Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

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Title: Vegetable Oil Production (Meal Processing) Emission Test Report, Cargill Incorporated, Fayetteville, North Carolina

PEDCo Environmental Inc.

PEDCo Environmental Inc.

July 1979

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EMB Report 79-VEG-6h
October 1979

Air

1767

EPA

Vegetable Oil Production (Meal Processing)

AP-42 Section 9.11.1
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Report Sect.
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Emission Test Report Cargill, Incorporated Fayetteville, NC

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Vegetable Oil Production (Meal Processing)

Emission Test Report Cargill, Incorporated Fayetteville, NC

PEDCo ENVIRONMENTAL, INC.
11499 CHESTER ROAD
CINCINNATI, OHIO 45246
(513) 782-4700
TELEX (513) 782-4807

DRAFT

VEGETABLE OIL EXTRACTION PLANT MEAL SAMPLING AND OPACITY TEST CARGILL, INC. FAYETTEVILLE, NORTH CAROLINA

JULY 12 AND 13, 1979

Prepared by:

PEDCo Environmental, Inc.
11499 Chester Road
Cincinnati, Ohio 45246

79-VEG-6H
Contract No. 68-02-2811
Task No. 19

PN 3333-S

Project Technical Manager: Nancy McLaughlin

U.S. Environmental Protection Agency
Emission Measurement Branch

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SECTION 1

INTRODUCTION

As part of the program to gather emissions data from vegetable oil extraction plants, on July 12 and 13, 1979, personnel from PEDCo Environmental, Inc., and the Research Triangle Institute conducted a survey at the Cargill, Inc. vegetable oil extraction plant in Fayetteville, North Carolina. The purpose of this visit was to collect meal samples (to be analyzed for hexane content), monitor processing conditions, and to check selected stacks for visible emissions. Meal samples and stack opacity readings were taken by personnel from PEDCo Environmental, Inc. Research Triangle Institute personnel were on hand to monitor the process conditions.

Meal samples were taken from conveyors after each of the following process steps:

1. Desolventizer-toaster (D T)
2. Meal dryer
3. Meal cooler
4. Meal grinder

Meal samples were taken in triplicate each hour for five hours on July 12 and two hours on July 13. A total of nine different sites were checked for stack opacity according to the procedures of EPA Method 9 in the Federal Register.*

* Federal Register, Vol. 42, No. 160, August 18, 1977.

SECTION 2

SUMMARY OF RESULTS

2.1 MEAL SAMPLES

Table 2-1 presents the average hexane content for each of the triplicate samples on both a wet and dry meal basis. The dry weight of the meal was determined by placing the sample in a drying oven after analysis and reweighing the sample after the moisture and hexane had been driven off. The average change in hexane concentration from wet to dry meal basis was 29 percent for the D.T., 20 percent for the meal dryer, 16 percent for the meal cooler, and 4 percent for the grinder samples.

Except for initial high values, concentrations remained fairly consistant through the sampling period. The average values were 812 μg/g of wet meal at the D T , 598 μg/g of wet meal at the dryer; 697 μg/g of wet meal at the cooler, and 444 μg/g of wet meal at the grinder.

It should be noted here that the sample stability for this method has not yet been verified and the initial samples at each site were analyzed two weeks before the other samples were analyzed.

The laboratory analysis report showing the concentrations, sample weights, and dates of analysis for each sample is in

TABLE 2-1. HEXANE CONCENTRATION IN MEAL VS. TIME
CARGILL, INC. - FAYETTEVILLE, N.C.

JULY 12 AND 13, 1979

Sample date/ time	Average hexane concentration[a]							
	D T[b]		Dryer		Cooler		Grinder	
	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g
7/12/79								
10:20	1037	1267	833	1030	1093	1233	793	-[c]
11:20	633	873	827	1097	777	943	420	477
12:20	950	1300	677	840	853	1043	453	573
1:20	740	1400	297	370	427	500	343	413
2:20	780*	1155*	480	580	537	657	373	453
7/13/79								
9:50	893	1200	503	623	570	660	333	393
10:55	650	837	570	700	623	737	393	467
Average	812	1147	598	749	697	825	444	463

[a] Average of triplicate samples.

