

Attachment 6.4
Anniston Community Health Survey: Follow up Study and Dioxin Analyses
PCBs, Dioxins and other Chemicals Results Report

Dear Study Participant,

The following tables show what we measured in the blood sample you provided for the Anniston follow up study on *mm/dd/yyyy*.

The value for each chemical and the 50th and 95th percentile of the Fourth Report from the National Health and Nutrition Examination Survey (NHANES) 2003-2004 for the particular chemical are shown. The 95th percentile from NHANES is helpful for finding out whether your results are unusual.

The presence of chemical in a person's blood does not by itself mean that the chemical causes disease. For some chemicals, such as lead, we do know health risks associated with different blood levels. But for most chemicals, we need more research to assess health risks from different blood levels.

Some individuals will not have the measurements for all chemicals. You may not have a measurement for some chemical because your level is lower than the limit of detection. You may also not have a measurement due to the blood sample's failing one of the laboratory quality control procedures. If the reason for missing measurement is known, it will be included with your results.

If you have further questions about the meaning of these chemicals tests results, you may contact us by calling ATSDR at 770-488-_____. Also included below is a list of Websites and federal agencies where further information on these chemicals can be found.

Sincerely,

Study Investigators.

Where can I find more information?

Centers for Disease Control and Prevention (CDC) Resources:

National Health and Nutrition Examination Survey (NHANES) (<http://www.cdc.gov/nchs/nhanes.htm>)

Agency for Toxic Substances and Disease Registry (ATSDR)

Toxicological Profiles and ToxFAQs (<http://www.atsdr.cdc.gov/toxpro2.html>)

U.S. Environmental Protection Agency (EPA)

Integrated Risk-Information System (IRIS) (<http://www.epa.gov/iris>)

Table 1. Your test results for polychlorinated biphenyls (PCB)¹ (ng/g lipid).

IUPAC No.	Test Name	Your Result	NHANES Reference Range ² (Units) (ng/g lipid)
	<i>Polychlorinated biphenyls (PCBs)</i>		
PCB 28	2,4,4'-trichlorobiphenyl		4.98-11.1
PCB 44	2,2',3,5-tetrachlorobiphenyl		2.00-5.44
PCB 49	2,2',4,5'-tetrachlorobiphenyl		1.33-3.36
PCB 52	2,2',5,5'-tetrachlorobiphenyl		2.70-7.15
PCB 66	2,3',4,4'-tetrachlorobiphenyl		1.40-4.20
PCB 74	2,4,4',5-tetrachlorobiphenyl		5.00-24.1
PCB 87	3,4,4',5-tetrachlorobiphenyl		<LOD-13.1
PCB 99	2,2',3,4,5'-pentachlorobiphenyl		0.90-2.60
PCB 101	2,2',4,4',5-pentachlorobiphenyl		4.08-18.6
PCB 105	2,2',4,5,5'-pentachlorobiphenyl†		1.67-5.51
PCB 110	2,3,3',4,4'-pentachlorobiphenyl		1.15-6.82
PCB 118	2,3,3',4',6-pentachlorobiphenyl†		1.20-4.18
PCB 128	3,3',4,4',5-pentachlorobiphenyl		16.0-74.8
PCB 138-158	2,2',3,3',4,4'-hexachlorobiphenyl		<LOD-0.62
PCB 146	2,2',3,4,4',5'and 2,3,3',4,4',6-hexachlorobiphenyl		17.6-77.4
PCB 149	2,2',3,4',5,5'-hexachlorobiphenyl		2.60-12.7
PCB 151	2,2',3,4',5',6-hexachlorobiphenyl		0.60-1.89
PCB 153	2,2',3,5,5',6-hexachlorobiphenyl		<LOD-1.02
PCB 156	2,2',4,4',5,5'-hexachlorobiphenyl†		24.2-101
PCB 157	2,3,3',4,4',5-hexachlorobiphenyl †		4.10-16.8
PCB 167	2,3,3',4,4',5'-hexachlorobiphenyl †		0.98-3.97
PCB 170	3,3',4,4',5,5'-hexachlorobiphenyl		<LOD-43.2
PCB 172	2,2',3,3',4,4',5-heptachlorobiphenyl		7.83-29.5
PCB 177	2,2',3,3',4,5,5'-heptachlorobiphenyl		1.08-4.38
PCB 178	2,2',3,3',4',5,6-heptachlorobiphenyl		1.50-7.80
PCB 180	2,2',3,3',5,5',6-heptachlorobiphenyl		1.46-6.50
PCB 183	2,2',3,4,4',5,5'-heptachlorobiphenyl		21.5-88.0
PCB 187	2,2',3,4,4',5',6-heptachlorobiphenyl		1.88-8.40
PCB 189	2,2',3,4',5,5',6-heptachlorobiphenyl†		5.71-25.9
PCB 194	2,3,3',4,4',5,5'-heptachlorobiphenyl		<LOD-1.50
PCB 195	2,2',3,3',4,4',5,5'-octachlorobiphenyl		4.95-20.1
PCB 196-203	2,2',3,3',4,4',5,6-octachlorobiphenyl		1.10-4.68
PCB 199	2,2',3,3',4,4',5,6'and 2,2',3,4,4',5,5',6-octachlorobiphenyl		4.07-15.9
PCB 206	2,2',3,3',4,5,5',6'-octachlorobiphenyl		4.60-20.6
PCB 209	2,2',3,3',4,4',5,5',6'-nonachlorobiphenyl		2.80-14.2
PCB 28	2,2',3,3',4,4',5,5',6,6'-decachlorobiphenyl		1.40-12.3

¹ Dioxin-like coplanar PCB congeners results (PCBs 81, 126, and 169) are shown in Table 2.

