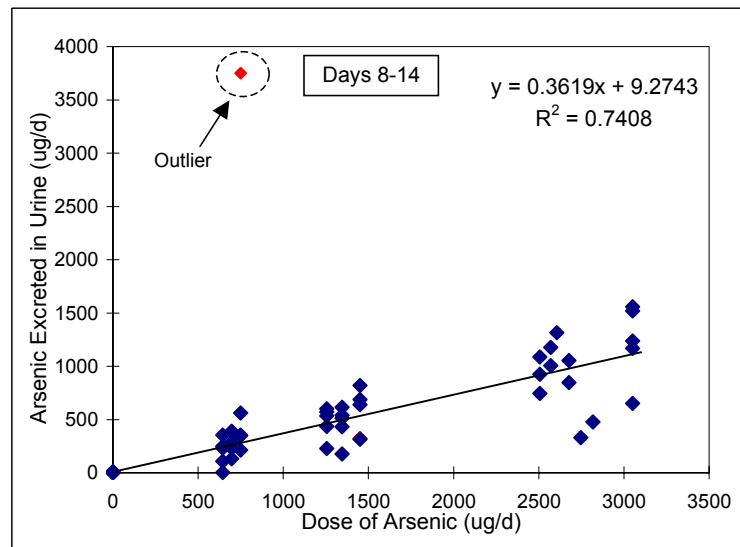
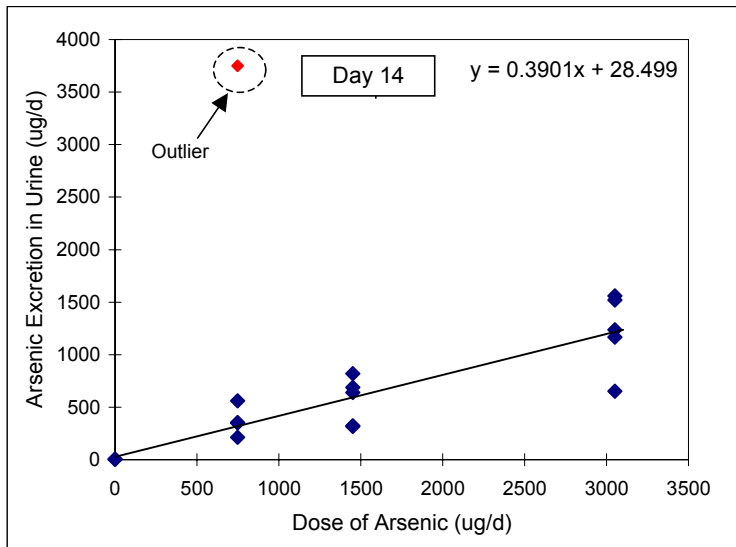
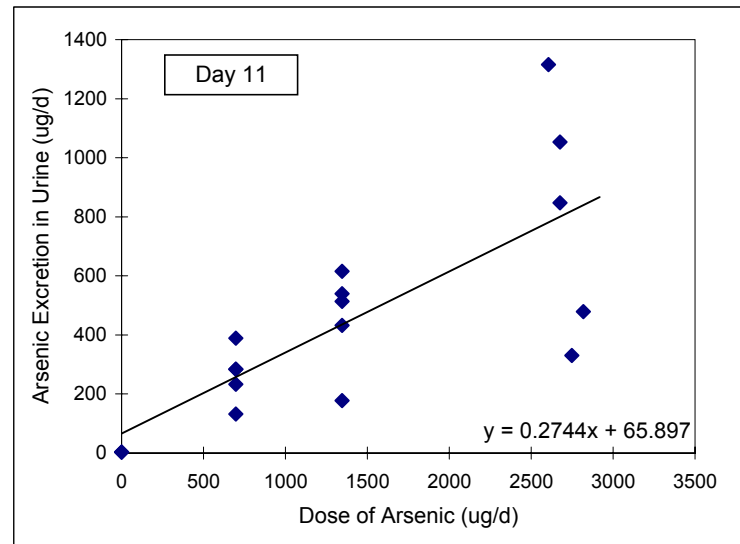
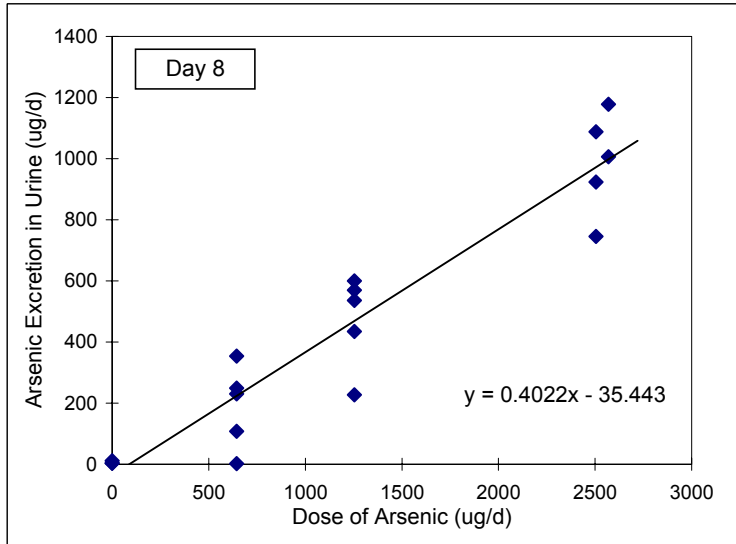
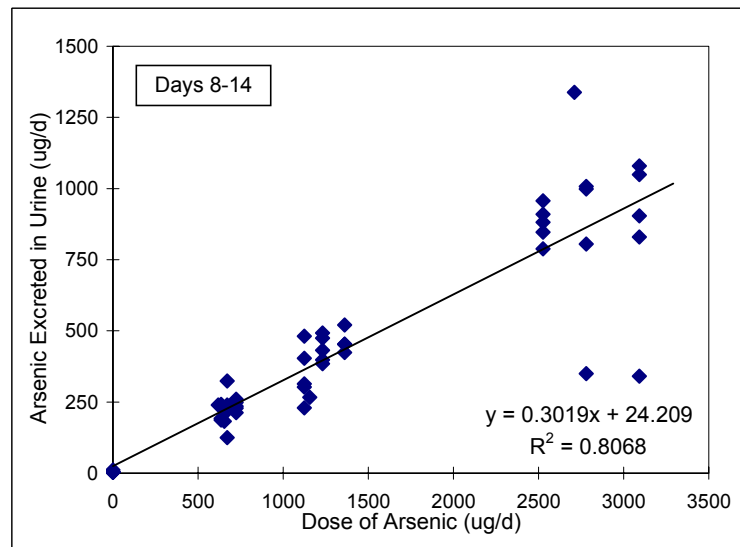
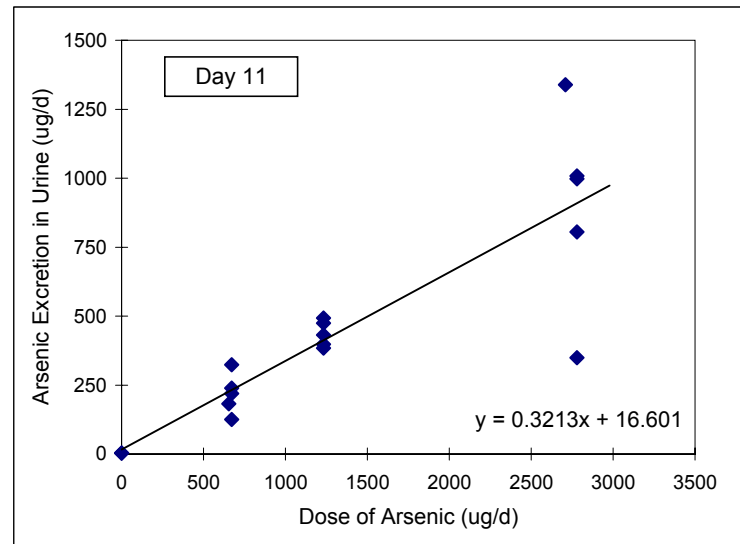
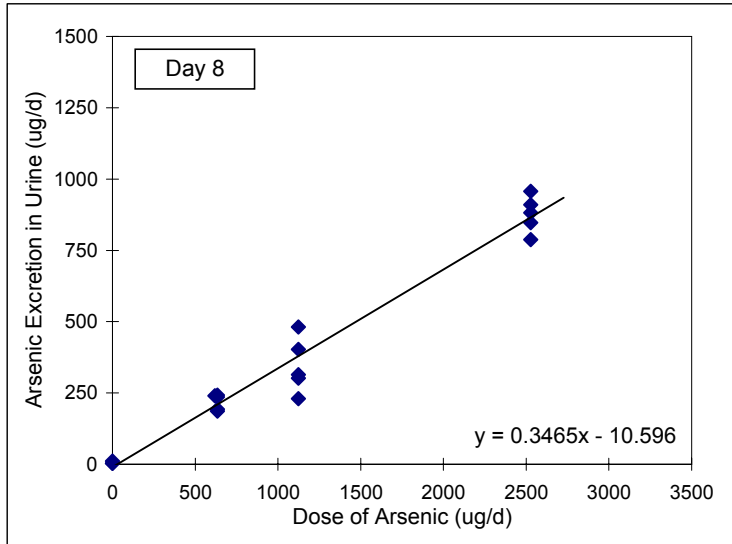