[b] D T - Desolventizer-toaster.

[c] Dry weight not recorded.

* Avg of 2 samples in replicate, 3rd sample value was extremely high + not used

Appendix B of this report. The sampling log sheet is in Appendix A.

2.2 STACK OPACITY

Stack opacity was read by a qualified observer according to the procedures of Method 9 of the Federal Register* at the following sites:

Location	Type of Control Device
Dryer vent	Cyclone
Cooler	Cyclone
Extraction building vent	None
Hexane extraction vent	None
Prep. building general vent No. 1	Baghouse
Prep. building general vent No. 2	Baghouse
Prep. building general vent No. 3	Baghouse
Flaker	Cyclone
Flaker	Cyclone

In all cases opacity was zero. Appendix C contains the data sheets for the opacity readings.

* Federal Register, Vol. 42, No. 160, August 18, 1977.

SECTION 3

SAMPLING AND ANALYTICAL PROCEDURES

3.1 MEAL SAMPLES

The meal sampling and analytical technique was adopted from a volitilization head-space sampling procedure developed at Texas A&M University.[1] Sample bottles used were 100 mℓ glass serum bottles with septum caps, tare weighed in the lab with two layers of filter paper in the bottom of each. In the field just prior to sampling, 0.5 mℓ of water was added to wet the filter paper, using an automatic pipette. A long handled scoop was used to take a sample from the conveyor belt. A small portion of this scoop was then transferred to each of the triplicate samples using a small spoon and a funnel. Septum caps were replaced immediately on the samples. An aluminum cap was then crimped tightly over the septum for a final seal. Each bottle was then weighed to determine the amount of sample collected. Meal samples were stored in a cooler with ice for shipment back to the PEDCo laboratory and stored in a refrigerator until analysis. Ideally a 2.0 gram sample should be taken each time. However, sampling had to be done quickly to prevent evaporation losses, and the actual sample weight varied from 1.0 g to 4.0 g.

---

[1] P. J. Wan, M. Chittwood, C. M. Cater, "Determination of Residual Hexane in Solvent Extracted Meal," Food Protein R&D Center, Texas A&M University.

Analysis was done by placing the sample bottle into a sand-bath for two hours at 125°C and then gradually cooling the sample to room temperature. A 1.0 mℓ head space sample is then injected into a gas chromatograph. Calibration standards are made by adding a known amount of 99 mole percent n-hexane to processed meal that has been completely dried. To determine the dry weight of the meal sampled after analysis, the samples were placed in a drying oven uncapped and reweighed after the moisture and hexane had been driven off.

3.2 OPACITY READINGS

Opacity was read by a qualified observer using the procedures of Federal Register* Method 9. Readings were taken every 15 seconds over ~~a 12~~ two 6 minute periods at each site.

---

*Federal Register, Vol. ~~47~~ 39, No. ~~15~~ 219, ~~August 18, 1977~~ November 12, 1974.

