

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Q-75 Hostility	9	Pct. Abn. (n):	4.4 (690)	3.7 (294)	5.9 (171)	6.0 (167)	0.602
		Est. RR (95% C.I.):		0.86 (0.42,1.73)	1.37 (0.65,2.85)	1.40 (0.67,2.93)	
		p-Value:		0.663	0.406	0.369	
		Pct. Abn. (n):	5.8 (690)	3.7 (294)	5.3 (171)	8.4 (167)	
		Est. RR (95% C.I.):		0.63 (0.32,1.25)	0.90 (0.43,1.90)	1.49 (0.79,2.80)	
		p-Value:		0.187	0.787	0.220	
		Pct. Abn. (n):	6.4 (690)	4.4 (294)	8.8 (171)	10.8 (167)	
		Est. RR (95% C.I.):		0.68 (0.36,1.28)	1.41 (0.77,2.60)	1.77 (1.00,3.16)	
Obsessive- Compulsive Behavior	9	p-Value:		0.232	0.269	0.051	0.052
		Pct. Abn. (n):	3.5 (690)	3.1 (294)	5.3 (171)	3.0 (167)	
		Est. RR (95% C.I.):		0.88 (0.40,1.91)	1.54 (0.70,3.38)	0.86 (0.32,2.28)	
		p-Value:		0.740	0.280	0.756	
		Pct. Abn. (n):	6.8 (690)	3.1 (294)	8.2 (171)	7.8 (167)	
		Est. RR (95% C.I.):		0.43 (0.21,0.89)	1.22 (0.66,2.27)	1.15 (0.61,2.19)	
		p-Value:		0.024	0.531	0.659	
		Pct. Abn. (n):	8.3 (690)	6.1 (294)	8.2 (171)	11.4 (167)	
Psychoticism	9	Est. RR (95% C.I.):		0.72 (0.42,1.25)	0.99 (0.54,1.82)	1.43 (0.82,2.47)	0.278
		p-Value:		0.249	0.975	0.206	
		Pct. Abn. (n):	7.7 (690)	7.5 (294)	9.4 (171)	12.0 (167)	
		Est. RR (95% C.I.):		0.97 (0.58,1.63)	1.24 (0.69,2.23)	1.64 (0.95,2.82)	
		p-Value:		0.915	0.471	0.077	
		Pct. Abn. (n):	6.1 (690)	5.1 (294)	7.6 (171)	12.6 (167)	
		Est. RR (95% C.I.):		0.83 (0.45,1.52)	1.27 (0.67,2.42)	2.22 (1.28,3.86)	
		p-Value:		0.545	0.469	0.005	
Somatization	9	Pct. Abn. (n):	4.4 (690)	3.7 (294)	5.9 (171)	6.0 (167)	0.323
		Est. RR (95% C.I.):		0.86 (0.42,1.73)	1.37 (0.65,2.85)	1.40 (0.67,2.93)	
		p-Value:		0.663	0.406	0.369	
		Pct. Abn. (n):	5.8 (690)	3.7 (294)	5.3 (171)	8.4 (167)	
		Est. RR (95% C.I.):		0.63 (0.32,1.25)	0.90 (0.43,1.90)	1.49 (0.79,2.80)	
		p-Value:		0.187	0.787	0.220	
		Pct. Abn. (n):	6.4 (690)	4.4 (294)	8.8 (171)	10.8 (167)	
		Est. RR (95% C.I.):		0.68 (0.36,1.28)	1.41 (0.77,2.60)	1.77 (1.00,3.16)	
Global Severity Index	9	p-Value:		0.232	0.269	0.051	0.025
		Pct. Abn. (n):	3.5 (690)	3.1 (294)	5.3 (171)	3.0 (167)	
		Est. RR (95% C.I.):		0.88 (0.40,1.91)	1.54 (0.70,3.38)	0.86 (0.32,2.28)	
		p-Value:		0.740	0.280	0.756	
		Pct. Abn. (n):	6.8 (690)	3.1 (294)	8.2 (171)	7.8 (167)	
		Est. RR (95% C.I.):		0.43 (0.21,0.89)	1.22 (0.66,2.27)	1.15 (0.61,2.19)	
		p-Value:		0.024	0.531	0.659	
		Pct. Abn. (n):	8.3 (690)	6.1 (294)	8.2 (171)	11.4 (167)	

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Positive Symptom Total	9	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	6.1 (690)	5.1 (294) 0.83 (0.45,1.52) 0.545	7.0 (171) 1.16 (0.60,2.26) 0.653	11.4 (167) 1.98 (1.12,3.50) 0.019	0.084
Positive Symptom Distress Index	9	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	8.6 (690)	5.8 (294) 0.66 (0.38,1.15) 0.139	12.3 (171) 1.50 (0.88,2.54) 0.135	10.8 (167) 1.29 (0.74,2.26) 0.367	0.076
Viral Hepatitis	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	41.5 (761)	35.5 (335) 0.78 (0.59,1.01) 0.062	41.4 (191) 0.99 (0.72,1.37) 0.967	44.2 (181) 1.12 (0.80,1.55) 0.512	0.179
Chronic Liver Disease and Cirrhosis (Alcohol-Related)	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	3.3 (783)	4.6 (345) 1.42 (0.75,2.68) 0.286	2.6 (195) 0.77 (0.29,2.02) 0.589	4.8 (187) 1.47 (0.68,3.20) 0.330	0.475
Chronic Liver Disease and Cirrhosis (Nonalcohol-Related)	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	0.9 (786)	0.9 (345) 0.98 (0.25,3.80) 0.999	1.5 (196) 1.73 (0.44,6.74) 0.642	0.0 (187) -- 0.446	0.446
Other Disorders of the Liver	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	7.1 (777)	5.9 (342) 0.82 (0.48,1.38) 0.449	9.2 (196) 1.33 (0.76,2.32) 0.319	11.8 (187) 1.75 (1.04,2.95) 0.036	0.087
Jaundice (Unspecified)	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	2.2 (762)	3.3 (335) 1.49 (0.69,3.21) 0.412	0.0 (193) -- 0.042	1.1 (181) 0.49 (0.11,2.14) 0.514	0.056
Hepatomegaly	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	2.2 (785)	0.9 (345) 0.40 (0.12,1.36) 0.142	3.1 (196) 1.43 (0.56,3.67) 0.461	2.7 (186) 1.25 (0.45,3.43) 0.667	0.230

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Ulcer	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	7.2 (764)	7.3 (331) 1.01 (0.61,1.66) 0.976	4.7 (193) 0.63 (0.31,1.30) 0.211	8.7 (185) 1.22 (0.68,2.18) 0.502	0.455
Skin Bruises, Patches, or Sensitivity	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	18.4 (768)	25.8 (334) 1.54 (1.14,2.09) 0.005	27.8 (194) 1.72 (1.19,2.47) 0.004	31.9 (185) 2.08 (1.45,2.98) <0.001	<0.001
Current Hepatomegaly	10	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	1.4 (782)	0.0 (341) -- 0.036	1.6 (194) 1.10 (0.30,3.98) 0.999	2.7 (186) 1.94 (0.66,5.64) 0.350	0.052
AST	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	3.6 (779)	3.5 (341) 0.98 (0.49,1.95) 0.950	3.1 (193) 0.86 (0.35,2.11) 0.743	4.8 (186) 1.36 (0.63,2.94) 0.429	0.832
ALT	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	10.9 (779)	9.4 (341) 0.85 (0.55,1.30) 0.442	13.5 (193) 1.27 (0.79,2.04) 0.318	15.1 (186) 1.45 (0.91,2.29) 0.116	0.197
GGT	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	6.0 (779)	5.6 (341) 0.92 (0.53,1.59) 0.763	9.8 (193) 1.70 (0.97,2.97) 0.062	10.8 (186) 1.88 (1.08,3.25) 0.025	0.047
Alkaline Phosphatase	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	4.7 (779)	3.8 (341) 0.79 (0.42,1.52) 0.485	4.7 (193) 0.98 (0.47,2.07) 0.960	5.4 (186) 1.14 (0.56,2.34) 0.721	0.851
D-Glucaric Acid	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	0.4 (746)	1.5 (328) 3.83 (0.91,16.14) 0.123	0.0 (190) -- 0.999	0.5 (182) 1.37 (0.14,13.23) 0.999	0.107

TABLE Q-6. (Continued)

**Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category**

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Total Bilirubin	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	3.9 (779)	3.2 (341) 0.83 (0.41,1.68) 0.609	4.1 (193) 1.08 (0.49,2.39) 0.850	0.5 (186) 0.13 (0.02,1.00) 0.050	0.048
Direct Bilirubin	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	3.9 (779)	2.3 (341) 0.60 (0.27,1.32) 0.205	4.1 (193) 1.08 (0.49,2.39) 0.850	2.7 (186) 0.69 (0.26,1.80) 0.448	0.500
LDH	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	1.5 (779)	1.5 (341) 0.95 (0.33,2.72) 0.999	0.0 (193) -- 0.138	0.5 (186) 0.35 (0.05,2.67) 0.504	0.262
Cholesterol	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	11.2 (779)	16.1 (341) 1.53 (1.06,2.20) 0.022	13.0 (193) 1.18 (0.74,1.90) 0.487	12.4 (186) 1.12 (0.69,1.83) 0.644	0.164
HDL	10	Pct. Abn. Low (n): Est. RR (95% C.I.): p-Value:	3.6 (779)	3.5 (341) 0.98 (0.49,1.95) 0.950	4.1 (193) 1.16 (0.52,2.59) 0.717	5.4 (186) 1.52 (0.73,3.20) 0.265	0.721
Cholesterol-HDL Ratio	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	43.4 (779)	38.1 (341) 0.80 (0.62,1.04) 0.100	49.2 (193) 1.26 (0.92,1.73) 0.145	50.0 (186) 1.30 (0.95,1.80) 0.104	0.021
Triglycerides	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	5.4 (779)	3.2 (341) 0.58 (0.30,1.15) 0.120	9.3 (193) 1.80 (1.01,3.21) 0.045	11.8 (186) 2.35 (1.37,4.05) 0.002	<0.001
Creatine Kinase	10	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	7.8 (779)	5.3 (341) 0.66 (0.38,1.13) 0.127	5.2 (193) 0.64 (0.32,1.28) 0.209	3.8 (186) 0.46 (0.21,1.02) 0.057	0.099

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Occurrence of Acne (Lifetime)	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	50.3 (786)	51.0 (345) 1.03 (0.80,1.33) 0.814	54.1 (196) 1.17 (0.85,1.60) 0.338	51.3 (187) 1.04 (0.76,1.44) 0.790	0.819
Acne Relative to SEA Tour (Pre/Post-SEA and Post- SEA vs. Pre-SEA and None)	11	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	48.2 (786)	48.4 (345) 1.01 (0.78,1.30) 0.954	52.6 (196) 1.19 (0.87,1.63) 0.278	50.8 (187) 1.11 (0.81,1.53) 0.525	0.691
Acne Relative to SEA Tour (Post-SEA vs. None)	11	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	44.1 (700)	45.5 (310) 1.06 (0.81,1.38) 0.693	48.6 (175) 1.20 (0.86,1.67) 0.293	45.2 (166) 1.04 (0.74,1.47) 0.809	0.771
Acne Relative to SEA Tour (Pre/Post-SEA vs. Pre-SEA)	11	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	81.4 (86)	74.3 (35) 0.66 (0.26,1.68) 0.522	85.7 (21) 1.37 (0.36,5.24) 0.918	95.2 (21) 4.57 (0.67,31.30) 0.210	0.245
Location Of Acne (Post-SEA)	11	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	15.5 (309)	26.2 (141) 1.93 (1.19,3.14) 0.008	20.0 (85) 1.36 (0.74,2.51) 0.327	16.0 (75) 1.04 (0.52,2.06) 0.921	0.060
Location Of Acne (Pre/Post-SEA and Post-SEA)	11	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	20.8 (379)	28.7 (167) 1.53 (1.01,2.32) 0.045	22.3 (103) 1.09 (0.65,1.85) 0.743	21.1 (95) 1.01 (0.58,1.76) 0.964	0.241
Comedones	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	22.8 (786)	21.5 (345) 0.93 (0.68,1.26) 0.623	23.5 (196) 1.04 (0.72,1.51) 0.836	19.8 (187) 0.84 (0.56,1.24) 0.377	0.779
Acneiform Lesions	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	11.3 (786)	7.0 (345) 0.59 (0.37,0.94) 0.026	11.7 (196) 1.04 (0.64,1.70) 0.871	9.6 (187) 0.83 (0.49,1.42) 0.505	0.111

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Acneiform Scars	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	9.5 (786)	11.0 (345) 1.17 (0.78,1.77) 0.447	13.8 (196) 1.51 (0.95,2.43) 0.084	14.4 (187) 1.60 (1.00,2.57) 0.051	0.151
Depigmentation	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	5.7 (786)	4.9 (345) 0.85 (0.48,1.51) 0.588	5.6 (196) 0.98 (0.50,1.93) 0.951	7.5 (187) 1.33 (0.72,2.48) 0.366	0.702
Inclusion Cysts	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	10.4 (786)	12.5 (345) 1.22 (0.83,1.81) 0.316	14.8 (196) 1.49 (0.95,2.35) 0.086	6.4 (187) 0.59 (0.31,1.10) 0.098	0.041
Hyperpigmentation	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	16.0 (786)	11.0 (345) 0.65 (0.44,0.95) 0.028	14.3 (196) 0.87 (0.56,1.36) 0.548	19.8 (187) 1.29 (0.86,1.94) 0.217	0.037
Other Abnormalities	11	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	74.6 (786)	78.8 (345) 1.27 (0.94,1.72) 0.121	71.9 (196) 0.87 (0.62,1.24) 0.455	71.1 (187) 0.84 (0.59,1.20) 0.337	0.154
Dermatology Index	11	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	38.0 (786)	38.3 (345) 1.01 (0.78,1.31) 0.944	43.9 (196) 1.27 (0.93,1.75) 0.135	37.4 (187) 0.97 (0.70,1.35) 0.878	0.479
Reported/Verified Essential Hypertension	12	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	32.7 (703)	28.1 (320) 0.80 (0.60,1.08) 0.142	37.9 (177) 1.25 (0.89,1.76) 0.197	39.4 (155) 1.33 (0.93,1.91) 0.115	0.043
Reported Heart Disease (Excluding Essential Hypertension)	12	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	38.1 (703)	44.7 (320) 1.31 (1.00,1.71) 0.047	37.3 (177) 0.97 (0.69,1.36) 0.838	27.1 (155) 0.60 (0.41,0.89) 0.010	0.003