FIGURE 4-3 URINARY EXCRETION OF ARSENIC FROM TEST MATERIAL 2



APPENDIX A
DETAILED RESULTS

TABLE A-1 SCHEDULE

Study Day	Day	Date	Dose Administration	Feed Special Diet	Weigh	Dose Prep	Cull Pigs/ Assign Dose Group	24 hr Urine Collection	Bleed	Sacrifice/ Necropsy
-6	Tuesday	11/26/02		X	X		X			
-5	Wednesday	11/27/02		X						
-4	Thursday	11/28/02		X						
-3	Friday	11/29/02		X						
-2	Saturday	11/30/02		X						
-1	Sunday	12/01/02		X	X	X				
0	Monday	12/02/02	X	X				X	X	
1	Tuesday	12/03/02	X	X						
2	Wednesday	12/04/02	X	X	X	X				
3	Thursday	12/05/02	X	X						
4	Friday	12/06/02	X	X						
5	Saturday	12/07/02	X	X	X	X		X		
6	Sunday	12/08/02	X	X						
7	Monday	12/09/02	X	X						
8	Tuesday	12/10/02	X	X	X	X		X		
9	Wednesday	12/11/02	X	X						
10	Thursday	12/12/02	X	X					X	
11	Friday	12/13/02	X	X	X	X		X		
12	Saturday	12/14/02	X	X						
13	Sunday	12/15/02	X	X						
14	Monday	12/16/02	X	X	X			X		
15	Tuesday	12/17/02								X

TABLE A-2 GROUP ASSIGNMENTS

Pig Number	Dose Group	Material Administered	Target Dose of Arsenic (ug/kg-day)
84 91 1550	1	Control	0
76 90 1542 1547 1562	2	NaAs	25
70 73 81 1541 1556	3	NaAs	50
64 77 80 92 1548	4	TM1	40
87 97 1543 1546 1553	5	TM1	80
66 68 86 1545 1561	6	TM1	160
69 75 78 98 1564	7	TM2	40
88 89 99 100 1563	8	TM2	80
65 82 95 1549 1558	9	TM2	160

TABLE A-3 BODY WEIGHTS AND ADMINISTERED DOSES, BY DAY

Body weights were measured on days -1, 2, 5, 8, 11, and 14. Weights for other days are estimated, based on linear interpolation between measured values.