APPENDIX B

MEAL SAMPLES LABORATORY ANALYSIS REPORT

DATA SHEET

lant: Cargill, Fayetteville, N.C. Date: 7/12/79 - 7/13/79

Date nalysis	Sample No. - Location		Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
8/15/79	264	D.T.	7/12/79	10:21	2.53	1100	1300
8/15/79	265	D.T.	7/12/79	10:21	2.28	1100	1400
8/15/79	266	D.T.	7/12/79	10:21	2.09	910	1100
8/15/79	267	Dryer	7/12/79	10:23	2.39	880	1000
8/15/79	268	Dryer	7/12/79	10:23	2.45	730	890
8/15/79	269	Dryer	7/12/79	10:23	1.35	890	1200
8/16/79	270	Cooler	7/12/79	10:30	2.64	980	1100
8/16/79	271	Cooler	7/12/79	10:30	1.78	1300	1400
8/16/79	272	Cooler	7/12/79	10:30	2.66	1000	1200
8/16/79	274	Grinder	7/12/79	10:35	2.10	780	740 (1)
8/16/79	275	Grinder	7/12/79	10:35	2.02	770	690 (1) ?
8/16/79	276	Grinder	7/12/79	10:35	1.94	830	770 (1)
8/31/79	277	Dryer	7/12/79	11:20	2.46	730	890
8/31/79	278	Dryer	7/12/79	11:20	1.70	870	1200
8/31/79	279	Dryer	7/12/79	11:20	2.33	880	1200
8/31/79	280 (2)	D.T.	7/12/79	11:25	1.81	830	1200
8/31/79	281	D.T.	7/12/79	11:25	2.57	600	740
8/31/79	282 (2)	D.T.	7/12/79	11:25	2.21	560	680
8/31/79	283	Cooler	7/12/79	11:28	2.57	820	970
8/31/79	284	Cooler	7/12/79	11:28	2.42	780	920
8/31/79	285	Cooler	7/12/79	11:28	1.73	730	940
8/31/79	286	Grinder	7/12/79	11:30	2.32	420	460
8/31/79	287	Grinder	7/12/79	11:30	2.23	420	490
8/31/79	288	Grinder	7/12/79	11:30	2.37	420	480
9/4/79	289	D.T.	7/12/79	12:15	1.95	1000	1400
9/4/79	290	D.T.	7/12/79	12:15	2.01	940	1300
9/4/79	291	D.T.	7/12/79	12:15	2.08	910	1200
9/4/79	292	Dryer	7/12/79	12:18	2.50	750	930
9/4/79	293	Dryer	7/12/79	12:18	4.11	660	810
9/4/79	294	Dryer	7/12/79	12:18	2.71	620	780
9/4/79	297	Cooler	7/12/79	12:23	2.68	760	830
9/4/79	298	Cooler	7/12/79	12:23	1.40	990	1300
9/4/79	299	Cooler	7/12/79	12:23	2.12	810	1000

(1) Dry weight not recorded correctly.

(2) Reanalysis of this sample yielded same results.

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DATA SHEET

Plant: Cargill, Fayetteville, N.C. Date: 7/12/79 - 7/13/79

Date Analysis	Sample No.	Location	Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
9/5/79	300	Grinder	7/12/79	12:25	1.74	440	570
9/5/79	301	Grinder	7/12/79	12:25	2.08	470	590
9/5/79	302	Grinder	7/12/79	12:25	2.68	450	560
9/5/79	303 (2)	D.T.	7/12/79	1:18	2.73	960	2000
9/5/79	304	D.T.	7/12/79	1:18	1.77	153	660
9/5/79	305 (2)	D.T.	7/12/79	1:18	1.93	520	800
9/5/79	306	Dryer	7/12/79	1:23	2.22	260	320
9/5/79	307	Dryer	7/12/79	1:23	1.76	300	380
9/5/79	308	Dryer	7/12/79	1:23	2.21	330	410
9/5/79	309	Cooler	7/12/79	1:25	2.39	390	480
9/5/79	310	Cooler	7/12/79	1:25	2.33	520	610
9/5/79	311	Cooler	7/12/79	1:25	2.78	370	410
9/5/79	312	Grinder	7/12/79	1:28	2.76	310	380
9/5/79	313	Grinder	7/12/79	1:28	2.37	340	410
9/5/79	314	Grinder	7/12/79	1:28	2.84	380	450
9/5/79	315 (2)	D.T.	7/12/79	2:20	1.92	2000	3100
9/5/79	316	D.T.	7/12/79	2:20	2.18	970	1500
9/5/79	317 (2)	D.T.	7/12/79	2:20	2.08	590	810
9/5/79	318	Dryer	7/12/79	2:24	3.98	440	510
9/5/79	319	Dryer	7/12/79	2:24	1.99	530	650
9/5/79	320	Dryer	7/12/79	2:24	1.85	470	580
9/5/79	321	Cooler	7/12/79	2:21	2.24	630	790
9/5/79	322	Cooler	7/12/79	2:21	2.65	480	560
9/5/79	323	Cooler	7/12/79	2:21	2.43	500	620
9/6/79	324	Grinder	7/12/79	2:28	2.32	380	470
9/6/79	325	Grinder	7/12/79	2:28	2.70	340	410
9/6/79	326	Grinder	7/12/79	2:28	2.54	400	480
9/6/79	327	D.T.	7/13/79	9:50	2.79	930	1300
9/6/79	328	D.T.	7/13/79	9:52	3.19	870	1100
9/6/79	329	D.T.	7/13/79	9:53	2.11	880	1200
9/6/79	330	Dryer	7/13/79	9:55	3.06	470	610
9/6/79	331	Dryer	7/13/79	9:57	3.18	530	650
9/6/79	332	Dryer	7/13/79	9:58	3.00	510	610