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Verified Heart Disease (Excluding Essential Hypertension)	12	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	38.0 (703)	44.4 (320) 1.30 (1.00,1.70) 0.053	37.3 (177) 0.97 (0.69,1.36) 0.865	26.5 (155) 0.59 (0.40,0.87) 0.007	0.002
Reported/Verified Myocardial Infarction	12	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	4.6 (703)	2.8 (320) 0.61 (0.29,1.29) 0.193	7.3 (177) 1.66 (0.85,3.24) 0.135	2.6 (155) 0.56 (0.19,1.59) 0.274	0.083
Systolic Blood Pressure	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	19.6 (703)	16.6 (320) 0.81 (0.57,1.15) 0.244	18.1 (177) 0.90 (0.59,1.38) 0.640	21.3 (155) 1.11 (0.72,1.70) 0.640	0.560
Heart Sounds	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	4.3 (703)	3.1 (320) 0.72 (0.35,1.50) 0.384	2.3 (177) 0.52 (0.18,1.49) 0.223	3.9 (155) 0.90 (0.37,2.21) 0.824	0.547
Overall ECG	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	18.5 (703)	14.4 (320) 0.74 (0.51,1.07) 0.107	18.1 (177) 0.97 (0.63,1.49) 0.899	14.2 (155) 0.73 (0.45,1.19) 0.206	0.288
ECG: RBBB	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	0.7 (703)	0.6 (320) 0.88 (0.17,4.55) 0.999	1.1 (177) 1.60 (0.31,8.29) 0.854	0.0 (155) -- 0.736	0.467
ECG: LBBB	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	0.4 (703)	0.0 (320) -- --	0.0 (177) -- --	0.0 (155) -- --	--
ECG: Nonspecific T-Waves	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	10.8 (703)	7.8 (320) 0.70 (0.44,1.12) 0.138	12.4 (177) 1.17 (0.71,1.94) 0.541	11.6 (155) 1.08 (0.63,1.87) 0.772	0.308

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
ECG: Bradycardia	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	5.8 (703)	5.9 (320) 1.02 (0.58,1.79) 0.947	3.4 (177) 0.57 (0.24,1.36) 0.202	2.6 (155) 0.43 (0.15,1.21) 0.110	0.184
ECG: Arrhythmia	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	3.7 (703)	4.7 (320) 1.28 (0.67,2.45) 0.456	2.8 (177) 0.76 (0.29,2.00) 0.574	5.2 (155) 1.42 (0.63,3.19) 0.400	0.626
ECG: Other Diagnoses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	18.9 (703)	19.1 (320) 1.01 (0.72,1.41) 0.957	19.8 (177) 1.06 (0.70,1.60) 0.796	9.7 (155) 0.46 (0.26,0.81) 0.007	0.024
Diastolic Blood Pressure	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	4.3 (703)	3.1 (320) 0.72 (0.35,1.50) 0.384	6.8 (177) 1.63 (0.82,3.26) 0.165	5.2 (155) 1.22 (0.55,2.72) 0.625	0.301
Fundoscopic Examination	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	0.6 (703)	0.9 (320) 1.65 (0.37,7.43) 0.764	0.6 (177) 0.99 (0.11,8.94) 0.999	0.7 (155) 1.14 (0.13,10.22) 0.999	0.922
Carotid Bruits	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	0.6 (703)	1.6 (320) 2.77 (0.74,10.39) 0.228	1.1 (177) 2.00 (0.36,10.99) 0.694	0.0 (155) -- 0.900	0.236
Radial Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	0.6 (694)	0.3 (317) -- --	0.0 (176) -- --	0.0 (153) -- --	--
Femoral Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	0.7 (694)	1.9 (317) 2.66 (0.81,8.78) 0.187	2.3 (176) 3.21 (0.85,12.06) 0.175	2.0 (153) 2.76 (0.65,11.66) 0.322	0.227

TABLE Q-6. (Continued)

**Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category**

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Popliteal Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	2.0 (694)	2.2 (317) 1.10 (0.44,2.74) 0.999	4.0 (176) 2.01 (0.80,5.06) 0.222	2.0 (153) 0.97 (0.28,3.42) 0.999	0.471
Dorsalis Pedis Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	9.4 (694)	11.1 (316) 1.21 (0.78,1.86) 0.399	13.6 (176) 1.53 (0.93,2.52) 0.097	13.1 (153) 1.46 (0.85,2.48) 0.169	0.295
Posterior Tibial Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	2.2 (694)	1.0 (316) 0.43 (0.12,1.51) 0.270	7.4 (176) 3.61 (1.68,7.74) 0.003	1.3 (153) 0.60 (0.14,2.65) 0.764	<0.001
Leg Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	11.4 (694)	12.7 (316) 1.13 (0.75,1.69) 0.560	18.8 (176) 1.80 (1.15,2.80) 0.010	15.0 (153) 1.38 (0.83,2.27) 0.211	0.077
Peripheral Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	11.8 (694)	12.7 (316) 1.08 (0.72,1.62) 0.703	18.8 (176) 1.72 (1.11,2.68) 0.016	15.0 (153) 1.32 (0.80,2.18) 0.276	0.113
All Pulses	12	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	12.0 (694)	13.0 (316) 1.10 (0.74,1.64) 0.649	18.8 (176) 1.70 (1.09,2.64) 0.019	15.0 (153) 1.30 (0.79,2.15) 0.300	0.133
Red Blood Cell Count	13	Pct. Abn. Low (n): Est. RR (95% C.I.): p-Value:	3.6 (783)	3.5 (345) 0.97 (0.49,1.93) 0.935	2.1 (195) 0.56 (0.20,1.63) 0.290	3.2 (187) 0.89 (0.36,2.19) 0.806	0.725
Hematocrit	13	Pct. Abn. Low (n): Est. RR (95% C.I.): p-Value:	2.0 (783)	1.5 (345) 0.70 (0.26,1.94) 0.498	2.6 (195) 1.26 (0.46,3.49) 0.654	1.1 (187) 0.52 (0.12,2.27) 0.384	0.634

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Mean Corpuscular Volume	13	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	9.8 (783)	8.7 (345) 0.87 (0.56,1.36) 0.548	15.9 (195) 1.73 (1.10,2.72) 0.017	9.6 (187) 0.98 (0.57,1.68) 0.931	0.070
Mean Corpuscular Hemoglobin	13	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	6.8 (783)	7.3 (345) 1.08 (0.66,1.76) 0.771	9.2 (195) 1.40 (0.80,2.45) 0.238	7.5 (187) 1.11 (0.60,2.06) 0.728	0.719
Platelet Count	13	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	1.2 (783)	2.3 (345) 2.04 (0.78,5.34) 0.145	2.6 (195) 2.26 (0.75,6.83) 0.147	3.2 (187) 2.85 (1.00,8.11) 0.050	0.181
Prothrombin Time	13	Pct. Abn. High (n): Est. RR (95% C.I.): p-Value:	4.7 (785)	3.5 (345) 0.73 (0.38,1.41) 0.350	1.5 (195) 0.32 (0.10,1.04) 0.057	4.3 (186) 0.91 (0.42,1.99) 0.810	0.153
Kidney Disease	14	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	9.2 (758)	10.2 (333) 1.12 (0.73,1.72) 0.614	8.5 (189) 0.91 (0.52,1.60) 0.742	10.4 (183) 1.14 (0.67,1.94) 0.634	0.883
Urinary Protein	14	Pct. Present (n): Est. RR (95% C.I.): p-Value:	5.0 (786)	4.1 (345) 0.81 (0.43,1.51) 0.509	4.1 (196) 0.82 (0.37,1.77) 0.606	4.3 (187) 0.86 (0.39,1.86) 0.695	0.889
Urinary Occult Blood	14	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	7.8 (786)	7.0 (345) 0.89 (0.54,1.45) 0.637	10.7 (196) 1.43 (0.85,2.41) 0.183	8.6 (187) 1.11 (0.63,1.98) 0.717	0.484
Urinary White Blood Cell Count	14	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	6.4 (786)	5.2 (345) 0.81 (0.47,1.41) 0.457	6.6 (196) 1.05 (0.56,1.97) 0.890	8.0 (187) 1.28 (0.70,2.34) 0.415	0.653

TABLE Q-6. (Continued)

**Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category**

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Current Thyroid Function	15	Pct. Abn. (n):	3.8 (786)	4.4 (344)	3.6 (196)	3.2 (185)	0.925
		Est. RR (95% C.I.):		1.15 (0.61,2.16)	0.93 (0.40,2.16)	0.84 (0.35,2.06)	
		p-Value:		0.667	0.872	0.711	
History of Thyroid Disease	15	Pct. Yes (n):	5.0 (783)	5.6 (342)	3.1 (194)	3.8 (185)	0.513
		Est. RR (95% C.I.):		1.12 (0.64,1.97)	0.61 (0.25,1.46)	0.75 (0.33,1.71)	
		p-Value:		0.689	0.266	0.493	
Thyroid Gland	15	Pct. Abn. (n):	27.7 (780)	26.2 (340)	30.1 (196)	24.0 (183)	0.565
		Est. RR (95% C.I.):		0.93 (0.69,1.24)	1.12 (0.80,1.58)	0.83 (0.57,1.20)	
		p-Value:		0.600	0.503	0.318	
Testes	15	Pct. Abn. (n):	2.9 (785)	2.6 (343)	2.1 (193)	5.3 (187)	0.296
		Est. RR (95% C.I.):		0.89 (0.41,1.95)	0.70 (0.24,2.05)	1.87 (0.88,4.00)	
		p-Value:		0.776	0.517	0.106	
T ₃ % Uptake	15	Pct. Abn. High (n):	3.9 (772)	4.4 (338)	3.6 (194)	1.7 (181)	0.359
		Est. RR (95% C.I.):		1.15 (0.61,2.16)	0.93 (0.40,2.14)	0.42 (0.13,1.38)	
		p-Value:		0.668	0.857	0.152	
TSH	15	Pct. Abn. (n):	1.8 (772)	2.7 (338)	1.5 (194)	3.3 (181)	0.531
		Est. RR (95% C.I.):		1.48 (0.63,3.46)	0.85 (0.24,2.99)	1.86 (0.70,4.90)	
		p-Value:		0.364	0.801	0.212	
Testosterone	15	Pct. Abn. Low (n):	1.7 (785)	0.9 (343)	1.6 (193)	2.1 (187)	0.649
		Est. RR (95% C.I.):		0.52 (0.15,1.85)	0.94 (0.26,3.32)	1.30 (0.42,4.03)	
		p-Value:		0.315	0.921	0.652	
Fasting Glucose	15	Pct. Abn. High (n):	11.4 (779)	7.9 (341)	12.4 (193)	19.9 (186)	0.001
		Est. RR (95% C.I.):		0.67 (0.42,1.05)	1.10 (0.68,1.78)	1.93 (1.26,2.94)	
		p-Value:		0.078	0.695	0.002	

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Composite Diabetes Indicator	15	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	8.2 (782)	5.5 (344) 0.66 (0.39,1.11) 0.118	8.3 (193) 1.01 (0.57,1.80) 0.962	16.6 (187) 2.23 (1.40,3.54) 0.001	<0.001
Composite Skin Test Diagnosis	16	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	4.6 (605)	7.1 (269) 1.57 (0.86,2.86) 0.143	7.8 (153) 1.75 (0.87,3.53) 0.116	5.7 (141) 1.24 (0.55,2.78) 0.603	0.331
Asthma	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	1.5 (778)	3.5 (340) 2.34 (1.04,5.25) 0.040	2.1 (194) 1.34 (0.43,4.21) 0.612	2.7 (185) 1.77 (0.62,5.10) 0.288	0.228
Bronchitis	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	13.1 (762)	16.2 (333) 1.28 (0.89,1.84) 0.176	13.6 (191) 1.04 (0.66,1.66) 0.858	11.5 (183) 0.86 (0.52,1.42) 0.549	0.437
Pleurisy	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	3.9 (780)	3.2 (341) 0.83 (0.41,1.68) 0.611	1.6 (194) 0.39 (0.12,1.30) 0.126	4.8 (186) 1.27 (0.59,2.73) 0.537	0.263
Pneumonia	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	9.3 (752)	8.3 (324) 0.89 (0.56,1.41) 0.609	7.6 (184) 0.80 (0.44,1.46) 0.470	7.1 (182) 0.75 (0.41,1.39) 0.358	0.740
Tuberculosis	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	3.2 (782)	3.5 (344) 1.09 (0.54,2.20) 0.801	2.1 (194) 0.64 (0.22,1.85) 0.408	1.6 (185) 0.50 (0.15,1.67) 0.260	0.486

TABLE Q-6. (Continued)

Summary of Unadjusted Results for Dichotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
Thorax and Lung Abnormalities	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	5.5 (786)	5.8 (345) 1.06 (0.62,1.84) 0.826	8.7 (196) 1.64 (0.91,2.94) 0.097	8.0 (187) 1.51 (0.82,2.78) 0.188	0.301
Hyperresonance	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	3.1 (786)	3.2 (345) 1.05 (0.51,2.16) 0.904	3.1 (196) 1.00 (0.40,2.49) 0.995	4.3 (187) 1.42 (0.63,3.21) 0.401	0.874
Dullness	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	0.1 (786)	0.0 (345) -- --	0.5 (196) -- --	0.5 (187) -- --	--
Wheezes	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	1.9 (786)	3.5 (345) 1.85 (0.86,4.00) 0.117	3.1 (196) 1.62 (0.62,4.24) 0.323	3.7 (187) 2.00 (0.80,4.97) 0.137	0.310
Rales	17	Pct. Yes (n): Est. RR (95% C.I.): p-Value:	1.7 (786)	1.2 (345) 0.70 (0.23,2.15) 0.531	1.0 (196) 0.61 (0.14,2.74) 0.522	2.7 (187) 1.63 (0.58,4.64) 0.357	0.551
X-Ray Interpretation	17	Pct. Abn. (n): Est. RR (95% C.I.): p-Value:	4.7 (784)	4.7 (343) 0.99 (0.54,1.80) 0.968	4.6 (196) 0.97 (0.46,2.05) 0.940	4.8 (186) 1.03 (0.49,2.17) 0.945	0.999

--: Estimated relative risk/confidence interval/p-value not given due to the sparse number of abnormalities.

Note: RR=Relative risk; risk is relative to background current dioxin category.

Background (Comparisons): Current Dioxin ≤ 10 ppt.

Unknown (Ranch Hands): Current Dioxin ≤ 10 ppt.

Low (Ranch Hands): 15 ppt < Current Dioxin ≤ 33.3 ppt.

High (Ranch Hands): Current Dioxin >33.3 ppt.

TABLE Q-7.