Group	Pig #	Day -1		Day 0		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7		Day 8		Day 9		Day 10		Day 11		Day 12	
		BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)	BW (kg)	As Dose (ug/kg-d)
1	84	10.6	0.00	10.8	0.00	11.0	0.00	11.2	0.00	11.4	0.00	11.7	0.00	11.9	0.00	12.4	0.00	12.9	0.00	13.5	0.00	13.8	0.00	14.1	0.00	14.4	0.00	15.1	0.00
1	91	14.3	0.00	14.7	0.00	15.1	0.00	15.6	0.00	16.0	0.00	16.4	0.00	16.8	0.00	17.2	0.00	17.6	0.00	18.0	0.00	18.5	0.00	19.0	0.00	19.6	0.00	20.1	0.00
1	1550	12.1	0.00	12.6	0.00	13.1	0.00	13.6	0.00	13.8	0.00	13.9	0.00	14.1	0.00	14.6	0.00	15.0	0.00	15.5	0.00	16.1	0.00	16.7	0.00	17.3	0.00	17.5	0.00
2	76	12.6	0.00	13.1	25.94	13.5	25.07	14.0	24.27	14.3	26.19	14.7	25.54	15.1	24.92	15.5	25.65	15.9	24.98	16.3	24.34	16.8	25.42	17.2	24.73	17.7	24.08	18.2	25.26
2	90	12.0	0.00	12.5	27.19	13.0	26.14	13.5	25.17	13.6	27.51	13.8	27.14	14.0	26.79	14.4	27.65	14.7	26.99	15.1	26.36	15.6	27.35	16.1	26.45	16.7	25.60	17.2	26.77
2	1542	14.5	0.00	15.1	22.47	15.7	21.58	16.3	20.77	16.5	22.70	16.7	22.41	17.0	22.12	17.4	22.85	17.8	22.31	18.2	21.80	18.6	22.88	19.1	22.36	19.5	21.86	19.9	23.16
2	1547	11.5	0.00	11.9	28.57	12.2	27.75	12.6	26.97	12.9	29.11	13.2	28.37	13.6	27.68	13.9	28.51	14.3	27.78	14.7	27.08	15.1	28.20	15.6	27.35	16.1	26.56	17.0	27.11
2	1562	12.2	0.00	12.7	26.62	13.2	25.58	13.8	24.62	14.1	26.60	14.5	25.95	14.8	25.34	15.1	26.25	15.4	25.71	15.8	25.19	16.2	26.26	16.7	25.14	17.6	26.14		
3	70	13.7	0.00	14.3	45.96	14.8	44.26	15.4	42.67	15.8	46.57	16.2	45.42	16.6	44.32	16.9	46.33	17.3	45.39	17.6	44.49	18.0	46.08	18.5	45.00	18.9	43.97	19.5	46.04
3	73	12.5	0.00	12.8	51.04	13.2	49.56	13.6	48.16	13.9	52.77	14.2	51.65	14.5	50.59	14.8	52.91	15.1	51.85	15.4	50.84	15.9	52.37	16.3	50.88	16.8	49.46	17.3	52.00
3	81	12.7	0.00	13.4	49.06	14.1	46.62	14.8	44.41	15.0	48.85	15.3	47.99	15.6	47.17	15.9	49.35	16.2	48.38	16.5	47.45	17.2	48.45	17.8	46.69	18.5	45.04	18.9	47.46
3	1541	11.8	0.00	12.2	53.84	12.6	52.05	13.0	50.38	13.4	54.74	13.8	53.15	14.2	51.65	14.5	54.12	14.7	53.14	15.0	52.20	15.3	54.25	15.6	53.16	16.0	52.10	16.4	54.81
3	1556	10.0	0.00	10.5	62.28	11.1	59.10	11.7	56.22	11.9	61.47	12.2	60.04	12.5	58.68	12.9	60.85	13.2	59.17	13.6	57.57	13.9	59.64	14.3	58.25	14.6	56.92	15.1	59.60
4	64	12.5	0.00	13.2	41.50	14.0	39.32	14.7	37.36	14.9	41.21	15.1	40.66	15.3	40.13	15.7	41.07	16.1	40.05	16.5	39.08	17.0	41.09	17.4	40.02	17.9	39.01	18.5	40.44
4	77	14.2	0.00	14.6	37.66	15.0	36.57	15.5	35.55	15.7	39.11	16.0	38.50	16.2	37.90	16.7	38.57	17.2	37.42	17.8	36.33	18.1	38.44	18.5	37.68	18.9	36.94	19.5	38.43
4	80	10.8	0.00	11.4	48.03	12.1	45.33	12.8	42.91	13.0	47.23	13.2	46.52	13.4	45.82	13.8	46.78	14.2	45.52	14.6	44.32	15.1	46.22	15.6	44.69	16.1	43.25	16.7	44.97
4	92	13.3	0.00	13.9	39.51	14.5	37.88	15.1	36.37	15.3	40.04	15.6	39.44	15.8	38.66	16.2	39.93	16.5	39.08	16.9	38.27	17.4	40.10	17.9	38.94	18.4	37.85	19.1	39.31
4	1548	13.0	0.00	13.2	41.61	13.5	40.83	13.7	40.09	14.1	43.55	14.5	42.34	14.9	41.21	15.4	41.87	15.9	40.55	16.4	39.32	16.7	41.62	17.1	40.80	17.4	40.02	18.1	41.33
5	87	9.9	0.00	10.5	99.74	11.1	94.06	11.8	88.99	12.1	97.06	12.5	94.21	12.9	91.52	13.3	94.67	13.7	91.90	14.1	89.28	14.5	92.64	15.0	89.75	15.5	87.04	16.0	90.56
5	97	11.4	0.00	11.8	88.49	12.3	85.12	12.8	82.01	13.1	89.66	13.5	87.22	13.9	84.91	14.3	87.62	14.8	84.85	15.3	82.26	15.6	86.02	16.0	83.96	16.4	82.00	17.0	85.49
5	1543	11.3	0.00	11.7	89.62	12.1	86.53	12.5	83.65	12.9	90.93	13.4	87.98	13.8	85.22	14.0	89.49	14.2	88.13	14.5	86.81	15.0	89.85	15.5	86.85	16.0	84.05	16.4	88.62
5	1546	13.9	0.00	14.3	73.12	14.8	70.89	15.2	68.79	15.4	76.45	15.6	75.55	16.2	77.67	16.6	75.79	17.0	74.01	17.3	77.58	17.7	75.91	18.1	74.30	18.5	78.61		
5	1553	14.1	0.00	14.8	70.65	15.6	67.24	16.3	64.15	16.6	70.91	16.9	69.72	17.2	68.57	17.6	71.48	18.0	69.88	18.4	68.36	18.8	71.53	19.3	69.86	19.7	68.26	20.1	72.22
6	66	12.4	0.00	13.0	167.54	13.6	159.96	14.3	153.04	14.3	171.77	14.4	170.98	14.5	170.19	15.1	170.36	15.7	159.41	16.4	153.23	16.9	166.72	17.5	161.47	18.0	148.71	18.6	164.49
6	68	13.3	0.00	13.8	158.41	14.3	152.68	14.8	147.35	15.0	164.31	15.1	162.50	15.3	160.73	15.7	147.30	16.1	155.61	16.5	151.84	17.0	166.07	17.4	161.62	17.9	149.54	18.3	166.88
6	86	10.6	0.00	11.0	197.66	11.5	190.19	11.9	183.26	12.2	201.30	12.5	196.21	12.9	191.38	13.3	192.96	13.8	187.79	14.3	175.81	14.6	193.65	14.9	189.74	15.2	181.33	15.9	192.10
6	1545	13.5	0.00	14.0	155.40	14.6	149.20	15.2	143.47	15.5	159.17	15.7	156.64	16.0	154.18	16.5	155.89	17.0	151.00	17.6	146.42	18.1	155.67	18.7	151.08	19.2	135.74	20.0	152.31
6	1561	13.5	0.00	14.2	153.58	15.0	145.87	15.7	138.90	16.1	153.22	16.4	149.95	16.8	146.82	17.3	148.53	17.9	143.96	18.4	139.65	19.0	148.56	19.5	144.25	20.1	140.18	20.8	146.69
7	69	13.7	0.00	14.2	38.75	14.7	37.35	15.3	36.04	15.6	38.87	15.9	38.13	16.2	37.42	16.4	38.75	16.6	38.20	16.9	37.67	17.4	38.65	17.9	37.53	18.4	35.57	18.9	38.18
7	75	13.3	0.00	13.7	40.17	14.1	39.07	14.5	38.03	14.8	40.79	15.2	39.81	15.6	38.87	15.9	40.01	16.2	39.23	16.5	38.47	17.8	39.87	17.2	39.10	17.5	38.35	18.2	39.82
7	78	10.6	0.00	11.2	49.29	11.7	46.97	12.3	44.87	12.3	49.20	12.3	49.07	12.4	48.94	12.7	49.98	13.1	48.64	13.4	46.19	13.9	48.29	14.4	46.61	14.9	45.05	15.4	46.88
7	98	12.7	0.00	13.2	41.64	13.7	40.12	14.2	38.70	14.5	41.63	14.8	40.75	15.2	39.89	15.2	41.76	15.3	41.63	15.3	41.49	15.8	42.48	16.3	41.18	16.8	39.95	16.6	43.50
7	1564	13.5	0.00	13.8	39.92	14.1	39.02	14.4	38.17	14.7	41.26	14.9	40.56	15.2	39.89	15.7	40.39	16.3	38.98	16.9	37.67	17.2	39.14	17.5	38.46	17.8	37.81	19.1	37.78
8	88	10.6	0.00	10.9	44.87	11.1	87.59	11.4	85.54	11.7	91.23	12.1	88.71	12.4	86.32	12.7	88.27	13.1	86.02	13.4	83.88	13.6	90.92	13.7	89.93	13.9	88.95	14.3	94.99
8	89	13.6	0.00	13.9	70.24	14.2	68.60	14.6	41.89	14.7	7.27	14.9	71.92	15.1	71.12	15.7	71.82	16.3	69.17	16.9	66.71	17.5	70.53	18.1	68.13	18.7	65.88	19.1	71.14
8	99	10.2	0.00	10.6	69.22	10.9	69.20	11.3	66.30	11.5	93.08	11.7	91.49	11.9	89.95	12.2	92.38	12.4	90.40	12.7	88.50	13.4	92.05	14.1	87.58	14.8	83.53	15.6	87.46
8	100	9.8	0.00	10.3	94.53	10.8	90.02	11.4	85.92	11.5	93.35	11.6	92.41	11.7	91.49	12.3	91.51	12.9	87.36	13.5	83.57	14.1	87.89	14.7	84.10	15.3	80.79	15.8	86.35
8	1563	11.8	0.00	12.3	79.28	12.8	76.19	13.3	73.32	13.6	78.71	13.9	77.01	14.2	75.38	14.7	76.64	15.1	74.27	15.6	72.05	16.2	75.97	16.8	73.19	17.5	70.60	18.7	72.60
9	85	13.7	0.00	14.1	146.61	14.5	142.57	14.9	138.74	15.3	150.37	15.8	148.23	16.2	142.32	16.9	149.79	17.5	144.09	18.2	138.81	18.9	146.92	19.6	141.56	20.4	136.57	20.8	148.97
9	82	11.0	0.00	11.5	179.50	12.0	171.79	12.6	164.72	13.1	176.45	13.6	169.74	14.1	163.52	14.6	172.65	15.2	166.58	15.7	160.92	16.4	169.98	17.0	163.48	17.7	153.53	18.1	153.42
9	95	12.9	0.00	13.7	113.58	14.5	89.41	15.3	135.55	15.5	148.91	15.7	132.03	16.0	144.55	16.6	152.50	17.2	147.03	17.8	141.93	18.5	150.50	19.1	145.25	19.8	140.36	20.3	152.03
9	1549																												