(2) Reanalysis of this sample yielded same results.

DATA SHEET

lant: Cargill, Fayetteville, N.C. Date: 7/12/79 - 7/13/79

Date nalysis	Sample No.-	Location	Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
9/6/79	333	Cooler	7/13/79	9:59	3.71	480	560
9/6/79	336	Cooler	7/13/79	9:59	3.49	580	670
9/6/79	337	Cooler	7/13/79	10:01	3.16	650	750
9/6/79	338	Grinder	7/13/79	10:02	3.64	350	400
9/6/79	339	Grinder	7/13/79	10:02	2.97	300	350
9/6/79	340	Grinder	7/13/79	10:03	2.81	350	430
9/6/79	341	D.T.	7/13/79	10:55	3.57	600	770
9/6/79	342	D.T.	7/13/79	10:55	1.90	620	800
9/6/79	343	D.T.	7/13/79	10:57	3.69	730	940
9/6/79	344	Dryer	7/13/79	10:58	3.20	550	660
9/6/79	345	Dryer	7/13/79	10:59	3.13	650	820
9/6/79	346	Dryer	7/13/79	10:59	3.01	510	620
9/6/79	347	Cooler	7/13/79	10:59	2.45	700	840
9/6/79	348	Cooler	7/13/79	11:01	3.17	610	710
9/6/79	349	Cooler	7/13/79	11:02	3.31	560	660
9/6/79	350	Grinder	7/13/79	11:05	3.74	380	450
9/6/79	351	Grinder	7/13/79	11:05	3.84	380	450
9/6/79	352	Grinder	7/13/79	11:05	3.50	420	500

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PEDCo ENVIRONMENTAL, INC.
11499 CHESTER ROAD
CINCINNATI, OHIO 45246
(513) 782-4700
TELEX (513) 782-4807

DRAFT

VEGETABLE OIL EXTRACTION PLANT MEAL SAMPLING AND OPACITY TEST CARGILL, INC. FAYETTEVILLE, NORTH CAROLINA

JULY 12 AND 13, 1979

Prepared by:

PEDCo Environmental, Inc.
11499 Chester Road
Cincinnati, Ohio 45246

79-VEG-6H
Contract No. 68-02-2811
Task No. 19

PN 3333-S

Project Technical Manager: Nancy McLaughlin

U.S. Environmental Protection Agency
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SECTION 1

INTRODUCTION

As part of the program to gather emissions data from vegetable oil extraction plants, on July 12 and 13, 1979, personnel from PEDCo Environmental, Inc., and the Research Triangle Institute conducted a survey at the Cargill, Inc. vegetable oil extraction plant in Fayetteville, North Carolina. The purpose of this visit was to collect meal samples (to be analyzed for hexane content), monitor processing conditions, and to check selected stacks for visible emissions. Meal samples and stack opacity readings were taken by personnel from PEDCo Environmental, Inc. Research Triangle Institute personnel were on hand to monitor the process conditions.