**Summary of Unadjusted Results for Polychotomous Variables
Model 1: Ranch Hands - Initial Dioxin (Categorized)**

Clinical Parameter	Reference Chapter	Minimal Assumption			Maximal Assumption		
		Initial Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value	Initial Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value
White Blood Cell Count	13	Overall [†]		0.424	Overall [†]		0.328
		M vs. L ^a	0.71 (0.26,1.92)	0.500	M vs. L ^a	0.63 (0.29,1.36)	0.239
		H vs. L ^a	0.96 (0.33,2.81)	0.938	H vs. L ^a	0.85 (0.35,2.06)	0.727
		M vs. L ^b	1.16 (0.44,3.10)	0.766	M vs. L ^b	1.23 (0.58,2.60)	0.584
		H vs. L ^b	0.32 (0.06,1.61)	0.167	H vs. L ^b	0.34 (0.08,1.52)	0.158
Hemoglobin	13	Overall [†]		0.703	Overall [†]		0.778
		M vs. L ^a	1.01 (0.34,3.00)	0.983	M vs. L ^a	0.96 (0.42,2.20)	0.928
		H vs. L ^a	0.80 (0.21,3.00)	0.739	H vs. L ^a	0.76 (0.24,2.34)	0.627
		M vs. L ^b	--	--	M vs. L ^b	2.70 (0.49,14.83)	0.254
		H vs. L ^b	--	--	H vs. L ^b	1.32 (0.12,14.73)	0.820
FSH	15	Overall [†]		0.144	Overall [†]		0.765
		M vs. L ^a	--	--	M vs. L ^a	1.10 (0.33,3.61)	0.876
		H vs. L ^a	--	--	H vs. L ^a	1.30 (0.32,5.17)	0.714
		M vs. L ^b	0.79 (0.43,1.45)	0.445	M vs. L ^b	0.90 (0.55,1.45)	0.654
		H vs. L ^b	0.57 (0.27,1.21)	0.143	H vs. L ^b	0.65 (0.34,1.28)	0.215
2-Hour Postprandial Glucose	15	Overall [†]		0.174	Overall [†]		0.243
		M vs. L ^c	1.10 (0.62,1.96)	0.749	M vs. L ^c	1.32 (0.85,2.07)	0.219
		H vs. L ^c	0.81 (0.40,1.63)	0.554	H vs. L ^c	0.99 (0.54,1.80)	0.963
		M vs. L ^d	3.15 (0.37,26.54)	0.291	M vs. L ^d	1.26 (0.42,3.82)	0.677
		H vs. L ^d	7.00 (0.85,58.00)	0.071	H vs. L ^d	2.85 (0.97,8.33)	0.056

TABLE Q-7. (Continued)

Summary of Unadjusted Results for Polychotomous Variables
Model 1: Ranch Hands - Initial Dioxin (Categorized)

Clinical Parameter	Reference Chapter	Minimal Assumption			Maximal Assumption		
		Initial Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value	Initial Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value
Loss of Vital Capacity	17	Overall [†]		0.164	Overall [†]		0.051
		M vs. L ^e	1.57 (0.72,3.45)	0.256	M vs. L ^e	1.91 (1.06,3.44)	0.031
		H vs. L ^e	1.72 (0.73,4.10)	0.217	H vs. L ^e	2.03 (1.01,4.06)	0.046
		M vs. L ^f	0.13 (0.01,1.14)	0.066	M vs. L ^f	0.20 (0.02,1.62)	0.130
		H vs. L ^f	0.78 (0.17,3.54)	0.743	H vs. L ^f	1.22 (0.31,4.80)	0.778
Obstructive Abnormality	17	Overall [†]		0.018	Overall [†]		0.016
		M vs. L ^e	0.96 (0.59,1.56)	0.875	M vs. L ^e	0.96 (0.66,1.39)	0.820
		H vs. L ^e	0.47 (0.25,0.88)	0.019	H vs. L ^e	0.46 (0.27,0.78)	0.005
		M vs. L ^f	2.38 (0.67,8.49)	0.181	M vs. L ^f	1.34 (0.62,2.87)	0.459
		H vs. L ^f	0.56 (0.09,3.45)	0.535	H vs. L ^f	0.32 (0.07,1.41)	0.132

^aAbnormal low contrasted with normal.

^bAbnormal high contrasted with normal.

^cImpaired contrasted with normal.

^dDiabetic contrasted with normal.

^eMild contrasted with none.

^fModerate/severe contrasted with none.

[†]Overall test of independence of initial dioxin and clinical parameter.

--: Estimated relative risk, confidence interval, and p-value not given due to the sparse number of abnormalities.

Note: Minimal--Low: 52-93 ppt; Medium: >93-292 ppt; High: >292 ppt.

Maximal--Low: 25-93 ppt; Medium: >93-292 ppt; High: >292 ppt.

M vs. L: Medium initial dioxin category versus low initial dioxin category.

H vs. L: High initial dioxin category versus low initial dioxin category.

TABLE Q-8.

**Summary of Unadjusted Results for Polychotomous Variables
Model 2: Ranch Hands - Current Dioxin (Categorized) and Time**

Clinical Parameter	Reference Chapter	Time (Yrs.)	Minimal Assumption			Time (Yrs.)	Maximal Assumption		
			Current Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value		Current Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value
White Blood Cell Count	13	≤18.6	C-by-T*		0.179	≤18.6	C-by-T*		0.712
			Overall†		0.330		Overall†		0.631
			M vs. L ^a	1.18 (0.29,4.89)	0.816		M vs. L ^a	0.77 (0.28,2.12)	0.619
			H vs. L ^a	2.37 (0.54,10.36)	0.253		H vs. L ^a	1.55 (0.52,4.60)	0.433
			M vs. L ^b	4.13 (0.50,34.27)	0.189		M vs. L ^b	1.36 (0.48,3.84)	0.567
			H vs. L ^b	1.42 (0.09,23.29)	0.806		H vs. L ^a	0.47 (0.06,3.82)	0.477
		>18.6	Overall†		0.166	>18.6	Overall†		0.320
			M vs. L ^a	0.41 (0.10,1.70)	0.218		M vs. L ^a	0.51 (0.15,1.69)	0.269
			H vs. L ^a	0.33 (0.06,1.88)	0.212		H vs. L ^a	0.41 (0.09,1.95)	0.264
			M vs. L ^b	0.57 (0.17,1.89)	0.360		M vs. L ^b	1.14 (0.39,3.35)	0.810
			H vs. L ^b	0.13 (0.02,1.17)	0.069		H vs. L ^b	0.26 (0.03,2.19)	0.218
		≤18.6	C-by-T*		0.136	≤18.6	C-by-T*		0.006
			Overall†		0.116		Overall†		0.012
			M vs. L ^a	--	--		M vs. L ^a	--	--
			H vs. L ^a	0.46 (0.05,4.19)	0.493		H vs. L ^a	0.39 (0.05,2.83)	0.349
			M vs. L ^b	--	--		M vs. L ^b	--	--
			H vs. L ^b	--	--		H vs. L ^a	--	--
Hemoglobin	13	>18.6	Overall†		0.743	>18.6	Overall†		0.553
			M vs. L ^a	2.02 (0.44,9.38)	0.367		M vs. L ^a	2.72 (0.83,8.94)	0.100
			H vs. L ^a	1.52 (0.28,8.29)	0.630		H vs. L ^a	2.05 (0.51,8.27)	0.315
			M vs. L ^b	--	--		M vs. L ^b	1.23 (0.18,8.41)	0.836
			H vs. L ^b	--	--		H vs. L ^b	1.07 (0.11,10.94)	0.953
		≤18.6	C-by-T*		0.136	≤18.6	C-by-T*		0.006
			Overall†		0.116		Overall†		0.012

TABLE Q-8. (Continued)

**Summary of Unadjusted Results for Polychotomous Variables
Model 2: Ranch Hands - Current Dioxin (Categorized) and Time**

Clinical Parameter	Reference Chapter	Time (Yrs.)	Minimal Assumption			Time (Yrs.)	Maximal Assumption		
			Current Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value		Current Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value
FSH	15	≤18.6	C-by-T*		0.685	≤18.6	C-by-T*		0.053
			Overall†		0.144		Overall†		0.191
			M vs. L ^a	--	--		M vs. L ^a	1.09 (0.24,4.86)	0.910
			H vs. L ^a	--	--		H vs. L ^a	1.70 (0.31,9.26)	0.538
			M vs. L ^b	0.66 (0.27,1.63)	0.367		M vs. L ^b	0.56 (0.28,1.13)	0.108
			H vs. L ^b	0.39 (0.11,1.39)	0.147		H vs. L ^a	0.33 (0.10,1.11)	0.074
		>18.6	Overall†		0.649	>18.6	Overall†		0.344
			M vs. L ^a	--	--		M vs. L ^a	1.28 (0.19,8.80)	0.803
			H vs. L ^a	--	--		H vs. L ^a	1.09 (0.11,11.21)	0.940
			M vs. L ^b	1.47 (0.61,3.55)	0.389		M vs. L ^b	2.16 (1.04,4.47)	0.039
			H vs. L ^b	1.10 (0.36,3.37)	0.871		H vs. L ^b	1.62 (0.68,3.86)	0.280
2-Hour Postprandial Glucose	15	≤18.6	C-by-T*		0.444	≤18.6	C-by-T*		0.781
			Overall†		0.297		Overall†		0.251
			M vs. L ^c	1.36 (0.53,3.49)	0.519		M vs. L ^c	1.14 (0.58,2.23)	0.700
			H vs. L ^c	0.94 (0.28,3.16)	0.915		H vs. L ^c	0.78 (0.28,2.18)	0.641
			M vs. L ^d	1.12 (0.10,12.66)	0.925		M vs. L ^d	1.07 (0.18,6.55)	0.938
			H vs. L ^d	5.24 (0.56,48.61)	0.145		H vs. L ^d	5.02 (1.08,23.32)	0.039
		>18.6	Overall†		0.105	>18.6	Overall†		0.658
			M vs. L ^c	0.44 (0.21,0.92)	0.029		M vs. L ^c	0.88 (0.47,1.64)	0.690
			H vs. L ^c	0.47 (0.20,1.08)	0.074		H vs. L ^c	0.94 (0.45,1.96)	0.866
			M vs. L ^d	0.72 (0.06,8.18)	0.789		M vs. L ^d	0.46 (0.09,2.45)	0.365
			H vs. L ^d	2.59 (0.28,24.18)	0.406		H vs. L ^d	1.68 (0.43,6.51)	0.456

TABLE Q-8. (Continued)

**Summary of Unadjusted Results for Polychotomous Variables
Model 2: Ranch Hands - Current Dioxin (Categorized) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption				Maximal Assumption			
		Time (Yrs.)	Current Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value	Time (Yrs.)	Current Dioxin Contrast	Est. Relative Risk (95% C.I.)	p-Value
Loss of Vital Capacity	17	≤18.6	C-by-T*		0.512	≤18.6	C-by-T*		0.612
			Overall†		0.334		Overall†		0.228
			M vs. L ^e	1.26 (0.37,4.25)	0.712		M vs. L ^e	1.40 (0.55,3.56)	0.475
			H vs. L ^e	2.57 (0.71,9.29)	0.150		H vs. L ^e	2.87 (1.03,7.94)	0.043
			M vs. L ^f	0.28 (0.02,3.14)	0.302		M vs. L ^f	0.39 (0.04,3.53)	0.402
			H vs. L ^f	1.47 (0.20,10.89)	0.704		H vs. L ^f	2.05 (0.36,11.57)	0.414
		>18.6	Overall†		0.866	>18.6	Overall†		0.989
			M vs. L ^e	0.69 (0.28,1.68)	0.415		M vs. L ^e	1.09 (0.52,2.30)	0.819
			H vs. L ^e	0.63 (0.23,1.74)	0.372		H vs. L ^e	0.99 (0.40,2.43)	0.984
			M vs. L ^f	0.41 (0.03,6.74)	0.535		M vs. L ^f	0.58 (0.05,6.51)	0.661
			H vs. L ^f	0.70 (0.04,11.54)	0.806		H vs. L ^f	0.99 (0.09,11.16)	0.996
Obstructive Abnormality	17	≤18.6	C-by-T*		0.844	≤18.6	C-by-T*		0.977
			Overall†		0.327		Overall†		0.348
			M vs. L ^e	0.78 (0.40,1.53)	0.468		M vs. L ^e	0.78 (0.46,1.33)	0.365
			H vs. L ^e	0.49 (0.19,1.22)	0.124		H vs. L ^e	0.49 (0.22,1.11)	0.086
			M vs. L ^f	3.29 (0.39,28.04)	0.277		M vs. L ^f	1.26 (0.41,3.88)	0.681
			H vs. L ^f	1.15 (0.07,18.96)	0.921		H vs. L ^f	0.44 (0.05,3.71)	0.454
		>18.6	Overall†		0.083	>18.6	Overall†		0.044
			M vs. L ^e	0.74 (0.37,1.47)	0.386		M vs. L ^e	0.77 (0.45,1.31)	0.338
			H vs. L ^e	0.38 (0.17,0.89)	0.025		H vs. L ^e	0.40 (0.20,0.82)	0.012
			M vs. L ^f	0.94 (0.23,3.83)	0.929		M vs. L ^f	0.94 (0.33,2.70)	0.913
			H vs. L ^f	0.19 (0.02,1.92)	0.161		H vs. L ^f	0.19 (0.02,1.58)	0.125

Summary of Unadjusted Results for Polychotomous Variables
Model 2: Ranch Hands - Current Dioxin (Categorized) and Time

Clinical Parameter	Reference	Current Dioxin Category			Overall p-Value
		Low	Medium	High	
aAbnormal low contrasted with normal.		0.840	0.858	0.803	
bAbnormal high contrasted with normal.		1.10 (0.025-5.10)	1.13 (0.032-4.1)	1.12 (0.062-1.8)	
cImpaired contrasted with normal.		0.62 (0.024-2.50)	0.35 (0.009-1.60)	2.15 (0.091-6.2)	0.015
dDiabetic contrasted with normal.		0.275	0.185	0.053	
eMild contrasted with none.		0.315	0.331	0.422	
fModerate/severe contrasted with none.		0.70 (0.005-3.31)	1.80 (0.022-16.5)	0.42 (0.045-3.1)	0.169
*Test of significance of current dioxin-by-time interaction.		0.093	0.639	0.172	
†Overall test of independence of current dioxin and the clinical parameter within time stratum.		0.981	0.848	0.384	
--: Estimated relative risk, confidence interval, and p-value not given due to the sparse number of abnormalities.		0.182 (0.004-2.2)	1.08 (0.008-3.8)	0.03 (0.001-2.0)	
Note: <u>Minimal</u> --Low: >10-14.65 ppt; Medium: >14.65-45.75 ppt; High: >45.75 ppt.		1.52 (0.023-2.1)	0.90 (0.182-2.0)	1.05 (0.003-4.7)	0.738
<u>Maximal</u> --Low: >5-14.65 ppt; Medium: >14.65-45.75 ppt; High: >45.75 ppt.		0.160	0.895	0.574	
M vs. L: Medium current dioxin category versus low current dioxin category.		0.331	0.438	0.133	
H vs. L: High current dioxin category versus low current dioxin category.		2.14 (786)	0.83 (0.23-4.0)	0.21 (0.33-1.35)	0.002
		2.8 (383)	1.52 (0.023-2.1)	1.28 (0.182-7.7)	0.055 (0.003-1.00)

TABLE Q-9.