TABLE A-4 URINE VOLUMES - 24 HOUR COLLECTIONS

Units of Volume: mls

Group	Pig ID	Urine Collection			
		Day 0 12/02/02	Day 8 12/10/02	Day 11 12/13/02	Day 14 12/16/02
1	84	910	720	720	1540
	91	220	720	1200	620
	1550	800	3700	17600	7680
2	76	1010	1380	1100	3440
	90	3140	3720	9240	6580
	1542	2260	9700	8800	8060
	1547	1440	2720	2320	4500
	1562	2640	2980	2840	5080
3	70	1880	5280	7320	6740
	73	3050	6380	3700	4700
	81	3050	4080	6320	8300
	1541	3020	4440	3140	4760
	1556	3120	6880	5680	9700
4	64	3000	3720	21140	17000
	77	640	6740	4500	5800
	80	2380	4600	3540	5000
	92	2560	2300	2580	3100
	1548	1320	980	11060	6840
5	87	4740	4000	8800	16920
	97	820	1260	5460	11300
	1543	3200	6190	6000	6940
	1546	970	6900	1480	3820
	1553	1820	2680	2400	5860
6	66	720	1280	2700	3000
	68	1070	1320	2420	4000
	86	1400	2260	6740	12080
	1545	820	2340	2740	10300
	1561	7020	9060	17100	22880
7	69	900	1920	1840	5340
	75	2520	4400	2720	8000
	78	1420	2180	1840	1900
	98	2740	2920	5580	2660
	1564	980	4800	6080	7200
8	88	500	1640	2400	4100
	89	2680	3200	4000	4280
	99	240	1120	1420	2740
	100	5840	10240	6400	10060
	1563	1950	3320	8960	5040
9	65	980	1540	2440	6000
	82	1000	1840	1940	1520
	95	2200	4200	4340	2840
	1549	4220	6060	6300	7540
	1558	960	1400	920	4760

Volume measured by:	TRN	CA	CA	CA
Date:	12/3/2002	12/11/2002	12/14/2002	12/17/2002