² CDC. 2009. 2003-2004 NHANES 50th to 95th percentiles among adults 20+ years old from the Fourth National Report on Human Exposure to Environmental Chemicals (<http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf>).

<LOD - Below the limit of detection. † Mono-ortho substituted PCB congeners.

Table 2. Your test results for dioxins (PCDDs), dibenzofurans (PCDFs), coplanar PCBs, chlorinated pesticides and polybrominated diphenyl ethers (PBDEs).

Serial or IUPAC No.	Test Name	Your Test Result	NHANES Reference Range ¹ (Units)
<i>Polychlorinated dibenzo-p-dioxins (PCDDs)</i>			<i>(pg/g lipid)</i>
1	2,3,7,8-tetrachlorodibenzo- <i>p</i> -dioxin (TCDD)		<LOD-5.30
2	1,2,3,7,8-pentachlorodibenzo- <i>p</i> -dioxin (PeCDD)		<LOD-11.3
3	1,2,3,4,7,8-hexachlorodibenzo- <i>p</i> -dioxin (HxCDD)		<LOD-<LOD
4	1,2,3,6,7,8-hexachlorodibenzo- <i>p</i> -dioxin (HxCDD)		23.8-70.8
5	1,2,3,7,8,9-hexachlorodibenzo- <i>p</i> -dioxin (HxCDD)		<LOD-<LOD
6	1,2,3,4,6,7,8-heptachlorodibenzo- <i>p</i> -dioxin (HpCDD)		27.3-95.0
7	1,2,3,4,6,7,8,9-octachlorodibenzo- <i>p</i> -dioxin (OCDD)		223-794
<i>Polychlorinated dibenzo-p-furans (PCDFs)</i>			<i>(pg/g lipid)</i>
1	2,3,7,8-tetrachlorodibenzofuran (TCDF)		<LOD-<LOD
2	1,2,3,7,8-pentachlorodibenzofuran (PeCDF)		<LOD-<LOD
3	2,3,4,7,8-pentachlorodibenzofuran (PeCDF)		<LOD-13.0
4	1,2,3,4,7,8-hexachlorodibenzofuran (HxCDF)		<LOD-9.50
5	1,2,3,6,7,8-hexachlorodibenzofuran (HxCDF)		<LOD-9.00
6	2,3,4,6,7,8-hexachlorodibenzofuran (HxCDF)		<LOD-<LOD
7	1,2,3,7,8,9-hexachlorodibenzofuran (HxCDF)		<LOD-<LOD
8	1,2,3,4,6,7,8-heptachlorodibenzofuran (HpCDF)		<LOD-18.0
9	1,2,3,4,7,8,9-heptachlorodibenzofuran (HpCDF)		<LOD-<LOD
10	1,2,3,4,6,7,8,9-octachlorodibenzofuran (OCDF)		<LOD-<LOD
<i>Coplanar Polychlorinated Biphenyls (co-PCBs)</i>			<i>(pg/g lipid)</i>
PCB 81	2,4,4',5-tetrachlorobiphenyl		0.006-0.17
PCB 126	2,3',4,4',5-pentachlorobiphenyl †		5.56-34.3
PCB 169	2,3',4,4',5,5'-hexachlorobiphenyl †		0.86-4.30
<i>Chlorinated Pesticides</i>			<i>(ng/g lipid)</i>
1	Hexachlorobenzene (HCB)		15.1-29.0
2	β-Hexachlorocyclohexane (HCH)		<LOD-62.2
3	<i>p,p'</i> -Dichlorodiphenyltrichloroethane (DDT)		<LOD-20.7
4	<i>p,p'</i> -Dichlorodiphenyldichloroethene (DDE)		233-1,990
5	Oxychlorane		11.4-39.2
6	<i>trans</i> -Nonachlor		17.3-74.7
7	Heptachlor epoxide		<LOD-20.6
8	Mirex		<LOD-15.4
9	Dieldrin		<LOD-19.5
<i>Polybrominated diphenyl ethers (PBDEs)</i>			<i>(ng/g lipid)</i>
BDE 17	2,2',4-tribromodiphenyl ether		<LOD -<LOD
BDE 28	2,4,4'-tribromodiphenyl ether		1.10-8.20
BDE 47	2,2',4,4'-tetrabromodiphenyl ether		18.0-163
BDE 66	2,3',4,4'-tetrabromodiphenyl ether		<LOD-1.30
BDE 85	2,2',3,4,4'-pentabromodiphenyl ether		<LOD-4.10
BDE 99	2,2',4,4',5-pentabromodiphenyl ether		<LOD-41.6
BDE 100	2,2',4,4',6-pentabromodiphenyl ether		3.30-36.6
BDE 153	2,2',4,4',5,5'-hexabromodiphenyl ether		4.40-73.3
BDE 154	2,2',4,4',5,6'-hexabromodiphenyl ether		<LOD-4.20
BDE 183	2,2',3,4,4',5',6-heptabromodiphenyl ether		<LOD-<LOD

¹ CDC. 2009. 2003-2004 NHANES 50th to 95th percentiles among adults 20+ years old from the Fourth National Report on Human Exposure to Environmental Chemicals (<http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf>).
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