**Summary of Unadjusted Results for Polychotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category**

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
White Blood Cell Count	13	Pct. Abn. (n): ^a	7.8 (783)	6.7 (345)	4.1 (195)	4.8 (187)	0.285
		Est. RR (95% C.I.): ^a		0.84 (0.51,1.38)	0.50 (0.23,1.06)	0.58 (0.28,1.19)	
		p-Value: ^a		0.496	0.071	0.137	
		Pct. Abn. (n): ^b	5.9 (783)	5.5 (345)	4.6 (195)	3.2 (187)	
Hemoglobin	13	Est. RR (95% C.I.): ^b		0.92 (0.53,1.60)	0.74 (0.36,1.55)	0.51 (0.22,1.22)	0.576
		p-Value: ^b		0.771	0.429	0.132	
		Pct. Abn. (n): ^a	4.3 (783)	3.5 (345)	4.6 (195)	2.7 (187)	
		Est. RR (95% C.I.): ^a		0.79 (0.40,1.55)	1.08 (0.51,2.28)	0.60 (0.23,1.56)	
FSH	15	p-Value: ^a		0.491	0.849	0.294	0.912
		Pct. Abn. (n): ^b	1.2 (783)	0.6 (345)	2.1 (195)	0.5 (187)	
		Est. RR (95% C.I.): ^b		0.50 (0.11,2.31)	1.80 (0.55,5.92)	0.45 (0.06,3.61)	
		p-Value: ^b		0.372	0.331	0.455	
2-Hour Postprandial Glucose	15	Pct. Abn. (n): ^a	1.9 (786)	2.0 (345)	2.0 (196)	2.1 (187)	0.174
		Est. RR (95% C.I.): ^a		1.10 (0.45,2.70)	1.13 (0.37,3.41)	1.15 (0.38,3.48)	
		p-Value: ^a		0.840	0.829	0.803	
		Pct. Abn. (n): ^b	10.2 (786)	12.2 (345)	13.3 (196)	10.7 (187)	
		Est. RR (95% C.I.): ^b		1.23 (0.82,1.83)	1.36 (0.84,2.18)	1.06 (0.63,1.79)	
		p-Value: ^b		0.319	0.210	0.821	
		Pct. Abn. (n): ^c	14.6 (740)	14.5 (331)	15.6 (179)	15.7 (166)	
		Est. RR (95% C.I.): ^c		0.98 (0.68,1.41)	1.06 (0.37,1.67)	1.13 (0.71,1.80)	
		p-Value: ^c		0.907	0.795	0.610	

TABLE Q-9. (Continued)

Summary of Unadjusted Results for Polychotomous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter	Reference Chapter	Statistic	Current Dioxin Category				Overall p-Value
			Background	Unknown	Low	High	
2-Hour Postprandial Glucose (Continued)	15	Pct. Abn. (n): ^d	3.0 (740)	1.8 (331)	1.1 (179)	6.0 (166)	
		Est. RR (95% C.I.): ^d		0.60 (0.24,1.50)	0.37 (0.09,1.60)	2.14 (0.99,4.62)	
		p-Value: ^d		0.275	0.185	0.053	
Loss of Vital Capacity	17	Pct. Abn. (n): ^e	8.1 (786)	5.2 (344)	9.2 (196)	11.2 (187)	0.169
		Est. RR (95% C.I.): ^e		0.63 (0.37,1.08)	1.14 (0.66,1.97)	1.44 (0.85,2.41)	
		p-Value: ^e		0.093	0.639	0.172	
		Pct. Abn. (n): ^f	1.2 (786)	2.3 (344)	1.0 (196)	1.6 (187)	
		Est. RR (95% C.I.): ^f		1.99 (0.76,5.21)	0.90 (0.19,4.20)	1.46 (0.39,5.47)	
		p-Value: ^f		0.160	0.895	0.574	
Obstructive Abnormality	17	Pct. Abn. (n): ^e	21.4 (786)	28.8 (344)	24.5 (196)	15.5 (187)	0.002
		Est. RR (95% C.I.): ^e		1.50 (1.12,2.01)	1.22 (0.84,1.77)	0.65 (0.42,1.00)	
		p-Value: ^e		0.006	0.288	0.050	
		Pct. Abn. (n): ^f	4.6 (786)	4.9 (344)	6.1 (196)	1.6 (187)	
		Est. RR (95% C.I.): ^f		1.20 (0.66,2.19)	1.42 (0.72,2.81)	0.31 (0.10,1.03)	
		p-Value: ^f		0.541	0.307	0.056	

^aPercent abnormally low; abnormal low contrasted with normal.

^bPercent abnormally high; abnormal high contrasted with normal.

^cPercent impaired; impaired contrasted with normal.

^dPercent diabetic; diabetic contrasted with normal.

^ePercent mild; mild contrasted with none.

^fPercent moderate/severe; moderate/severe contrasted with none.

Note: RR=Relative risk; risk is relative to background current dioxin category.

Background (Comparisons): Current Dioxin ≤ 10 ppt.

Unknown (Ranch Hands): Current Dioxin ≤ 10 ppt.

Low (Ranch Hands): 15 ppt < Current Dioxin ≤ 33.3 ppt.

High (Ranch Hands): Current Dioxin >33.3 ppt.

TABLE Q-10.

Summary of Adjusted Results for Continuous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	Minimal Assumption			Maximal Assumption		
		R ²	Adj. Slope	p-Value	R ²	Adj. Slope	p-Value
Percent Body Fat	6	0.037	0.648	0.001	0.051	0.859	<0.001
Sedimentation Rate ^a	6	0.074	0.099	0.002	0.072	0.108	<0.001
Average Sleep Each Night	9	0.037	-0.006	0.890	0.028	-0.018	0.535
<u>MCMI: Basic Personality</u>							
<u>Patterns</u>							
Schizoid Score ^a	9	0.037	0.068	0.002	0.046	0.051	0.002
Avoidant Score ^b	9	0.097	0.086**	0.003**	0.066	0.046	0.038
Dependent Score ^c	9	0.049	0.137	0.018	0.043	0.091	0.037
Histrionic Score ^d	9	0.089	-166.6	0.011	0.074	-105.1	0.037
Narcissistic Score	9	0.040	-1.051	0.053	0.048	-1.082	0.012
Antisocial Score	9	0.039	-0.860**	0.238**	0.021	****	****
Compulsive Score ^d	9	0.080	1.385	0.976	0.071	18.043	0.580
Passive-Aggressive Score ^c	9	0.080	0.004	0.950	0.096	0.050	0.295
<u>MCMI: Pathological</u>							
<u>Personality Disorders</u>							
Schizotypal Score	9	0.062	2.448	<0.001	0.050	1.681	0.001
Borderline Score	9	0.033	0.611	0.333	0.046	0.405**	0.388**
Paranoid Score	9	0.021	0.457	0.413	0.016	-0.021	0.960
<u>MCMI: Clinical Symptom</u>							
<u>Syndromes</u>							
Anxiety Score	9	0.027	1.337**	0.091**	0.043	****	****
Somatoform Score	9	0.017	0.811	0.196	0.022	1.199	0.011
Hypomania Score ^c	9	0.052	-0.186**	0.069**	0.045	-0.090**	0.236**
Dysthymia Score	9	0.022	****	****	0.016	****	****
Alcohol Abuse Score	9	0.036	-0.061	0.921	0.045	-0.357	0.440
Drug Abuse Score	9	0.045	-0.670	0.373	0.044	-0.220	0.692
Psychotic Thinking Score	9	0.096	2.343	0.001	0.072	1.266	0.021
Psychotic Depression							
Score	9	0.082	1.567	0.035	0.070	0.963	0.081
Psychotic Delusion Score	9	0.029	0.774	0.282	0.039	0.508	0.368

TABLE Q-10. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	Minimal Assumption			Maximal Assumption		
		R ²	Adj. Slope	p-Value	R ²	Adj. Slope	p-Value
AST ^a	10	0.122	-0.0033**	0.767**	0.126	0.0076	0.369
ALT ^a	10	0.088	0.0239	0.190	0.094	0.0379**	0.005**
GGT ^a	10	0.096	0.0232	0.338	0.121	0.0636	<0.001
Alkaline Phosphatase ^a	10	0.020	0.0049	0.554	0.036	0.0138	0.030
D-Glucaric Acid ^c	10	0.018	0.0379**	0.580**	0.028	0.0564	0.270
Total Bilirubin ^a	10	<0.001	-0.0009	0.934	0.008	-0.0016**	0.840**
Direct Bilirubin ^e	10	0.012	0.0165	0.317	0.027	0.0255	0.038
LDH ^a	10	0.031	-0.0024	0.687	0.023	0.0008	0.864
Cholesterol ^a	10	0.041	0.0133	0.046	0.030	0.0102	0.041
HDL ^a	10	0.086	-0.0115	0.218	0.105	-0.0231**	<0.001**
Cholesterol-HDL Ratio ^a	10	0.066	0.0263	0.009	0.063	0.0350***	<0.001***
Triglycerides ^a	10	0.031	0.0487	0.040	0.055	0.0762	<0.001
Creatine Kinase ^a	10	0.111	-0.0038**	0.824**	0.090	-0.0046**	0.706**
Systolic Blood Pressure	12	0.087	0.144***	0.836***	0.087	0.376**	0.444**
Systolic Blood Pressure ^f	12	0.028	0.614**	0.382**	0.039	0.964**	0.049**
Diastolic Blood Pressure	12	0.068	0.119	0.748	0.069	****	****
Red Blood Cell Count	13	0.010	0.0034	0.808	0.039	0.0162	0.103
White Blood Cell Count ^a	13	0.306	****	****	0.309	****	****
Hemoglobin	13	0.062	0.0387	0.316	0.078	0.0426	0.120
Hematocrit	13	0.063	0.1091	0.324	0.081	0.1278	0.105
Mean Corpuscular Volume	13	0.105	0.1630**	0.363**	0.087	0.0303	0.807
Mean Corpuscular Hemoglobin	13	0.105	0.0491**	0.449**	0.087	-0.0034	0.941
Mean Corpuscular Hemoglobin Concentration	13	0.060	-0.0117**	0.559**	0.058	-0.0149	0.306
Platelet Count	13	0.056	1.111	0.603	0.045	2.020	0.181
Prothrombin Time ^a	13	0.108	0.0032**	0.041**	0.071	0.0012	0.287
Blood Urea Nitrogen ^a	14	0.039	-0.021	0.209	0.046	-0.017	0.154

TABLE Q-10. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	Minimal Assumption			Maximal Assumption		
		R ²	Adj. Slope	p-Value	R ²	Adj. Slope	p-Value
Urine Specific Gravity	14	0.012	<0.0001	0.835	0.019	0.0001**	0.524**
T ₃ % Uptake ^a	15	0.036	-0.0064	0.034	0.026	-0.0067	0.003
TSH ^g	15	0.028	-0.0070	0.827	0.021	0.0035	0.886
FSH ^a	15	0.087	0.0122	0.642	0.084	0.0172	0.372
Testosterone ^c	15	0.260	-0.1127***	0.329***	0.239	-0.1027***	0.237***
Testosterone ^{c,h}	15	0.125	-0.2828**	0.023**	0.125	-0.3055**	<0.001**
Fasting Glucose ^a	15	0.095	0.0262	<0.001	0.106	0.0216	<0.001
2-Hour Postprandial Glucose ^a	15	0.111	0.0169**	0.114**	0.105	0.0118	0.135
2-Hour Postprandial Glucose ^{a,h}	15	0.039	0.0254**	0.020**	0.039	0.0235	0.003
CD2 Cells ^a	16	0.125	****	****	0.110	0.002	0.874
CD4 Cells ^a	16	0.126	0.002	0.936	0.155	0.018	0.324
CD8 Cells ^a	16	0.142	****	****	0.076	-0.014**	0.518**
CD20 Cells ^a	16	0.516	0.075**	0.086**	0.465	0.025	0.363
CD14 Cells ^a	16	0.728	****	****	0.596	-0.012	0.728
CD25 Cells ^a	16	0.819	****	****	0.735	****	****
HLA-DR Cells ^a	16	0.674	****	****	0.644	0.002**	0.943**
CD4/CD8 Ratio ^a	16	0.649	0.028	0.397	0.578	0.042	0.074
TLC ^a	16	0.140	-0.005**	0.812**	0.116	0.001	0.957
Unstimulated PHA Response ^a	16	0.737	0.027	0.464	0.670	0.019	0.459
PHA Net Response (Concentration 1)	16	0.857	****	****	0.819	-728**	0.742**
PHA Net Response (Concentration 2)	16	0.854	6,163	0.090	0.793	4,479	0.078

TABLE Q-10. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	Minimal Assumption			Maximal Assumption		
		R ²	Adj. Slope	p-Value	R ²	Adj. Slope	p-Value
PHA Net Response (Concentration 3)	16	0.828	3,760	0.252	0.726	1,824**	0.490**
PHA Net Response (Across Day and Concentration)	16	0.873	3.093**	0.326**	--	--	--
Maximum PHA Net Response	16	0.873	6,990	0.054	0.823	4,501	0.072
Unstimulated MLC Response ^a	16	0.788	0.010	0.850	0.691	0.035	0.388
MLC Net Response	16	0.743	1,549	0.649	0.696	597	0.779
NKCA 50/1 Net Response	16	0.457	0.5	0.970	0.445	-6.0	0.526
NKCA 50/1 Percent Release	16	0.144	0.293**	0.748**	0.060	-0.247	0.714
NKCI 50/1 Net Response	16	0.903	5.7	0.551	0.903	2.5	0.665
NKCI 50/1 Percent Release	16	0.722	0.8	0.345	0.728	0.4	0.421
IgA ^a	16	0.028	0.040	0.019	0.040	0.035	0.003
IgG ^a	16	0.147	0.006**	0.502**	0.143	0.008	0.156
IgM ^a	16	0.024	0.002**	0.902**	0.026	-0.015	0.268
FVC (% of predicted)	17	0.090	-0.992**	0.028**	0.124	-1.403	<0.001
FEV ₁ (% of predicted)	17	0.114	-0.532**	0.304**	0.151	-0.842	0.026
FEFmax (% of predicted)	17	0.081	-0.805	0.341	0.099	-1.507	0.014
Ratio of Observed FEV ₁ to Observed FVC ⁱ	17	0.112	-0.028	0.022	0.143	-0.030	<0.001

TABLE Q-10. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)**

^aAnalysis performed on natural logarithm scale; slope based on natural logarithm of clinical parameter versus log₂ (initial dioxin).