TABLE A-5 URINE ANALYTICAL RESULTS

Tag Number	Pig Number	Group	Day	Material Administered	Target Dose (ug/kg-d)	24-hr BWAdj Dose (ug/kg-d)	Urine Volume (ml/d)	Q	Arsenic Conc in Urine	DL	Units
EP-1-0103	84	1	0	Control	0	0	910		3	1	Ng/ml
EP-1-0137	91	1	0	Control	0	0	220		6.9	1	Ng/ml
EP-1-0145	1550	1	0	Control	0	0	800		4.4	1	Ng/ml
EP-1-0106	76	2	0	NaAs	25	25.94	1010		260	5	Ng/ml
EP-1-0105	90	2	0	NaAs	25	27.19	3140		83	1	Ng/ml
EP-1-0111	1542	2	0	NaAs	25	22.47	2260		120	2	Ng/ml
EP-1-0139	1547	2	0	NaAs	25	28.57	1440		150	2	Ng/ml
EP-1-0127	1562	2	0	NaAs	25	26.62	2640		92	1	Ng/ml
EP-1-0138	70	3	0	NaAs	50	45.96	1880		240	5	Ng/ml
EP-1-0108	73	3	0	NaAs	50	51.04	3050		170	5	Ng/ml
EP-1-0117	81	3	0	NaAs	50	49.06	3050		190	5	Ng/ml
EP-1-0119	1541	3	0	NaAs	50	53.84	3020		120	2	Ng/ml
EP-1-0102	1556	3	0	NaAs	50	62.28	3120		170	5	Ng/ml
EP-1-0115	64	4	0	TM1	40	41.5	3000		68	1	Ng/ml
EP-1-0250	1563	8	11	TM2	80	70.6	8960		53	1	Ng/ml
EP-1-0276	65	9	11	TM2	160	136.57	2440		330	10	Ng/ml
EP-1-0274	82	9	11	TM2	160	153.53	1940		690	10	Ng/ml
EP-1-0292	95	9	11	TM2	160	140.36	4340		230	5	Ng/ml
EP-1-0259	1549	9	11	TM2	160	149.02	6300		160	2	Ng/ml
EP-1-0295	1558	9	11	TM2	160	183.45	920		380	10	Ng/ml
EP-1-0338	84	1	14	Control	0	0	1540		3	1	Ng/ml
EP-1-0334	91	1	14	Control	0	0	620		5.5	1	Ng/ml
EP-1-0319	1550	1	14	Control	0	0	7680		1	1	Ng/ml
EP-1-0340	76	2	14	NaAs	25	23.86	3440		120	2	Ng/ml
EP-1-0317	90	2	14	NaAs	25	25.16	6580		71	1	Ng/ml
EP-1-0305	1542	2	14	NaAs	25	22.3	8060		54	1	Ng/ml
EP-1-0302	1547	2	14	NaAs	25	24.43	4500		91	1	Ng/ml
EP-1-0321	1562	2	14	NaAs	25	24.96	5080		81	1	Ng/ml
EP-1-0325	70	3	14	NaAs	50	43.44	6740		120	2	Ng/ml
EP-1-0310	73	3	14	NaAs	50	49.42	4700		190	5	Ng/ml
EP-1-0345	81	3	14	NaAs	50	45.3	8300		84	1	Ng/ml
EP-1-0331	1541	3	14	NaAs	50	52.15	4760		140	2	Ng/ml
EP-1-0309	1556	3	14	NaAs	50	56.24	9700		92	1	Ng/ml
EP-1-0306	64	4	14	TM1	40	37.72	17000		33	1	Ng/ml
EP-1-0136	77	4	0	TM1	40	37.66	640		260	5	Ng/ml
EP-1-0148	80	4	0	TM1	40	48.03	2380		96	2	Ng/ml
EP-1-0128	92	4	0	TM1	40	39.51	2560		76	1	Ng/ml
EP-1-0123	1548	4	0	TM1	40	41.61	1320		140	2	Ng/ml
EP-1-0142	87	5	0	TM1	80	99.74	4740		70	1	Ng/ml
EP-1-0134	97	5	0	TM1	80	88.49	820		260	5	Ng/ml
EP-1-0114	1543	5	0	TM1	80	89.62	3200		63	1	Ng/ml
EP-1-0146	1546	5	0	TM1	80	73.12	970		300	5	Ng/ml
EP-1-0149	1553	5	0	TM1	80	70.65	1820		210	5	Ng/ml
EP-1-0126	66	6	0	TM1	160	167.54	720		1200	20	Ng/ml
EP-1-0109	68	6	0	TM1	160	158.41	1070		730	20	Ng/ml
EP-1-0141	86	6	0	TM1	160	197.66	1400		410	10	Ng/ml
EP-1-0116	1545	6	0	TM1	160	155.4	820		750	20	Ng/ml
EP-1-0130	1561	6	0	TM1	160	153.58	7020		110	2	Ng/ml
EP-1-0125	69	7	0	TM2	40	38.75	900		150	2	Ng/ml
EP-1-0133	75	7	0	TM2	40	40.17	2520		60	1	Ng/ml
EP-1-0120	78	7	0	TM2	40	49.29	1420		120	2	Ng/ml
EP-1-0144	98	7	0	TM2	40	41.64	2740		71	1	Ng/ml
EP-1-0140	1564	7	0	TM2	40	39.92	980		110	2	Ng/ml
EP-1-0147	88	8	0	TM2	80	44.87	500		86	1	Ng/ml
EP-1-0113	89	8	0	TM2	80	70.24	2680		67	1	Ng/ml
EP-1-0107	99	8	0	TM2	80	69.22	240		170	5	Ng/ml
EP-1-0135	100	8	0	TM2	80	94.53	5840		55	1	Ng/ml
EP-1-0110	1563	8	0	TM2	80	79.28	1950		120	2	Ng/ml
EP-1-0122	65	9	0	TM2	160	146.61	980		490	20	Ng/ml
EP-1-0143	82	9	0	TM2	160	179.5	1000		500	10	Ng/ml
EP-1-0121	95	9	0	TM2	160	113.58	2200		150	2	Ng/ml
EP-1-0118	1549	9	0	TM2	160	149.08	4220		59	1	Ng/ml
EP-1-0132	1558	9	0	TM2	160	193.5	960		590	10	Ng/ml
EP-1-0198	84	1	5	Control	0	0	540		5.3	1	Ng/ml
EP-1-0170	91	1	5	Control	0	0	420		7.6	1	Ng/ml
EP-1-0168	1550	1	5	Control	0	0	5200		2	1	Ng/ml
EP-1-0159	76	2	5	NaAs	25	24.92	630		520	10	Ng/ml
EP-1-0176	90	2	5	NaAs	25	26.79	2040		140	2	Ng/ml
EP-1-0199	1542	2	5	NaAs	25	22.12	4900		80	1	Ng/ml
EP-1-0189	1547	2	5	NaAs	25	27.68	2310		140	2	Ng/ml
EP-1-0194	1562	2	5	NaAs	25	25.34	3220		110	2	Ng/ml
EP-1-0161	70	3	5	NaAs	50	44.32	3580		190	5	Ng/ml
EP-1-0190	73	3	5	NaAs	50	50.59	3060		220	5	Ng/ml
EP-1-0158	81	3	5	NaAs	50	47.17	2800		270	5	Ng/ml
EP-1-0195	1541	3	5	NaAs	50	51.65	5220		110	2	Ng/ml
EP-1-0162	1556	3	5	NaAs	50	58.68	6920		92	1	Ng/ml
EP-1-0184	64	4	5	TM1	40	40.13	6300		62	1	Ng/ml
EP-1-0188	77	4	5	TM1	40	37.9	2770		96	2	Ng/ml
EP-1-0157	80	4	5	TM1	40	45.82	6680		44	1	Ng/ml
EP-1-0192	92	4	5	TM1	40	38.86	2340		120	2	Ng/ml
EP-1-0178	1548	4	5	TM1	40	41.21	1470		160	2	Ng/ml
EP-1-0165	87	5	5	TM1	80	91.52	7400		97	1	Ng/ml
EP-1-0154	97	5	5	TM1	80	84.91	1210		250	5	Ng/ml
EP-1-0186	1543	5	5	TM1	80	85.22	3020		140	2	Ng/ml
EP-1-0179	1546	5	5	TM1	80	74.67	1760		220	5	Ng/ml
EP-1-0171	1553	5	5	TM1	80	68.57	3000		130	2	Ng/ml

