

# BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

---

PO Box 88 Glendale Springs, North Carolina 28629    www.BREDL.org    Phone: 336-982-2691    Fax: 336-982-2954    Email: BREDL@skybest.com

## CULLASAJA-BETHEL COMMUNITY HEALTH SURVEY REPORT

August 13, 2001

Louis Zeller, Principal Field Investigator

The Blue Ridge Environmental Defense League initiated this survey in response to health concerns of residents in the mountain community of Bethel in Macon County in western North Carolina. Bethel is a mixed residential/agricultural community in the Cullasaja River Valley, elevation 2200 feet above sea level. The Bethel-Cullasaja community is the site of an asphalt plant permitted to produce 180 tons/hour and 100,000 tons/year of paving asphalt.

On October 14, 1998 the NC Division of Air Quality issued an air pollution permit to Rhodes Brothers Paving. Three weeks later BREDL community organizers attended the first community meeting called by residents of the Bethel community in a small church on the Cullasaja River. Citizens formed Neighbors Against the Cullasaja Asphalt Plant (NACAP), a chapter of the Blue Ridge Environmental Defense League.

On May 4, 1999 the asphalt plant commenced operations. Residents were driven from their homes by the smoke and odor. One 90 year old woman who lived nearby is reported to have confronted the asphalt plant operator on his property and said that she would not leave unless the plant shut down. Secretary McDevitt of NCDENR ordered the plant to close and called for an investigation. On May 26 the NC Division of Epidemiology sent Dr. Luanne Williams to meet with the residents and visit the plant site. Dr. Williams said that, based on the data provided to the state by the asphalt company, the emissions were within state limits.

After a brief period, the plant resumed operation. Since then, the plant has continued to be operated by Rhodes Brothers Paving.

After two seasons of operation, we began to work with NACAP to develop a health survey to determine what effects the plant operation has had on the community. Working with Dr. William Horn, we developed a 4-page survey instrument based on an example provided by the Center for Health and Environmental Justice. The survey is carried out by a door-to-door interview method. Occasionally, survey forms are left with residents for completion by them and returned by mail.

As of this date our survey includes completed interviews with 22 residents of the Bethel-Cullasaja community. Thus far, all the interviewees live within a half mile of the Rhodes Brothers asphalt plant which is on Highlands Road, US highway 64. These data will be analyzed thoroughly by qualified physicians. Although the survey is still underway, we are already getting significant results. Nearly half of the respondents to the survey report changes in their health

## CULLASAJA-BETHEL COMMUNITY HEALTH SURVEY REPORT August 13, 2001

since commencement of asphalt operations on May 4, 1999.

Ten of those surveyed (45%) responded yes to question 6-B which asks, “Since May 1999 have you noticed a change in your health?” The most frequent symptoms named included high blood pressure (4 respondents), sinus problems (4 respondents), headaches (3 respondents), and shortness of breath (2 respondents). Other symptoms which developed since May 1999 include onset of weight gain (1 respondent) and episodes of dizziness (1 respondent). The survey respondents’ male-female ratio is 48:52. The age range is from 5 to 77 years old and the average is 47.8 years. Eighteen of the respondents (82%) have lived at their present domicile since May 1999. Ten of the respondents (45%) report some tobacco use during their lives, 27% use tobacco now. Nine respondents (41%) reported occasional to moderate use of alcoholic beverages. (See Table A attached)

The following are detailed survey responses from survey subjects who answered in the affirmative to question 6-B: ***“Since May 1999 have you noticed a change in your health? If yes, please describe what has changed.”***

◆ID#2 Twenty-seven year old white female reported a history of “migraine headaches” which are not under the treatment of a physician. Since the plant opened she reported “headaches in the morning when the plant starts” which differed from her other headaches in duration. She said, “They actually go away.”

◆ID#8 Thirty year old white male said he was currently suffering from sinus pressure and headaches which he treats with over the counter medications. He reported that his sinus began to “act up” more since he moved here in June 2000. He reported that he was admitted to the hospital with chest pain for overnight observation in June 2000. He was released without a diagnosis. Family history of allergy/asthma, otherwise unremarkable.

◆ID#10 Sixty-six year old white female currently under treatment for arthritis said that since summer 2000 her knees and ankles began swelling. She suffers from bronchitis and emphysema; has smoked cigarettes for 48 years, now 3 packs/day.

◆ID#13 Fifty-three year old white male reported a previous history of sinus infections once a year and seasonal congestion in winter. Since 1999 he reports that his sinus infections occur twice a year and last longer, causing him to miss work (school maintenance employee). He says he often smells asphalt early in the morning even in January and February when the plant is not in operation.