^bAnalysis performed on natural logarithm (X + 1.0) scale; slope based on natural logarithm (avoidant score + 1.0) versus log₂ (initial dioxin).

^cAnalysis performed on square root scale; slope based on square root of clinical parameter versus log₂ (initial dioxin).

^dAnalysis performed on square scale; slope based on square of clinical parameter versus log₂ (initial dioxin).

^eAnalysis performed on natural logarithm (X + 0.1) scale; slope based on natural logarithm (direct bilirubin + 0.1) versus log₂ (initial dioxin).

^fAnalysis performed on model excluding percent body fat and cholesterol.

^gAnalysis performed on natural logarithm (X - 0.4) scale; slope based on natural logarithm (TSH - 0.4) of clinical parameter versus log₂ (initial dioxin).

^hAnalysis performed on model excluding percent body fat.

ⁱAnalysis performed on natural logarithm (1 - X) scale; slope based on natural logarithm (1 - ratio of observed FEV₁ to observed FVC) versus log₂ (initial dioxin).

--: Analysis not performed.

**Log₂ (initial dioxin)-by-covariate interaction (0.01 < p ≤ 0.05); adjusted slope and p-value derived from a model fitted after deletion of this interaction.

***Log₂ (initial dioxin)-by-covariate interaction (p ≤ 0.01); adjusted slope and p-value derived from a model fitted after deletion of this interaction.

****Log₂ (initial dioxin)-by-covariate interaction (p ≤ 0.01); adjusted slope and p-value not presented.

Note: Statistics are based on the relationship between clinical parameter and log₂ (initial dioxin) unless otherwise specified.

TABLE Q-11.

**Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
Percent Body Fat	6	0.037	0.775	≤18.6 >18.6	0.596 0.713	0.071 0.008	0.053	0.431	≤18.6 >18.6	0.999 0.777	<0.001 <0.001
Sedimentation Rate ^b	6	0.110	0.634	≤18.6 >18.6	0.062 0.093	0.221 0.026	0.083	0.309	≤18.6 >18.6	0.075 0.122	0.031 <0.001
Average Sleep Each Night	9	0.056	****	≤18.6 >18.6	**** ****	**** ****	0.038	0.400**	≤18.6 >18.6	-0.056** -0.007**	0.212** 0.869**
<u>MCMI: Basic Personality Patterns</u>											
Schizoid Score ^b	9	0.049	0.074	≤18.6 >18.6	0.015 0.094	0.662 0.001	0.051	0.044**	≤18.6 >18.6	0.012** 0.077**	0.615** <0.001**
Avoidant Score ^c	9	0.098	0.029	≤18.6 >18.6	0.003 0.133	0.951 <0.001	0.073	0.045	≤18.6 >18.6	-0.006 0.081	0.848 0.006
Dependent Score ^d	9	0.051	0.477	≤18.6 >18.6	0.097 0.179	0.300 0.020	0.045	0.347	≤18.6 >18.6	0.051 0.131	0.443 0.026
Histrionic Score ^e	9	0.094	0.112	≤18.6 >18.6	-32.0 -2-0.6	0.760 0.006	0.099	****	≤18.6 >18.6	**** ****	**** ****
Narcissistic Score	9	0.049	0.223	≤18.6 >18.6	0.056 -1.307	0.948 0.069	0.055	0.080	≤18.6 >18.6	-0.055 -1.517	0.933 0.009
Antisocial Score	9	0.025	0.407	≤18.6 >18.6	0.428 -0.771	0.709 0.418	0.013	0.380	≤18.6 >18.6	0.162 -0.765	0.841 0.286

TABLE Q-11. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
Compulsive Score^c	9	0.089	0.476	≤18.6 >18.6	65.987 0.742	0.366 0.990	0.071	0.963	≤18.6 >18.6	16.780 13.836	0.734 0.752
Passive-Aggressive Score^d	9	0.082	0.324	≤18.6 >18.6	-0.089 0.042	0.401 0.630	0.096	0.823	≤18.6 >18.6	0.033 0.054	0.646 0.399
MCMI: Pathological Personality Disorders											
Schizotypal Score	9	0.064	0.296	≤18.6 >18.6	1.397 2.855	0.197 0.002	0.054	0.225	≤18.6 >18.6	0.904 2.148	0.250 0.002
Borderline Score	9	0.035	0.334	≤18.6 >18.6	-0.074 1.189	0.942 0.157	0.039	0.739	≤18.6 >18.6	0.314 0.624	0.660 0.321
Paranoid Score	9	0.033	0.937	≤18.6 >18.6	0.852 0.941	0.345 0.204	0.024	0.909	≤18.6 >18.6	0.310 0.214	0.626 0.701
MCMI: Clinical Symptom Syndromes											
Anxiety Score	9	0.015	0.202	≤18.6 >18.6	-0.173 1.915	0.891 0.068	0.032	0.914	≤18.6 >18.6	1.267 1.141	0.158 0.149
Somatoform Score	9	0.018	0.670	≤18.6 >18.6	0.494 1.056	0.628 0.207	0.023	0.436	≤18.6 >18.6	1.581 0.840	0.030 0.193
Hypomania Score^d	9	0.034	0.782	≤18.6 >18.6	-0.182 -0.239	0.268 0.078	0.042	0.162	≤18.6 >18.6	0.002 -0.203	0.985 0.045

TABLE Q-11. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
Dysthymia Score	9	0.005	0.576	≤18.6 >18.6	0.328 1.262	0.799 0.233	0.008	0.616	≤18.6 >18.6	0.886 1.507	0.340 0.067
Alcohol Abuse Score	9	0.037	0.455	≤18.6 >18.6	-0.727 0.228	0.464 0.781	0.049	0.384	≤18.6 >18.6	-1.011 -0.213	0.157 0.736
Drug Abuse Score	9	0.053	0.223	≤18.6 >18.6	1.261 -0.590	0.284 0.541	0.051	0.160	≤18.6 >18.6	0.963 -0.607	0.260 0.424
Psychotic Thinking Score	9	0.103	0.074	≤18.6 >18.6	0.933 3.586	0.418 <0.001	0.079	0.057	≤18.6 >18.6	0.307 2.363	0.711 0.001
Psychotic Depression Score	9	0.083	0.352	≤18.6 >18.6	0.670 2.101	0.574 0.034	0.074	0.180	≤18.6 >18.6	0.303 1.769	0.717 0.017
Psychotic Delusion Score	9	0.032	0.267	≤18.6 >18.6	-0.127 1.531	0.912 0.110	0.042	0.180	≤18.6 >18.6	-0.153 1.320	0.858 0.081
AST ^b	10	0.140	0.576	≤18.6 >18.6	-0.0022 -0.0150	0.904 0.316	0.143	****	≤18.6 >18.6	**** ****	**** ****
ALT ^b	10	0.093	0.531	≤18.6 >18.6	0.0283 0.0053	0.339 0.825	0.091	0.872**	≤18.6 >18.6	0.0355** 0.0312**	0.086** 0.088**
GGT ^b	10	0.098	0.718	≤18.6 >18.6	0.0308 0.0127	0.432 0.693	0.124	0.305	≤18.6 >18.6	0.0790 0.0434	0.003 0.062
Alkaline Phosphatase ^b	10	0.034	0.863**	≤18.6 >18.6	0.0012** 0.0042**	0.929** 0.707**	0.063	0.551**	≤18.6 >18.6	0.0169** 0.0092**	0.090** 0.297**

TABLE Q-11. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
D-Glucaric Acid ^d	10	0.008	0.792	≤18.6 >18.6	0.0001 0.0371	0.999 0.680	0.027	0.984	≤18.6 >18.6	0.0447 0.0426	0.577 0.540
Total Bilirubin ^b	10	<0.001	0.607	≤18.6 >18.6	-0.0068 0.0052	0.707 0.724	0.002	0.346	≤18.6 >18.6	-0.0082 0.0076	0.516 0.491
Direct Bilirubin ^f	10	0.035	0.646	≤18.6 >18.6	0.0103 0.0261	0.710 0.251	0.026	0.982	≤18.6 >18.6	0.0258 0.0252	0.176 0.131
LDH ^b	10	0.040	0.255	≤18.6 >18.6	-0.0141 -0.0002	0.140 0.982	0.028	0.677	≤18.6 >18.6	-0.0045 -0.0008	0.510 0.889
Cholesterol ^b	10	0.053	0.049	≤18.6 >18.6	0.0011 0.0277	0.921 0.002	0.040	0.415**	≤18.6 >18.6	0.0065** 0.0147**	0.398** 0.030**
HDL ^b	10	0.100	0.914**	≤18.6 >18.6	-0.0069** -0.0090**	0.648** 0.466**	0.090	0.748	≤18.6 >18.6	-0.0235 -0.0191	0.027 0.042
Cholesterol-HDL Ratio ^b	10	0.093	****	≤18.6 >18.6	**** ****	**** ****	0.054	0.711	≤18.6 >18.6	0.0315 0.0371	0.008 <0.001
Triglycerides ^b	10	0.018	0.525	≤18.6 >18.6	0.0472 0.0168	0.205 0.580	0.054	0.135	≤18.6 >18.6	0.1011 0.0483	<0.001 0.045
Creatine Kinase ^b	10	0.099	0.472	≤18.6 >18.6	-0.0115 0.0131	0.676 0.556	0.085	0.482	≤18.6 >18.6	0.0057 -0.0116	0.761 0.486

TABLE Q-11. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
Systolic Blood Pressure	12	0.084	0.935**	≤18.6 >18.6	-0.318** -0.433**	0.774** 0.632**	0.088	0.727**	≤18.6 >18.6	0.173** 0.512**	0.816** 0.452**
Diastolic Blood Pressure	12	0.072	0.543	≤18.6 >18.6	0.370 -0.098	0.537 0.842	0.054	0.692	≤18.6 >18.6	-0.026 0.188	0.949 0.610
Red Blood Cell Count	13	0.012	0.660	≤18.6 >18.6	0.0013 0.0139	0.953 0.455	0.049	0.213**	≤18.6 >18.6	0.0283** 0.0031**	0.067** 0.818**
White Blood Cell Count ^b	13	0.300	0.193**	≤18.6 >18.6	-0.0013** 0.0222**	0.929** 0.059**	0.312	0.197**	≤18.6 >18.6	0.0135** 0.0303**	0.169** <0.001**
Hemoglobin	13	0.065	0.969	≤18.6 >18.6	0.0522 0.0554	0.406 0.280	0.083	0.073	≤18.6 >18.6	0.0964 -0.0056	0.024 0.881
Hematocrit	13	0.064	0.968	≤18.6 >18.6	0.1345 0.1440	0.455 0.329	0.084	0.116	≤18.6 >18.6	0.2554 -0.0016	0.037 0.989
Mean Corpuscular Volume	13	0.099	0.538	≤18.6 >18.6	0.2740 0.0509	0.347 0.830	0.089	0.781	≤18.6 >18.6	0.0495 -0.0204	0.797 0.905
Mean Corpuscular Hemoglobin	13	0.094	0.531	≤18.6 >18.6	0.0968 0.0145	0.359 0.865	0.088	0.567	≤18.6 >18.6	0.0196 -0.0326	0.779 0.599

TABLE Q-11. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
Mean Corpuscular Hemoglobin Concentration	13	0.054	0.985	≤18.6 >18.6	-0.0055 -0.0047	0.866 0.859	0.055	0.322	≤18.6 >18.6	0.0024 -0.0270	0.917 0.179
Platelet Count	13	0.059	0.693	≤18.6 >18.6	1.217 -0.500	0.726 0.860	0.045	0.971	≤18.6 >18.6	1.658 1.768	0.381 0.394
Prothrombin Time ^b	13	0.103	0.713	≤18.6 >18.6	0.0036 0.0024	0.153 0.246	0.085	****	≤18.6 >18.6	**** ****	**** ****
Blood Urea Nitrogen ^d	14	0.051	0.233	≤18.6 >18.6	-0.030 0.011	0.272 0.630	0.062	0.560**	≤18.6 >18.6	-0.004** -0.018**	0.830** 0.271**
Urine Specific Gravity	14	0.025	0.497**	≤18.6 >18.6	0.0002** -0.0001**	0.574** 0.723**	0.014	0.441**	≤18.6 >18.6	0.0002** -0.0005**	0.425** 0.813**
T ₃ % Uptake ^b	15	0.048	0.015	≤18.6 >18.6	0.0036 -0.0114	0.465 0.004	0.031	0.058	≤18.6 >18.6	-0.0011 -0.0097	0.752 0.002
TSH ^g	15	0.030	0.476	≤18.6 >18.6	0.0178 -0.0292	0.737 0.493	0.022	0.743	≤18.6 >18.6	0.0120 -0.0041	0.754 0.899
FSH ^b	15	0.092	0.088	≤18.6 >18.6	-0.0482 0.0433	0.260 0.215	0.093	0.011	≤18.6 >18.6	-0.0348 0.0643	0.243 0.015
Testosterone ^d	15	0.243	0.410	≤18.6 >18.6	-0.1935 -0.0009	0.301 0.995	0.224	0.690	≤18.6 >18.6	-0.1147 -0.0461	0.391 0.696