Tag Number	Pig Number	Group	Day	Material Administered	Target Dose (ug/kg-d)	24-hr BWAdj Dose (ug/kg-d)	Urine Volume (mls/d)	Q	Arsenic Conc in Urine	DL	Units
EP-1-0180	66	6	5	TM1	160	170.19	730		1080	10	Ng/ml
EP-1-0153	68	6	5	TM1	160	160.73	1520		650	10	Ng/ml
EP-1-0182	86	6	5	TM1	160	191.38	2440		390	10	Ng/ml
EP-1-0169	1545	6	5	TM1	160	154.18	1290		690	10	Ng/ml
EP-1-0185	1561	6	5	TM1	160	146.82	4900		240	5	Ng/ml
EP-1-0177	69	7	5	TM2	40	37.42	1740		87	1	Ng/ml
EP-1-0196	75	7	5	TM2	40	38.87	1390		120	2	Ng/ml
EP-1-0174	78	7	5	TM2	40	48.94	1200		180	2	Ng/ml
EP-1-0150	98	7	5	TM2	40	39.89	1340		110	2	Ng/ml
EP-1-0172	1564	7	5	TM2	40	39.89	2330		89	1	Ng/ml
EP-1-0173	88	8	5	TM2	80	86.32	1330		220	5	Ng/ml
EP-1-0183	89	8	5	TM2	80	71.12	2420		120	2	Ng/ml
EP-1-0163	99	8	5	TM2	80	89.95	520		530	10	Ng/ml
EP-1-0167	100	8	5	TM2	80	91.49	7900		54	1	Ng/ml
EP-1-0164	1563	8	5	TM2	80	75.38	2650		160	2	Ng/ml
EP-1-0181	65	9	5	TM2	160	142.32	610		1100	10	Ng/ml
EP-1-0156	82	9	5	TM2	160	163.52	1100		590	10	Ng/ml
EP-1-0152	95	9	5	TM2	160	144.55	2560		370	10	Ng/ml
EP-1-0166	1549	9	5	TM2	160	157.92	3160		220	5	Ng/ml
EP-1-0175	1558	9	5	TM2	160	176	1220		680	10	Ng/ml
EP-1-0224	84	1	8	Control	0	0	720		5.3	1	Ng/ml
EP-1-0200	91	1	8	Control	0	0	720		4.8	1	Ng/ml
EP-1-0205	1550	1	8	Control	0	0	3700		3	1	Ng/ml
EP-1-0202	76	2	8	NaAs	25	24.34	1380		260	5	Ng/ml
EP-1-0209	90	2	8	NaAs	25	26.36	3720		120	2	Ng/ml
EP-1-0218	1542	2	8	NaAs	25	21.8	9700		44	1	Ng/ml
EP-1-0201	1547	2	8	NaAs	25	27.08	2720		110	2	Ng/ml
EP-1-0221	1562	2	8	NaAs	25	25.19	2980		99	2	Ng/ml
EP-1-0238	70	3	8	NaAs	50	44.49	5280		110	2	Ng/ml
EP-1-0222	73	3	8	NaAs	50	50.84	6380		100	2	Ng/ml
EP-1-0206	81	3	8	NaAs	50	47.45	4080		140	2	Ng/ml
EP-1-0236	1541	3	8	NaAs	50	52.2	4440		160	2	Ng/ml
EP-1-0247	1556	3	8	NaAs	50	57.57	6880		63	1	Ng/ml
EP-1-0207	64	4	8	TM1	40	39.08	3720	<	1	1	Ng/ml
EP-1-0246	77	4	8	TM1	40	36.33	6740		37	1	Ng/ml
EP-1-0249	80	4	8	TM1	40	44.32	4600		77	1	Ng/ml
EP-1-0220	92	4	8	TM1	40	38.27	2300		100	2	Ng/ml
EP-1-0243	1548	4	8	TM1	40	39.32	980		110	2	Ng/ml
EP-1-0216	87	5	8	TM1	80	89.28	4000		150	2	Ng/ml
EP-1-0210	97	5	8	TM1	80	82.26	1260		180	2	Ng/ml
EP-1-0227	1543	5	8	TM1	80	86.81	6190		92	1	Ng/ml
EP-1-0239	1546	5	8	TM1	80	74.01	6900		63	1	Ng/ml
EP-1-0225	1553	5	8	TM1	80	68.36	2680		200	5	Ng/ml
EP-1-0223	66	6	8	TM1	160	153.23	1280		850	10	Ng/ml
EP-1-0241	68	6	8	TM1	160	151.84	1320		700	10	Ng/ml
EP-1-0203	86	6	8	TM1	160	175.81	2260		330	5	Ng/ml
EP-1-0242	1545	6	8	TM1	160	146.42	2340		430	10	Ng/ml
EP-1-0214	1561	6	8	TM1	160	139.65	9060		130	2	Ng/ml
EP-1-0213	69	7	8	TM2	40	37.67	1920		97	2	Ng/ml
EP-1-0208	75	7	8	TM2	40	38.47	4400		55	1	Ng/ml
EP-1-0219	78	7	8	TM2	40	46.19	2180		110	2	Ng/ml
EP-1-0228	98	7	8	TM2	40	41.49	2920		66	1	Ng/ml
EP-1-0231	1564	7	8	TM2	40	37.67	4800		49	1	Ng/ml
EP-1-0244	88	8	8	TM2	80	83.88	1640		140	2	Ng/ml
EP-1-0237	89	8	8	TM2	80	66.71	3200		98	1	Ng/ml
EP-1-0204	99	8	8	TM2	80	88.5	1120		360	5	Ng/ml
EP-1-0234	100	8	8	TM2	80	83.57	10240		47	1	Ng/ml
EP-1-0245	1563	8	8	TM2	80	72.05	3320		91	1	Ng/ml
EP-1-0232	65	9	8	TM2	160	138.81	1540		550	10	Ng/ml
EP-1-0229	82	9	8	TM2	160	160.92	1840		520	10	Ng/ml
EP-1-0215	95	9	8	TM2	160	141.93	4200		210	5	Ng/ml
EP-1-0230	1549	9	8	TM2	160	155.47	6060		130	2	Ng/ml
EP-1-0212	1558	9	8	TM2	160	181.76	1400		650	10	Ng/ml
EP-1-0265	84	1	11	Control	0	0	720		4.1	1	Ng/ml
EP-1-0252	91	1	11	Control	0	0	1200		3	1	Ng/ml
EP-1-0297	1550	1	11	Control	0	0	17600		1	1	Ng/ml
EP-1-0263	76	2	11	NaAs	25	24.08	1100		320	5	Ng/ml
EP-1-0257	90	2	11	NaAs	25	25.6	9240		36	1	Ng/ml
EP-1-0287	1542	2	11	NaAs	25	21.86	8800		48	1	Ng/ml
EP-1-0260	1547	2	11	NaAs	25	26.56	2320		120	2	Ng/ml
EP-1-0258	1562	2	11	NaAs	25	24.78	2840		120	2	Ng/ml
EP-1-0256	70	3	11	NaAs	50	43.97	7320		99	1	Ng/ml
EP-1-0288	73	3	11	NaAs	50	49.46	3700		130	2	Ng/ml
EP-1-0270	81	3	11	NaAs	50	45.04	6320		140	2	Ng/ml
EP-1-0261	1541	3	11	NaAs	50	52.1	3140		220	5	Ng/ml
EP-1-0273	1556	3	11	NaAs	50	56.92	5680		130	2	Ng/ml
EP-1-0291	64	4	11	TM1	40	39.01	21140		11	1	Ng/ml
EP-1-0285	77	4	11	TM1	40	36.94	4500		63	1	Ng/ml
EP-1-0290	80	4	11	TM1	40	43.25	3540		110	2	Ng/ml
EP-1-0262	92	4	11	TM1	40	37.85	2580		110	2	Ng/ml
EP-1-0254	1548	4	11	TM1	40	40.02	11060		12	1	Ng/ml
EP-1-0289	87	5	11	TM1	80	87.04	8800		70	1	Ng/ml
EP-1-0282	97	5	11	TM1	80	82	5460		94	1	Ng/ml
EP-1-0269	1543	5	11	TM1	80	84.05	6000		90	1	Ng/ml
EP-1-0266	1546	5	11	TM1	80	74.3	1480		120	2	Ng/ml
EP-1-0296	1553	5	11	TM1	80	68.26	2400		180	2	Ng/ml
EP-1-0277	66	6	11	TM1	160	148.71	2700		390	10	Ng/ml
EP-1-0267	68	6	11	TM1	160	149.54	2420		350	5	Ng/ml