◆ID#14 Fifty-one year old white female under treatment for high blood pressure, joint pains, fatigue. She has a prescription for anti-depressants. No tobacco or alcohol use. Since May 1999 she reports the following changes: “shortness of breath, smoke bothers me, diesel smells, I’m really sensitive to any smells including asphalt. I have to hold my breath when I’m around it.” She complained of plant noise saying, “It’s so loud our windows rattle.” Her home is about 1200 feet from the asphalt plant.

**CULLASAJA-BETHEL COMMUNITY HEALTH SURVEY REPORT August 13, 2001**

◆ID#15 Forty year old white female in generally good health says that since May 1999 she has begun to suffer sinus headaches which make her feel like her “head is stopped up.” Sees now sees a doctor for her high blood pressure, and has been on medicine for one year. She has reports no family history for hypertension or heart disease. She added that there is “black stuff on the porch when the plant is running,” and that the noise from the plant sounds like a “jet take off.” Her home is one quarter mile from the asphalt plant.

◆ID#17 Sixty-four year old white female reports history of “low blood pressure.” Since summer 2000 she said her blood pressure is higher but still within normal range. Since the plant opened she has suffered from dizziness and “difficult breathing” spells which last for several hours during which she feels like there is “a cement block on my chest.” No tobacco use, moderate alcohol. Her family history includes heart trouble, kidney/bladder trouble, and high blood pressure.

◆ID#18 Fifty-eight year old white male reports onset of high blood pressure and weight gain of 20 pounds since May 1999. Former smoker, 2 pack/day for 36 years. Now taking prescription for hypertension. He says that when the plant operates it “vibrates the house” and “things move on the shelves.” His home is about one hundred yards from the asphalt plant.

◆ID# 20 Seventy-seven year old white male with history of rectal cancer surgery in 1988 and bleeding ulcers in 1979, reports he is now in “pretty good” health. He reports that since 1999 he has had a sinus problem which he says, “drains in my throat.” He complained of noise, dust in the house, and strong odor in his yard from the plant which is about 700 feet from his home.

◆ID#21 Seventy-nine year old white female under treatment for hypertension says that since May 1999 her blood pressure is “irregular, too high.” Also notes “eye problems, glaucoma, retina problem, arthritis.

Our survey was designed to elicit data on health problems within a radius of three miles of the Rhodes Brothers Paving. Residents who live three miles from the plant report asphalt odors at that distance. We plan to correlate these data to the resident’s distance from the plant. We estimate that there are 450 households within three miles.

We plan to perform computer modeling to determine ambient levels of toxins such as benzene and formaldehyde at each household in the survey. We are able to run the EPA-approved SCREEN3 software which is the standard model used by the NC Division of Air Quality’s permitting division. We will correlate these data to determine possible cause and effect. The survey is ongoing.

**CULLASAJA-BETHEL COMMUNITY HEALTH SURVEY REPORT August 13, 2001**

Table A.

ID #	M/F	Age	Distance	Reside	Tobacco	ETOH	5/99	notes
1	M	31	754	5y	N	N	N	
2	F	27	754	5y	N	N	Y	headaches
3	F	5	754	5y	N	N	N	
4	M	49	2338	49y	1ppd 20y Q	N	N	
25	F	49	2338	28y	N	N	N	
5	M	23	2489	5m	2/wk 6y	5/wk	N	
6	M	29	1056	3m	N	2/wk	N	
7								
8	M	30	1961	8m	N	0cc	Y	sinus pressure, H/A
9	M	69	2037	49y	1cigar/wk	N	N	
10	F	66	2037	49y	3ppd 48y	N	Y	knees/ankles swelling
11	M	55	2112	8y	N	1/d	N	
12	F	32	1886	2.5y	N	N	N	
13	M	53	1207	31y	4cigar/wk	N	Y	more freq.sinus infections, last longer
14	F	51	1207	31y	N	N		short-of-breath
15	F	40	1358	8y	1ppd 4y Q	occ	Y	high B/P, sinus H/A worse
16								
17	F	64	337	10y	N	1/d	Y	dizziness, B/P
18	M	58	337	18y	2ppd 36y Q	2/d	Y	high B/P, +20lbs, sob
19	M	54	905	22y	2ppd 20y Q	2/wk	N	
20	M	77	679	20y	1ppd 8y Q	N	Y	sinus drainage, dust in home
21	F	79	679	20y	N	occ	Y	high B/P, glaucoma,arthritis
22	F	36	754	15m	1ppd 16y	N	N	
23								
24	F	75	528	44y	chews 70y	N	N	

Distance is recorded in number of feet from the asphalt plant location

Reside = Time living at current residence

Tobacco = Smoking history, ppd = packs/day of cigarettes, number = years subject smoked,  
Q = quit smoking and not smoking now

ETOH = use of alcoholic beverages per day, week, or occasionally

5/99 = Response to survey question 6-B,