TABLE Q-11. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*Ta	Time (Yrs.)	Adj. Slope	p-Value
Testosterone ^{d,h}	15	0.109	0.456	≤18.6 >18.6	-0.3674 -0.1784	0.069 0.279	0.110	0.494	≤18.6 >18.6	-0.3531 -0.2270	0.012 0.069
Fasting Glucose ^b	15	0.103	0.097	≤18.6 >18.6	0.0149 0.0393	0.209 <0.001	0.122	0.194**	≤18.6 >18.6	0.0168*** 0.0294***	0.024*** <0.001***
2-Hour Postprandial Glucose ^b	15	0.112	0.486**	≤18.6 >18.6	0.0188** 0.0039**	0.264** 0.785**	0.107	0.252	≤18.6 >18.6	0.0012 0.0190	0.921 0.077
2-Hour Postprandial Glucose ^{b,h}	15	0.052	0.471**	≤18.6 >18.6	0.0292** 0.0133**	0.092** 0.368**	0.040	0.469	≤18.6 >18.6	0.0170 0.0286	0.164 0.009
CD2 Cells ^b	16	0.090	0.448	≤18.6 >18.6	-0.036 -0.003	0.289 0.907	0.126	0.717	≤18.6 >18.6	-0.007 0.005	0.773 0.835
CD4 Cells ^b	16	0.170	0.213**	≤18.6 >18.6	-0.042** 0.017**	0.259** 0.598**	0.182	0.243**	≤18.6 >18.6	-0.008** 0.036**	0.778** 0.174**
CD8 Cells ^b	16	0.059	0.721	≤18.6 >18.6	-0.029 -0.008	0.531 0.842	0.073	0.513	≤18.6 >18.6	-0.013 -0.041	0.686 0.174
CD20 Cells ^b	16	0.485	0.371	≤18.6 >18.6	0.047 0.121	0.446 0.043	0.473	0.171	≤18.6 >18.6	-0.008 0.068	0.845 0.083
CD14 Cells ^b	16	0.682	0.174	≤18.6 >18.6	-0.019 0.127	0.801 0.102	0.629	****	≤18.6 >18.6	**** ****	**** ****
CD25 Cells ^b	16	0.738	0.051	≤18.6 >18.6	-0.351 0.070	0.028 0.624	0.689	0.186	≤18.6 >18.6	-0.100 0.114	0.361 0.317

TABLE Q-11. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*T ^a	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*T ^a	Time (Yrs.)	Adj. Slope	p-Value
HLA-DR Cells ^b	16	0.652	0.112	≤18.6 >18.6	-0.049 0.056	0.300 0.240	0.632	0.136	≤18.6 >18.6	-0.037 0.032	0.255 0.329
CD4/CD8 Ratio ^b	16	0.655	0.237	≤18.6 >18.6	0.064 -0.017	0.200 0.725	0.581	0.657	≤18.6 >18.6	0.062 0.038	0.093 0.283
TLC ^b	16	0.131	0.085	≤18.6 >18.6	-0.048 0.019	0.110 0.485	0.138	0.216	≤18.6 >18.6	-0.020 0.016	0.350 0.442
Unstimulated PHA Response ^b	16	0.734	0.553	≤18.6 >18.6	-0.0004 0.045	0.994 0.416	0.672	0.884	≤18.6 >18.6	0.032 0.024	0.414 0.538
PHA Net Response	16	0.884	0.069**	≤18.6 >18.6	10,167** -959**	0.033** 0.826**	0.815	0.976	≤18.6 >18.6	3,705 3,565	0.254 0.265
Maximum PHA Net Response	16	0.877	0.136	≤18.6 >18.6	13,263 2,760	0.013 0.585	0.827	0.685	≤18.6 >18.6	5,179 7,398	0.181 0.052
Unstimulated MLC Response ^b	16	0.797	****	≤18.6 >18.6	**** ****	**** ****	0.709	0.391**	≤18.6 >18.6	0.014** 0.087**	0.823** 0.153**
MLC Net Response	16	0.755	0.936	≤18.6 >18.6	-753 -1,291	0.872 0.792	0.697	0.487	≤18.6 >18.6	-1,356 1,914	0.673 0.559

TABLE Q-11. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*T ^a	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*T ^a	Time (Yrs.)	Adj. Slope	p-Value
NKCA 50/1 Net Response	16	0.467	0.253	≤18.6 >18.6	21.8 -9.9	0.278 0.629	0.465	0.060	≤18.6 >18.6	12.0 -25.6	0.394 0.067
NKCA 50/1 Percent Release	16	0.124	0.465	≤18.6 >18.6	1.491 0.119	0.313 0.926	0.061	0.558	≤18.6 >18.6	0.186 -0.631	0.854 0.510
NKCI 50/1 Net Response	16	0.916	0.073**	≤18.6 >18.6	32.6** -2.0**	0.027** 0.886**	0.913	****	≤18.6 >18.6	**** ****	**** ****
NKCI 50/1 Percent Release	16	0.758	0.078**	≤18.6 >18.6	2.6** -0.1**	0.025** 0.942**	0.756	****	≤18.6 >18.6	**** ****	**** ****
IgA ^b	16	0.045	0.480**	≤18.6 >18.6	0.046** 0.021**	0.096** 0.352**	0.050	0.688**	≤18.6 >18.6	0.027** 0.036**	0.147** 0.027**
IgG ^b	16	0.141	0.429	≤18.6 >18.6	0.014 0.0007	0.290 0.952	0.144	0.811	≤18.6 >18.6	0.011 0.009	0.208 0.301
IgM ^b	16	0.031	0.519	≤18.6 >18.6	-0.022 0.002	0.456 0.934	0.032	0.137	≤18.6 >18.6	-0.045 -0.005	0.027 0.776
FVC (% of predicted)	17	0.078	0.286	≤18.6 >18.6	-1.655 -0.677	0.024 0.257	0.127	0.255	≤18.6 >18.6	-1.924 -1.169	<0.001 0.009
FEV ₁ (% of predicted)	17	0.109	0.200	≤18.6 >18.6	-1.452 -0.101	0.085 0.883	0.153	0.262	≤18.6 >18.6	-1.433 -0.575	0.014 0.268

TABLE Q-11. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 2: Ranch Hands - Log₂ (Current Dioxin) and Time**

Clinical Parameter	Reference Chapter	Minimal Assumption					Maximal Assumption				
		R ²	C*T ^a	Time (Yrs.)	Adj. Slope	p-Value	R ²	C*T ^a	Time (Yrs.)	Adj. Slope	p-Value
FEF _{max} (% of predicted)	17	0.086	0.100	≤18.6	-2.560	0.063	0.102	0.283	≤18.6	-2.460	0.010
				>18.6	0.269	0.810			>18.6	-1.125	0.181
Ratio of Observed FEV ₁ to Observed FVC ⁱ	17	0.111	0.823	≤18.6	-0.024	0.224	0.143	0.785	≤18.6	-0.029	0.034
				>18.6	-0.030	0.067			>18.6	-0.034	0.005

^aP-value for test of significance for homogeneity of slopes (current dioxin continuous, time categorized); C*T=current dioxin-by-time interaction.

^bAnalysis performed on natural logarithm scale; slope based on natural logarithm of clinical parameter versus log₂ (current dioxin).

^cAnalysis performed on natural logarithm (X + 1.0) scale; slope based on natural logarithm of (avoidant score + 1.0) versus log₂ (current dioxin).

^dAnalysis performed on square root scale; slope based on square root of clinical parameter versus log₂ (current dioxin).

^eAnalysis performed on square scale; slope based on square of clinical parameter versus log₂ (current dioxin).

^fAnalysis performed on natural logarithm (X + 0.1) scale; slope based on natural logarithm (direct bilirubin + 0.1) versus log₂ (current dioxin).

^gAnalysis performed on natural logarithm (X - 0.4) scale; slope based on natural logarithm (TSH - 0.4) of clinical parameter versus log₂ (current dioxin).

^hAnalysis performed on model excluding percent body fat.

ⁱAnalysis performed on natural logarithm (1 - X) scale; slope based on natural logarithm of (1 - ratio of observed FEV₁ to observed FVC) versus log₂ (current dioxin).

^{**}Log₂ (current dioxin)-by-time-by-covariate interaction (0.01 < p ≤ 0.05); adjusted slope and p-value derived from a model fitted after deletion of this interaction.

^{***}Log₂ (current dioxin)-by-time-by-covariate interaction (p ≤ 0.01); adjusted slope and p-value not presented.

Note: Statistics are based on the relationship between clinical parameter with log₂ (current dioxin) and time unless otherwise specified.

TABLE Q-12.

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
Percent Body Fat	6	0.044	Adj. Mean (n): Difference (p-value):	21.90 (786)	20.01 (345) -1.89 (<0.001)	22.15 (196) 0.24 (0.541)	23.63 (187) 1.73 (<0.001)	<0.001
Sedimentation Rate ^b (mm/hr)	6	0.074	Adj. Mean (n): Difference (p-value):	5.19 (751)**	4.50 (328)** -0.69 (0.007)**	5.88 (192)** 0.69 (0.054)**	6.31 (181)** 1.12 (0.004)**	<0.001**
Average Sleep Each Night (hours)	9	0.030	Adj. Mean (n): Difference (p-value):	6.61 (778)	6.61 (339) 0.00 (0.947)	6.66 (192) 0.05 (0.539)	6.54 (184) -0.07 (0.410)	0.725
<u>MCMI: Basic Personality Patterns</u>								
Schizoid Score ^b	9	0.036	Adj. Mean (n): Difference (p-value):	23.7 (775)	23.1 (335) -0.6 (0.522)	24.4 (190) 0.7 (0.519)	27.0 (180) 3.4 (0.006)	0.027
Avoidant Score ^c	9	0.029	Adj. Mean (n): Difference (p-value):	16.2 (775)	15.5 (335) -0.8 (0.406)	16.3 (190) 0.1 (0.957)	18.0 (180) 1.8 (0.166)	0.351
Dependent Score ^d	9	0.022	Adj. Mean (n): Difference (p-value):	42.2 (775)	40.2 (335) -2.0 (0.133)	38.8 (190) -3.4 (0.037)	42.3 (180) 0.1 (0.944)	0.115
Histrionic Score ^e	9	0.053	Adj. Mean (n): Difference (p-value):	66.8 (775)	66.7 (335) -0.1 (0.896)	66.0 (190) -0.7 (0.492)	64.2 (180) -2.6 (0.020)	0.132
Narcissistic Score	9	0.021	Adj. Mean (n): Difference (p-value):	66.7 (775)	68.5 (335) 1.8 (0.075)	68.5 (190) 1.8 (0.145)	65.6 (180) -1.2 (0.361)	0.084
Antisocial Score	9	0.020	Adj. Mean (n): Difference (p-value):	59.6 (780)**	61.6 (337)** 2.0 (0.107)**	63.5 (192)** 3.9 (0.012)**	60.9 (181)** 1.3 (0.405)**	0.061**

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
Compulsive Score ^c	9	0.056	Adj. Mean (n): Difference (p-value):	68.5 (775)	68.6 (335) 0.1 (0.829)	68.7 (190) 0.2 (0.730)	68.8 (180) 0.3 (0.641)	0.962
Passive-Aggressive Score ^d	9	0.051	Adj. Mean (n): Difference (p-value):	18.9 (775)**	18.0 (335)** -0.9 (0.315)**	20.7 (190)** 1.8 (0.138)**	18.9 (180)** 0.0 (0.965)**	0.248**
MCMI: Pathological Personality Disorders								
Schizotypal Score	9	0.024	Adj. Mean (n): Difference (p-value):	33.9 (775)	32.5 (335) -1.4 (0.251)	33.5 (190) -0.4 (0.788)	37.3 (180) 3.4 (0.029)	0.053
Borderline Score	9	0.027	Adj. Mean (n): Difference (p-value):	33.2 (775)**	31.5 (335)** -1.8 (0.110)**	32.0 (190)** -1.2 (0.369)**	32.7 (180)** -0.6 (0.694)**	0.415**
Paranoid Score	9	0.022	Adj. Mean (n): Difference (p-value):	53.3 (775)	55.2 (335) 1.9 (0.067)	55.1 (190) 1.7 (0.166)	54.7 (180) 1.4 (0.284)	0.202
MCMI: Clinical Symptom Syndromes								
Anxiety Score	9	0.028	Adj. Mean (n): Difference (p-value):	48.0 (776)**	45.7 (338)** -2.2 (0.107)**	46.7 (192)** -1.2 (0.461)**	49.2 (183)** 1.3 (0.464)**	0.248**
Somatoform Score	9	0.024	Adj. Mean (n): Difference (p-value):	52.4 (775)**	51.9 (335)** -0.5 (0.675)**	51.0 (190)** -1.4 (0.334)**	53.9 (180)** 1.5 (0.296)**	0.438**
Hypomania Score ^d	9	0.025	Adj. Mean (n): Difference (p-value):	**** (775)	**** (335) ****	**** (190) ****	**** (180) ****	****

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
Dysthymia Score	9	0.013	Adj. Mean (n): Difference (p-value):	49.4 (776)**	47.5 (336)** -1.9 (0.191)**	48.7 (190)** -0.7 (0.699)**	50.5 (183)** 1.1 (0.535)**	0.450**
Alcohol Abuse Score	9	0.023	Adj. Mean (n): Difference (p-value):	**** (776)	**** (338) ****	**** (192) ****	**** (183) ****	****
Drug Abuse Score	9	0.023	Adj. Mean (n): Difference (p-value):	51.7 (780)	51.3 (337) -0.4 (0.761)	52.6 (192) 0.9 (0.552)	50.5 (181) -1.1 (0.486)	0.769
Psychotic Thinking Score	9	0.045	Adj. Mean (n): Difference (p-value):	34.4 (775)	32.8 (335) -1.6 (0.223)	33.1 (190) -1.3 (0.400)	36.4 (180) 2.0 (0.220)	0.215
Psychotic Depression Score	9	0.040	Adj. Mean (n): Difference (p-value):	23.5 (775)	22.1 (335) -1.4 (0.274)	22.5 (190) -1.0 (0.543)	24.8 (180) 1.3 (0.450)	0.475
Psychotic Delusion Score	9	0.045	Adj. Mean (n): Difference (p-value):	44.2 (775)	46.1 (335) 1.8 (0.166)	46.7 (190) 2.5 (0.125)	46.7 (180) 2.5 (0.144)	0.213
AST ^b (U/L)	10	0.045	Adj. Mean (n): Difference (p-value):	26.37 (779)	25.71 (339) -0.66 (0.189)	26.32 (191) -0.05 (0.943)	26.90 (185) 0.53 (0.409)	0.374
ALT ^b (U/L)	10	0.050	Adj. Mean (n): Difference (p-value):	20.34 (777)**	19.16 (338)** -1.18 (0.055)**	20.83 (191)** 0.49 (0.531)**	22.09 (182)** 1.75 (0.035)**	0.012**
GGT ^b (U/L)	10	0.088	Adj. Mean (n): Difference (p-value):	34.64 (777)	31.49 (338) -3.15 (0.017)	38.28 (191) 3.64 (0.043)	40.82 (182) 6.18 (0.001)	<0.001
Alkaline Phosphatase ^b (U/L)	10	0.027	Adj. Mean (n): Difference (p-value):	90.08 (777)	92.03 (339) 1.95 (0.170)	93.29 (191) 3.21 (0.070)	93.58 (184) 3.50 (0.055)	0.098