Tag Number	Pig Number	Group	Day	Material Administered	Target Dose (ug/kg-d)	24-hr BWAdj Dose (ug/kg-d)	Urine Volume (mls/d)	Q	Arsenic Conc in Urine	DL	Units
EP-1-0264	86	6	11	TM1	160	181.33	6740		49	1	Ng/ml
EP-1-0286	1545	6	11	TM1	160	135.74	2740		480	10	Ng/ml
EP-1-0283	1561	6	11	TM1	160	140.18	17100		28	1	Ng/ml
EP-1-0293	69	7	11	TM2	40	35.57	1840		99	1	Ng/ml
EP-1-0268	75	7	11	TM2	40	38.35	2720		46	1	Ng/ml
EP-1-0271	78	7	11	TM2	40	45.05	1840		130	2	Ng/ml
EP-1-0281	98	7	11	TM2	40	39.95	5580		58	1	Ng/ml
EP-1-0279	1564	7	11	TM2	40	37.81	6080		36	1	Ng/ml
EP-1-0298	88	8	11	TM2	80	88.95	2400		180	5	Ng/ml
EP-1-0275	89	8	11	TM2	80	65.88	4000		96	2	Ng/ml
EP-1-0272	99	8	11	TM2	80	83.53	1420		280	5	Ng/ml
EP-1-0280	100	8	11	TM2	80	80.79	6400		77	1	Ng/ml
EP-1-0304	77	4	14	TM1	40	36.09	5800		61	1	Ng/ml
EP-1-0347	80	4	14	TM1	40	42.19	5000		750	10	Ng/ml
EP-1-0348	92	4	14	TM1	40	36.8	3100		69	1	Ng/ml
EP-1-0300	1548	4	14	TM1	40	38.3	6840		51	1	Ng/ml
EP-1-0339	87	5	14	TM1	80	84.57	16920		19	1	Ng/ml
EP-1-0311	97	5	14	TM1	80	80.13	11300		28	1	Ng/ml
EP-1-0307	1543	5	14	TM1	80	84.82	6940		92	1	Ng/ml
EP-1-0301	1546	5	14	TM1	80	75.74	3820		180	5	Ng/ml
EP-1-0313	1553	5	14	TM1	80	69.56	5860		140	2	Ng/ml
EP-1-0320	66	6	14	TM1	160	155.28	3000		520	10	Ng/ml
EP-1-0327	68	6	14	TM1	160	160.17	4000		380	5	Ng/ml
EP-1-0330	86	6	14	TM1	160	175.86	12080		54	1	Ng/ml
EP-1-0343	1545	6	14	TM1	160	140.61	10300		120	2	Ng/ml
EP-1-0314	1561	6	14	TM1	160	137.44	22880		51	1	Ng/ml
EP-1-0324	69	7	14	TM2	40	36.14	5340		44	1	Ng/ml
EP-1-0329	75	7	14	TM2	40	37.16	8000		31	1	Ng/ml
EP-1-0328	78	7	14	TM2	40	43.94	1900		120	2	Ng/ml
EP-1-0303	98	7	14	TM2	40	44.48	2660		80	1	Ng/ml
EP-1-0326	1564	7	14	TM2	40	33	7200		36	1	Ng/ml
EP-1-0346	88	8	14	TM2	80	75.8	4100		65	1	Ng/ml
EP-1-0323	89	8	14	TM2	80	68.17	4280		99	2	Ng/ml
EP-1-0344	99	8	14	TM2	80	79.3	2740		190	5	Ng/ml
EP-1-0335	100	8	14	TM2	80	81.19	10060		45	1	Ng/ml
EP-1-0342	1563	8	14	TM2	80	63.85	5040		90	1	Ng/ml
EP-1-0336	65	9	14	TM2	160	143.44	6000		180	2	Ng/ml
EP-1-0332	82	9	14	TM2	160	161.84	1520		690	10	Ng/ml
EP-1-0322	95	9	14	TM2	160	144.45	2840		120	2	Ng/ml
EP-1-0341	1549	9	14	TM2	160	146.5	7540		110	2	Ng/ml
EP-1-0308	1558	9	14	TM2	160	179.2	4760		190	5	Ng/ml

Tag Number	QC Type	QC Identifier	Original Pig #	Material Administered	Group	Target Dose (ug/kg-d)	DL	Q	As Conc	AdjConc (ng/ml)	OrigAdjConc (ng/ml)
EP-1-0284	Blind Duplicate	268	68	TM1	6	160	5		360	360	350
EP-1-0251	Blind Duplicate	298	98	TM2	7	40	1		57	57	58
EP-1-0253	Blind Duplicate	265	65	TM2	9	160	5		330	330	330
EP-1-0124	Blind Duplicate	21547	1547	NaAs	2	25	2		150	150	150
EP-1-0131	Blind Duplicate	276	76	NaAs	2	25					260
EP-1-0129	Blind Duplicate	282	1564	TM2	7	40	2		120	120	110
EP-1-0187	Blind Duplicate	286	86	TM1	6	160	10		420	420	390
EP-1-0160	Blind Duplicate	21561	1561	TM1	6	160	5		250	250	240
EP-1-0197	Blind Duplicate	2100	100	TM2	8	80	1		52	52	54
EP-1-0211	Blind Duplicate	21553	1553	TM1	5	80	5		200	200	200
EP-1-0235	Blind Duplicate	289	89	TM2	8	80	1		98	98	98
EP-1-0240	Blind Duplicate	21549	1549	TM2	9	160	2		130	130	130
EP-1-0312	Blind Duplicate	21541	1541	NaAs	3	50	2		150	150	140
EP-1-0318	Blind Duplicate	21556	1556	NaAs	3	50	1		95	95	92
EP-1-0337	Blind Duplicate	266	66	TM1	6	160	10		520	520	520

Tag Number	QC Type	QC Identifier	Material Administered	PE Conc (ug/L)	DL	Q	As Conc	AdjConc	Units
EP-1-0294	PE Sample	AsIB40-a	Sodium arsenite	40	1		44	44	Ng/ml
EP-1-0255	PE Sample	AsIB40-b	Sodium arsenite	40	1		41	41	Ng/ml
EP-1-0299	PE Sample	AsOA200-b	Disodium methylarsenate	200	5		200	200	Ng/ml
EP-1-0278	PE Sample	AsIB200-a	Sodium arsenite	200	5		200	200	Ng/ml
EP-1-0104	PE Sample	AsOB200-b	Dimethyl arsenic acid	200	5		200	200	Ng/ml
EP-1-0112	PE Sample	AsOB200-a	Dimethyl arsenic acid	200	5		210	210	Ng/ml
EP-1-0101	PE Sample	AsOA40-b	Disodium methylarsenate	40	1		43	43	Ng/ml
EP-1-0193	PE Sample	AsIA40-b	Sodium arsenate	40	1		43	43	Ng/ml
EP-1-0151	PE Sample	AsOB40-a	Dimethyl arsenic acid	40	1		46	46	Ng/ml
EP-1-0191	PE Sample	AsIA200-b	Sodium arsenate	200	5		190	190	Ng/ml
EP-1-0155	PE Sample	AsOA200-a	Disodium methylarsenate	200	5		210	210	Ng/ml
EP-1-0217	PE Sample	AsCtrl-b	Control Urine	0	1		2	2	Ng/ml
EP-1-0233	PE Sample	AsIA200-a	Sodium arsenate	200	5		200	200	Ng/ml
EP-1-0226	PE Sample	AsOA40-a	Disodium methylarsenate	40	1		47	47	Ng/ml
EP-1-0248	PE Sample	AsCtrl-a	Control Urine	0	1		2	2	Ng/ml
EP-1-0333	PE Sample	AsOB40-b	Dimethyl arsenic acid	40	1		47	47	Ng/ml
EP-1-0316	PE Sample	AsIB200-b	Sodium arsenite	200	5		190	190	Ng/ml
EP-1-0315	PE Sample	AsIA40-a	Sodium arsenate	40	1		42	42	Ng/ml

FIGURE A-1 URINARY EXCRETION OF ARSENIC FROM SODIUM ARSENATE (ALL DAYS)