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
D-Glucaric Acid ^d (μ M)	10	0.013	Adj. Mean (n): Difference (p-value):	14.11 (727)	13.99 (317) -0.12 (0.894)	14.43 (180) 0.32 (0.778)	15.22 (173) 1.11 (0.339)	0.781
Total Bilirubin ^b (mg/dl)	10	0.016	Adj. Mean (n): Difference (p-value):	0.779 (779)	0.755 (339) -0.024 (0.121)	0.760 (191) -0.019 (0.332)	0.776 (185) -0.003 (0.904)	0.409
Direct Bilirubin ^c (mg/dl)	10	0.020	Adj. Mean (n): Difference (p-value):	0.148 (779)***	0.146 (341)*** -0.002 (0.708)***	0.156 (193)*** 0.008 (0.400)***	0.172 (186)*** 0.024 (0.018)***	0.079***
LDH ^b (U/L)	10	0.010	Adj. Mean (n): Difference (p-value):	130.3 (779)	129.2 (341) -1.1 (0.450)	129.8 (193) -0.5 (0.794)	131.4 (186) 1.1 (0.518)	0.725
Cholesterol ^b (mg/dl)	10	0.020	Adj. Mean (n): Difference (p-value):	212.9 (777)	214.1 (338) 1.2 (0.612)	214.5 (191) 1.6 (0.608)	219.5 (182) 6.6 (0.038)	0.229
HDL ^b (mg/dl)	10	0.106	Adj. Mean (n): Difference (p-value):	45.92 (777)**	48.93 (338)** 3.01 (<0.001)**	44.85 (191)** -1.07 (0.219)**	44.59 (182)** -1.33 (0.137)**	<0.001**
Cholesterol-HDL Ratio	10	0.061	Adj. Mean (n): Difference (p-value):	4.63 (777)	4.36 (338) -0.27 (<0.001)	4.79 (191) 0.16 (0.136)	4.96 (182) 0.33 (0.003)	<0.001
Triglycerides ^b (mg/dl)	10	0.051	Adj. Mean (n): Difference (p-value):	104.8 (777)**	93.1 (338)** -11.7 (0.004)**	124.1 (191)** 19.3 (<0.001)**	123.0 (182)** 18.2 (0.002)**	<0.001**
Creatine Kinase ^b (U/L)	10	0.114	Adj. Mean (n): Difference (p-value):	151.6 (779)**	149.5 (341)** -2.1 (0.659)**	149.2 (193)** -2.4 (0.680)**	157.3 (186)** 5.7 (0.363)**	0.683**

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
Systolic Blood Pressure (mm Hg)	12	0.120	Adj. Mean (n): Difference (p-value):	128.43 (662)***	127.81 (301)*** -0.62 (0.592)***	128.44 (173)*** 0.01 (0.996)***	130.46 (149)*** 2.02 (0.189)***	0.491***
Systolic Blood Pressure ^g (mm Hg)	12	0.060	Adj. Mean (n): Difference (p-value):	128.94 (667)**	126.89 (303)** -2.06 (0.088)**	129.25 (174)** 0.30 (0.837)**	132.61 (150)** 3.67 (0.019)**	0.012**
Diastolic Blood Pressure (mm Hg)	12	0.089	Adj. Mean (n): Difference (p-value):	74.54 (659)***	74.36 (297)*** -0.19 (0.772)***	76.22 (170)*** 1.68 (0.032)***	75.96 (143)*** 1.42 (0.098)***	0.062***
Diastolic Blood Pressure ^g (mm Hg)	12	0.045	Adj. Mean (n): Difference (p-value):	74.64 (664)**	73.81 (298)** -0.83 (0.199)**	76.49 (171)** 1.85 (0.020)**	76.71 (144)** 2.06 (0.017)**	0.002**
Red Blood Cell Count (million/mm ³)	13	0.050	Adj. Mean (n): Difference (p-value):	5.031 (783)	4.994 (345) -0.036 (0.128)	5.025 (195) -0.006 (0.842)	5.038 (187) 0.007 (0.816)	0.440
White Blood Cell Count ^b (thousand/mm ³)	13	0.312	Adj. Mean (n): Difference (p-value):	6.591 (783)	6.536 (345) -0.055 (0.590)	6.771 (195) 0.180 (0.159)	6.983 (187) 0.392 (0.004)	0.010
Hemoglobin (gm/dl)	13	0.100	Adj. Mean (n): Difference (p-value):	15.467 (783)	15.451 (345) -0.016 (0.808)	15.525 (195) 0.058 (0.464)	15.548 (187) 0.081 (0.320)	0.643
Hematocrit (percent)	13	0.106	Adj. Mean (n): Difference (p-value):	44.965 (783)**	44.792 (345)** -0.173 (0.355)**	45.001 (195)** 0.035 (0.878)**	45.153 (187)** 0.188 (0.428)**	0.573**
Mean Corpuscular Volume (cubic micra)	13	0.120	Adj. Mean (n): Difference (p-value):	89.621 (783)	89.966 (345) 0.345 (0.242)	89.814 (195) 0.194 (0.595)	89.898 (187) 0.277 (0.460)	0.653

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
Mean Corpuscular Hemoglobin (micromicrogram)	13	0.111	Adj. Mean (n): Difference (p-value):	30.871 (783)	31.055 (345) 0.184 (0.090)	31.024 (195) 0.153 (0.253)	30.965 (187) 0.094 (0.496)	0.325
Mean Corpuscular Hemoglobin Concentration (gm/dl)	13	0.059	Adj. Mean (n): Difference (p-value):	34.401 (783)	34.484 (345) 0.083 (0.016)	34.497 (195) 0.095 (0.024)	34.416 (187) 0.015 (0.727)	0.029
Platelet Count (thousand/mm ³)	13	0.028	Adj. Mean (n): Difference (p-value):	259.40 (783)**	262.07 (345)** 2.67 (0.461)**	265.00 (195)** 5.60 (0.210)	268.16 (187)** 8.76 (0.057)**	0.217**
Prothrombin Time ^b (seconds)	13	0.050	Adj. Mean (n): Difference (p-value):	**** (785)	**** (345) ****	**** (195) ****	**** (186) ****	****
Blood Urea Nitrogen ^d (mg/dl)	14	0.040	Adj. Mean (n): Difference (p-value):	13.9 (784)	13.7 (344) -0.2 (0.444)	13.5 (194) -0.4 (0.138)	13.8 (187) -0.1 (0.821)	0.495
Urine Specific Gravity	14	0.010	Adj. Mean (n): Difference (p-value):	1.0206 (786)	1.0204 (345) -0.0003 (0.479)	1.0207 (196) 0.00004 (0.934)	1.0209 (187) 0.0003 (0.608)	0.797
T ₃ % Uptake ^b	15	0.020	Adj. Mean (n): Difference (p-value):	30.65 (772)***	30.67 (338)*** 0.02 (0.895)***	30.36 (194)*** -0.29 (0.130)***	29.99 (181)*** -0.66 (0.001)***	0.005***
TSH ^b (μIU/ml)	15	0.042	Adj. Mean (n): Difference (p-value):	0.920 (618)	0.948 (265) 0.028 (0.362)	0.978 (151) 0.058 (0.135)	1.026 (154) 0.106 (0.010)	0.053
FSH ^b (mIU/ml)	15	0.088	Adj. Mean (n): Difference (p-value):	7.50 (786)	7.73 (345) 0.23 (0.507)	7.75 (196) 0.25 (0.549)	8.08 (187) 0.58 (0.187)	0.583

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
Testosterone ^c (ng/dl)	15	0.203	Adj. Mean (n): Difference (p-value):	519.0 (785)	531.4 (343) 12.4 (0.180)	521.6 (193) 2.6 (0.821)	505.1 (187) -13.9 (0.230)	0.248
Testosterone ^{d,i} (ng/dl)	15	0.096	Adj. Mean (n): Difference (p-value):	514.0 (785)	545.9 (343) 31.9 (0.001)	513.3 (193) -0.7 (0.953)	462.9 (187) -31.1 (0.010)	<0.001
Fasting Glucose ^b (mg/dl)	15	0.101	Adj. Mean (n): Difference (p-value):	101.3 (777)***	99.9 (338)*** -1.4 (0.151)***	102.7 (191)*** 1.4 (0.250)***	108.9 (182)*** 7.6 (<0.001)***	<0.001***
2-Hour Postprandial Glucose ^b (mg/dl)	15	0.107	Adj. Mean (n): Difference (p-value):	110.9 (705)	109.5 (314) -1.4 (0.471)	109.3 (175) -1.6 (0.507)	113.1 (160) 2.2 (0.380)	0.557
2-Hour Postprandial Glucose ^{b,i} (mg/dl)	15	0.038	Adj. Mean (n): Difference (p-value):	111.1 (705)	107.0 (314) -4.1 (0.035)	110.1 (175) -1.0 (0.676)	116.5 (160) 5.4 (0.041)	0.010
CD2 Cells ^b (cells/mm ³)	16	0.106	Adj. Mean (n): Difference (p-value):	1,687.0 (306)**	1,645.5 (130)** -41.5 (0.470)**	1,709.3 (73)** 22.3 (0.759)**	1,704.9 (76)** 17.9 (0.805)**	0.825**
CD4 Cells ^b (cells/mm ³)	16	0.095	Adj. Mean (n): Difference (p-value):	907.1 (301)	866.5 (127) -40.6 (0.259)	945.4 (72) 38.3 (0.409)	929.0 (72) 21.9 (0.637)	0.406
CD8 Cells ^b (cells/mm ³)	16	0.037	Adj. Mean (n): Difference (p-value):	473.1 (301)	485.2 (126) 12.1 (0.614)	465.3 (71) -7.8 (0.790)	475.5 (73) 2.4 (0.934)	0.937
CD20 Cells ^b (cells/mm ³)	16	0.344	Adj. Mean (n): Difference (p-value):	172.4 (301)**	176.5 (127)** 4.1 (0.670)**	183.2 (71)** 10.8 (0.377)**	190.8 (73)** 18.4 (0.148)**	0.485**

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
CD14 Cells ^b (cells/mm ³)	16	0.423	Adj. Mean (n): Difference (p-value):	29.3 (301)	28.4 (127) -0.9 (0.705)	27.9 (73) -1.4 (0.612)	27.4 (74) -1.9 (0.504)	0.896
CD25 Cells ^b (cells/mm ³)	16	0.546	Adj. Mean (n): Difference (p-value):	10.9 (214)	13.0 (90) 2.1 (0.203)	10.6 (51) -0.3 (0.839)	11.5 (57) 0.6 (0.761)	0.603
HLA-DR Cells ^b (cells/mm ³)	16	0.444	Adj. Mean (n): Difference (p-value):	**** (300)	**** (127) ****	**** (73) ****	**** (74) ****	****
CD4/CD8 Ratio ^b	16	0.320	Adj. Mean (n): Difference (p-value):	1.89 (301)	1.72 (126) -0.17 (0.088)	1.91 (72) 0.02 (0.893)	1.99 (72) 0.10 (0.477)	0.214
TLC ^b (cpm)	16	0.124	Adj. Mean (n): Difference (p-value):	**** (300)	**** (127) ****	**** (72) ****	**** (74) ****	****
Unstimulated PHA Response ^b (cpm)	16	0.565	Adj. Mean (n): Difference (p-value):	2,144 (296)	2,137 (123) -7 (0.951)	2,284 (70) 140 (0.304)	2,168 (73) 24 (0.860)	0.765
PHA Net Response (cpm)16 (Concentration 1)	0.685	Adj. Mean (n): Difference (p-value):	125,477 (297)	130,104 (121) 4,627 (0.358)	130,318 (71) 4,842 (0.423)	127,162 (72) 1,686 (0.787)	0.745	
PHA Net Response (cpm)16 (Concentration 2)	0.707	Adj. Mean (n): Difference (p-value):	165,397 (297)	162,332 (121) -3,065 (0.544)	170,936 (71) 5,539 (0.362)	175,692 (72) 10,295 (0.100)	0.216	
PHA Net Response (cpm)16 (Concentration 3)	0.627	Adj. Mean (n): Difference (p-value):	**** (296)	**** (121) ****	**** (70) ****	**** (72) ****	****	

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
PHA Net Response (cpm) (Across Day and Concentration)	16	0.712	Adj. Mean (n): Difference (p-value):	146,409 (297)	146,610 (121) 201 (0.963)	153,318 (71) 6,909 (0.183)	152,015 (72) 5,606 (0.294)	0.457
Maximum PHA Net Response (cpm)	16	0.730	Adj. Mean (n): Difference (p-value):	199,500 (297)	195,650 (121) -3,850 (0.465)	201,223 (71) 1,723 (0.786)	210,652 (72) 11,152 (0.088)	0.221
Unstimulated MLC Response ^b (cpm)	16	0.503	Adj. Mean (n): Difference (p-value):	3,862 (293)	4,160 (124) 298 (0.376)	4,420 (71) 558 (0.179)	4,797 (71) 935 (0.038)	0.160
MLC Net Response (cpm)	16	0.572	Adj. Mean (n): Difference (p-value):	95,904 (294)	97,140 (124) 1,236 (0.790)	100,908 (71) 5,004 (0.371)	90,642 (71) -5,263 (0.361)	0.528
NKCA 50/1 Net Response (cpm)	16	0.377	Adj. Mean (n): Difference (p-value):	414.2 (291)	425.2 (126) 11.0 (0.604)	377.8 (70) -36.4 (0.167)	386.3 (72) -27.9 (0.297)	0.299
NKCA 50/1 Percent Release	16	0.049	Adj. Mean (n): Difference (p-value):	35.2 (291)	36.6 (126) 1.4 (0.364)	32.2 (70) -3.0 (0.132)	33.7 (72) -1.5 (0.447)	0.202
NKCI 50/1 Net Response (cpm)	16	0.845	Adj. Mean (n): Difference (p-value):	**** (298)	**** (123) ****	**** (71) ****	**** (74) ****	****
NKCI 50/1 Percent Release	16	0.575	Adj. Mean (n): Difference (p-value):	61.9 (298)**	61.5 (123)** -0.4 (0.679)**	62.3 (71)** 0.4 (0.758)**	61.1 (74)** -0.9 (0.488)**	0.845**
IgA ^b (mg/dl)	16	0.021	Adj. Mean (n): Difference (p-value):	219.4 (759)	202.1 (336) -17.3 (0.003)	219.3 (190) -0.1 (0.982)	227.8 (178) 8.4 (0.292)	0.007

TABLE Q-12. (Continued)

**Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category**

Clinical Parameter (Units)	Reference Chapter	R ²	Statistic ^a	Current Dioxin Category				Overall p-Value
				Background	Unknown	Low	High	
IgG ^b (mg/dl)	16	0.082	Adj. Mean (n): Difference (p-value):	1,120.3 (757)	1,087.1 (335) -33.2 (0.028)	1,122.4 (190) 2.1 (0.915)	1,122.1 (175) 1.8 (0.927)	0.132
IgM ^b (mg/dl)	16	0.021	Adj. Mean (n): Difference (p-value):	103.0 (757)	106.6 (335) 3.6 (0.266)	96.3 (190) -6.7 (0.078)	105.9 (175) 2.9 (0.477)	0.099
FVC (% of predicted)	17	0.118	Adj. Mean (n): Difference (p-value):	91.7 (786)**	93.2 (344)** 1.6 (0.054)**	90.4 (196)** -1.3 (0.194)**	87.4 (187)** -4.3 (<0.001)**	<0.001**
FEV ₁ (% of predicted)	17	0.168	Adj. Mean (n): Difference (p-value):	93.5 (786)**	94.1(344)** 0.6 (0.535)**	91.9 (196)** -1.6 (0.160)**	91.3 (187)** -2.2 (0.060)**	0.091**
FEFmax (% of predicted)	17	0.088	Adj. Mean (n): Difference (p-value):	137.6 (786)	139.7 (344) 2.1 (0.154)	134.6 (196) -3.0 (0.100)	134.5 (187) -3.0 (0.106)	0.026
Ratio of Observed FEV ₁ to Observed FVC ^c	17	0.178	Adj. Mean (n): Difference (p-value):	0.824 (786)	0.817 (344) -0.007 (0.042)	0.822 (196) -0.002 (0.623)	0.841 (187) 0.017 (<0.001)	<0.001

^aDifferences are relative to background adjusted mean.

^bAdjusted means transformed from natural logarithm scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of adjusted means on natural logarithm scale.

^cAdjusted means transformed from natural logarithm (X + 1.0) scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of adjusted means on natural logarithm (X + 1.0) scale.

^dAdjusted means transformed from square root scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of adjusted means on square root scale.

TABLE Q-12. (Continued)

Summary of Adjusted Results for Continuous Variables
Model 3: Ranch Hands and Comparisons by Current Dioxin Category

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- ^eAdjusted means transformed from square scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of adjusted means on square scale.
- ^fAdjusted means transformed from natural logarithm (X + 0.1) scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of adjusted means on natural logarithm (X + 0.1) scale.
- ^gAnalysis performed on model excluding percent body fat and cholesterol.
- ^hAdjusted means transformed from natural logarithm (X - 0.4) scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of adjusted means on natural logarithm (TSH - 0.4) scale.
- ⁱAnalysis performed on model excluding percent body fat.
- ^jAdjusted means transformed from natural logarithm (1 - X) scale; difference of adjusted means calculated after transformation to original scale; p-value based on difference of means on natural logarithm (1 - X) scale.
- **Categorized current dioxin-by-covariate interaction ($0.01 < p \leq 0.05$); adjusted mean, difference of adjusted means, and p-value derived from a model fitted after deletion of this interaction.
- ***Categorized current dioxin-by-covariate interaction ($p \leq 0.01$); adjusted mean, difference of adjusted means, and p-value derived from a model fitted after deletion of this interaction.
- ****Categorized current dioxin-by-covariate interaction ($p \leq 0.01$); adjusted mean, difference of adjusted means, and p-value not presented.
- Note: Background (Comparisons): Current Dioxin ≤ 10 ppt.
 Unknown (Ranch Hands): Current Dioxin ≤ 10 ppt.
 Low (Ranch Hands): $15 \text{ ppt} < \text{Current Dioxin} \leq 33.3 \text{ ppt}$.
 High (Ranch Hands): Current Dioxin $> 33.3 \text{ ppt}$.

TABLE Q-13.

Summary of Adjusted Results for Dichotomous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	<u>Minimal Assumption</u>		<u>Maximal Assumption</u>	
		Adj. Relative Risk (95% C.I.)	p-Value	Adj. Relative Risk (95% C.I.)	p-Value
Self-Perception of Health	6	1.14 (0.87,1.49)**	0.360**	1.23 (1.00,1.52)**	0.056**
Appearance of Illness or Distress by Physician	6	1.36 (0.60,3.09)	0.478	1.61 (0.81,3.21)	0.195
Relative Age	6	1.08 (0.77,1.51)	0.660	1.05 (0.82,1.34)	0.697
Percent Body Fat	6	1.25 (1.05,1.47)	0.010	1.37 (1.20,1.55)	<0.001
Sedimentation Rate	6	1.22 (0.95,1.58)	0.134	1.33 (1.08,1.63)	0.008
All Skin Neoplasms	7	0.77 (0.61,0.97)	0.021	0.92 (0.78,1.08)	0.278
Malignant Skin Neoplasms	7	0.82 (0.60,1.13)**	0.212**	0.88 (0.71,1.11)	0.276
Benign Skin Neoplasms (Non-Blacks Only)	7	0.93 (0.70,1.25)	0.635	0.97 (0.79,1.20)	0.771
Benign Skin Neoplasms (Blacks Included)	7	0.93 (0.70,1.24)	0.609	0.97 (0.79,1.20)	0.773
Skin Neoplasms of Uncertain Behavior or Unspecified Nature	7	--	--	--	--
Basal Cell Carcinoma	7	0.85 (0.60,1.18)	0.317	0.92 (0.72,1.16)	0.449
Ear, Face, Head, and Neck	7	0.59 (0.36,0.98)	0.025	0.77 (0.56,1.05)	0.087
Trunk	7	1.01 (0.62,1.67)	0.954	1.08 (0.75,1.57)	0.684
Upper Extremities	7	--	--	0.62 (0.24,1.58)	0.264
Lower Extremities	7	--	--	--	--
Other Sites	7	1.34 (0.64,2.81)	0.458	1.62 (0.87,3.01)	0.143
Sun Exposure-Related	7	0.82 (0.59,1.13)**	0.212**	0.87 (0.69,1.10)	0.235
Malignant Skin Neoplasms					
Ear, Face, Head, and Neck	7	0.65 (0.41,1.03)	0.047	0.83 (0.61,1.11)	0.197
Trunk	7	0.81 (0.48,1.34)	0.389	0.99 (0.69,1.43)	0.967
Upper Extremities	7	--	--	0.95 (0.49,1.86)	0.889
Lower Extremities	7	--	--	--	--
Other Sites	7	1.34 (0.64,2.81)	0.458	1.62 (0.87,3.01)	0.143
Melanoma	7	--	--	--	--
Ear, Face, Head, and Neck	7	--	--	--	--
Trunk	7	--	--	--	--
Upper Extremities	7	--	--	--	--
Lower Extremities	7	--	--	--	--
Other Sites	7	--	--	--	--
Squamous Cell Carcinoma	7	0.92 (0.34,2.48)	0.860	1.26 (0.59,2.72)	0.560
Basal Cell Carcinoma by Occupation					
Officer-Ear, Face, Head, and Neck vs. None	7	1.31 (0.27,6.47)	0.740	1.25 (0.56,2.81)	0.581
Officer-Other Sites vs. None	7	--	--	0.85 (0.26,2.76)	0.783
Enlisted Flyer-Ear, Face, Head, and Neck vs. None	7	0.62 (0.19,2.01)	0.426	0.52 (0.23,1.16)	0.112
Enlisted Flyer-Other Sites vs. None	7	1.97 (0.86,4.49)	0.108	2.22 (1.04,4.74)	0.039

TABLE Q-13. (Continued)

Summary of Adjusted Results for Dichotomous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	<u>Minimal Assumption</u>		<u>Maximal Assumption</u>	
		Adj. Relative Risk (95% C.I.)	p-Value	Adj. Relative Risk (95% C.I.)	p-Value
Enlisted Groundcrew-Ear, Face, Head, and Neck vs. None	7	0.43 (0.21,0.88)	0.021	0.67 (0.41,1.09)	0.104
Enlisted Groundcrew-Other Sites vs. None	7	0.56 (0.25,1.29)	0.175	0.83 (0.49,1.42)	0.498
<u>Sun Exposure-Related Malignant Skin Neoplasms by Occupation</u>					
Officer-Ear, Face, Head, and Neck vs. None	7	0.82 (0.16,4.26)	0.813	1.20 (0.56,2.57)	0.631
Officer-Other Sites vs. None	7	0.65 (0.05,9.10)	0.746	0.89 (0.32,2.52)	0.830
Enlisted Flyer-Ear, Face, Head, and Neck vs. None	7	0.61 (0.21,1.77)	0.364	0.54 (0.26,1.13)	0.101
Enlisted Flyer-Other Sites vs. None	7	1.89 (0.83,4.30)	0.128	2.14 (1.00,4.54)	0.049
Enlisted Groundcrew-Ear, Face, Head, and Neck vs. None	7	0.56 (0.30,1.03)	0.063	0.77 (0.49,1.22)	0.265
Enlisted Groundcrew-Other Sites vs. None	7	0.56 (0.28,1.13)	0.104	0.83 (0.49,1.41)	0.485
Basal Cell Carcinoma (One vs. None)	7	0.84 (0.59,1.20)	0.321	0.94 (0.73,1.21)	0.629
Basal Cell Carcinoma (Multiple vs. None)	7	0.59 (0.28,1.26)	0.127	0.80 (0.49,1.28)	0.324
All Systemic Neoplasms	7	1.22 (0.96,1.55)	0.109	1.32 (1.09,1.61)	0.006
Malignant Systemic Neoplasms	7	0.63 (0.32,1.25)	0.144	0.96 (0.63,1.48)	0.859
Benign Systemic Neoplasms	7	1.40 (1.07,1.81)	0.015	1.49 (1.20,1.84)	<0.001
Systemic Neoplasms of Uncertain Behavior or Unspecified Nature	7	0.97 (0.33,2.81)	0.947	1.33 (0.61,2.93)	0.498
<u>Systemic Neoplasms: Location/Site</u>					
Ear, Face, Head, and Neck	7	--	--	--	--
Oral Cavity, Pharynx, and Larynx	7	--	--	--	--
Brain	7	--	--	--	--
Thymus and Mediastinum	7	--	--	--	--
Thyroid Gland	7	--	--	--	--
Bronchus and Lung	7	--	--	--	--
Colon and Rectum	7	--	--	--	--
Kidney and Bladder	7	0.75 (0.26,2.21)	0.583	0.86 (0.43,1.73)	0.673
Prostate	7	--	--	--	--
Testicles	7	0.59 (0.17,2.09)	0.363	1.00 (0.44,2.30)	0.999
Ill-Defined Sites	7	--	--	--	--
Carcinoma in Situ of Penis	7	--	--	--	--

TABLE Q-13. (Continued)

Summary of Adjusted Results for Dichotomous Variables
Model 1: Ranch Hands - Log₂ (Initial Dioxin)

Clinical Parameter	Reference Chapter	Minimal Assumption		Maximal Assumption	
		Adj. Relative Risk (95% C.I.)	p-Value	Adj. Relative Risk (95% C.I.)	p-Value
Carcinoma in Situ of Other and Unspecified Sites	7	--	--	--	--
Hodgkin's Disease	7	--	--	--	--
Leukemia	7	--	--	--	--
Other Malignant Neoplasms of Lymphoid and Histiocytic Tissue	7	--	--	--	--
All Skin and Systemic Neoplasms	7	0.98 (0.82,1.18)	0.851	1.08 (0.94,1.23)	0.285
Inflammatory Diseases	8	--	--	--	--
Hereditary and Degenerative Diseases	8	0.91 (0.62,1.33)	0.614	0.96 (0.73,1.27)	0.781
Peripheral Disorders	8	1.04 (0.85,1.28)	0.703	1.05 (0.90,1.22)	0.564
Disorders of the Eye	8	1.07 (0.89,1.29)	0.486	1.07 (0.93,1.23)	0.365
Tympanic Membrane Disorder	8	0.99 (0.72,1.37)	0.950	1.06 (0.84,1.35)	0.618
Otitis	8	1.13 (0.89,1.43)	0.331	0.93 (0.78,1.12)	0.451
Hearing Loss	8	1.16 (0.97,1.39)	0.100	1.08 (0.95,1.22)	0.257
Other Neurological Disorders	8	1.20 (1.01,1.43)	0.037	1.35 (1.18,1.54)	<0.001
Other Neurological Disorders ^a	8	0.97 (0.80,1.17)	0.740	1.04 (0.80,1.21)	0.567
Smell	8	0.67 (0.22,2.00)	0.432	0.93 (0.45,1.89)	0.830
Visual Fields	8	--	--	--	--
Light Reaction	8	1.42 (0.61,3.29)	0.435	0.99 (0.54,1.82)	0.990
Ocular Movement	8	1.01 (0.38,2.68)	0.988	1.00 (0.49,2.07)	0.988
Facial Sensation	8	0.77 (0.26,2.25)	0.619	1.12 (0.51,2.44)	0.776
Smile	8	1.88 (0.88,4.02)	0.124	1.18 (0.65,2.15)	0.588
Palpebral Fissure	8	1.22 (0.71,2.08)	0.483	1.12 (0.74,1.71)	0.598
Balance	8	--	--	--	--
Speech	8	--	--	--	--
Neck Range of Motion	8	1.24 (0.97,1.59)***	0.087***	1.05 (0.87,1.27)***	0.597***
Cranial Nerve Index	8	1.21 (0.97,1.50)	0.090	1.05 (0.89,1.23)**	0.591**
Cranial Nerve Index Without Range of Motion	8	1.04 (0.73,1.48)	0.829	1.05 (0.81,1.37)	0.692
Pin Prick	8	1.07 (0.80,1.44)**	0.633**	1.10 (0.89,1.37)**	0.390**
Light Touch	8	1.01 (0.69,1.50)	0.951	0.99 (0.75,1.30)	0.938
Muscle Status	8	1.09 (0.65,1.83)	0.747	1.21 (0.80,1.83)	0.381
Vibration	8	0.87 (0.48,1.59)	0.644	1.11 (0.73,1.70)	0.619
Patellar Reflex	8	1.11 (0.67,1.85)	0.686	1.33 (0.89,2.00)	0.182
Achilles Reflex	8	0.94 (0.68,1.29)	0.698	1.17 (0.91,1.49)	0.224
Biceps Reflex	8	--	--	--	--
Babinski Reflex	8	--	--	--	--
Tremor	8	1.05 (0.66,1.66)	0.850	1.08 (0.77,1.51)	0.675
Coordination	8	1.35 (0.78,2.36)	0.296	1.48 (0.94,2.32)	0.101
Romberg Sign	8	--	--	--	--
Gait	8	1.24 (0.82,1.87)	0.323	1.30 (0.94,1.80)	0.123