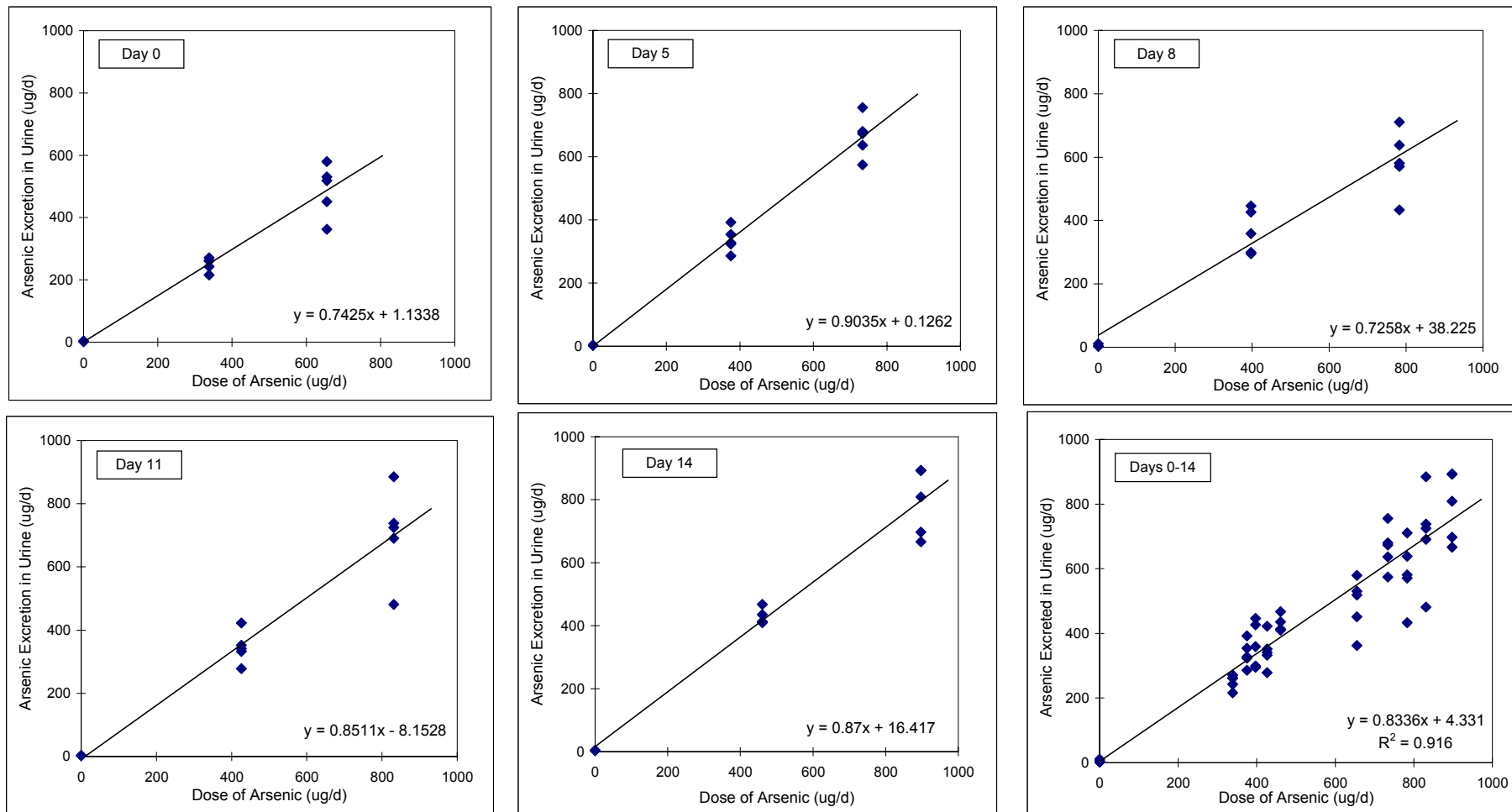


FIGURE A-2 URINARY EXCRETION OF ARSENIC FROM TEST MATERIAL 1 (ALL DAYS)

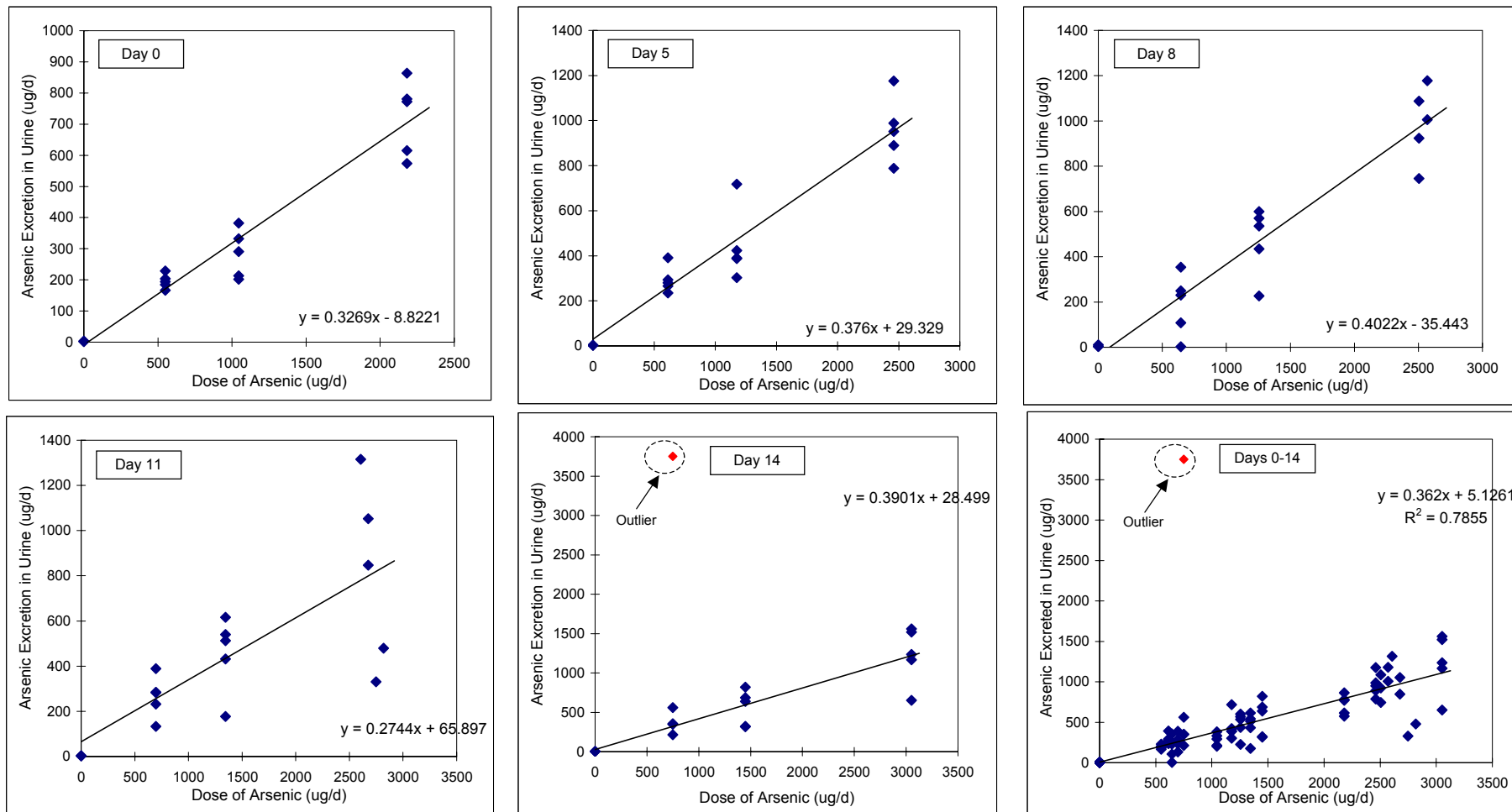


FIGURE A-3 URINARY EXCRETION OF ARSENIC FROM TEST MATERIAL 2 (ALL DAYS)