Meal samples were taken from conveyors after each of the following process steps:

1. Desolventizer-toaster (D T)
2. Meal dryer
3. Meal cooler
4. Meal grinder Finished meal

Meal samples were taken in triplicate each hour for five hours on July 12 and two hours on July 13. A total of nine different sites were checked for stack opacity according to the procedures of EPA Method 9 in the Federal Register.*

* Federal Register, Vol. 42, No. 160, August 18, 1977.

SECTION 2

SUMMARY OF RESULTS

2.1 MEAL SAMPLES

Table 2-1 presents the average hexane content for each of the triplicate samples on both a wet and dry meal basis. The dry weight of the meal was determined by placing the sample in a drying oven after analysis and reweighing the sample after the moisture and hexane had been driven off. The average change in hexane concentration from wet to dry meal basis was 29 percent for the D.T., 20 percent for the meal dryer, 16 percent for the meal cooler, and 4 percent for the grinder samples.

Except for initial high values, concentrations remained fairly consistant through the sampling period. The average values were 812 μg/g of wet meal at the D T , 598 μg/g of wet meal at the dryer; 697 μg/g of wet meal at the cooler, and 444 μg/g of wet meal at the grinder.

It should be noted here that the sample stability for this method has not yet been verified and the initial samples at each site were analyzed two weeks before the other samples were analyzed.

The laboratory analysis report showing the concentrations, sample weights, and dates of analysis for each sample is in

TABLE 2-1. HEXANE CONCENTRATION IN MEAL VS. TIME
CARGILL, INC. - FAYETTEVILLE, N.C.

JULY 12 AND 13, 1979

Sample date/ time	Average hexane concentration[a]							
	D T[b]		Dryer		Cooler		Grinder	
	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g
7/12/79								
10:20	1037	1267	833	1030	1093	1233	793	-[c]
11:20	633	873	827	1097	777	943	420	477
12:20	950	1300	677	840	853	1043	453	573
1:20	740	1400	297	370	427	500	343	413
2:20	780*	1155*	480	580	537	657	373	453
7/13/79								
9:50	893	1200	503	623	570	660	333	393
10:55	650	837	570	700	623	737	393	467
Average	812	1147	598	749	697	825	444	463

[a] Average of triplicate samples.

[b] D T - Desolventizer-toaster.

[c] Dry weight not recorded.

* Avg of 2 samples in replicate, 3rd sample value was extremely high & not used

Appendix B of this report. The sampling log sheet is in Appendix A.

2.2 STACK OPACITY

Stack opacity was read by a qualified observer according to the procedures of Method 9 of the Federal Register* at the following sites:

Location	Type of Control Device
Dryer vent	Cyclone
Cooler	Cyclone
Extraction building vent	None
Hexane extraction vent	None
Prep. building general vent No. 1	~~Baghouse~~ FF
Prep. building general vent No. 2	~~Baghouse~~ FF
Prep. building general vent No. 3	~~Baghouse~~ FF
Flaker	Cyclone
Flaker	Cyclone

In all cases opacity was zero. Appendix C contains the data sheets for the opacity readings.

---

* Federal Register, Vol. 42, No. 160, August 18, 1977.

SECTION 3

SAMPLING AND ANALYTICAL PROCEDURES

3.1 MEAL SAMPLES

The meal sampling and analytical technique was adopted from a volitilization head-space sampling procedure developed at Texas A&M University.[1] Sample bottles used were 100 mℓ glass serum bottles with septum caps, tare weighed in the lab with two layers of filter paper in the bottom of each. In the field just prior to sampling, 0.5 mℓ of water was added to wet the filter paper, using an automatic pipette. A long handled scoop was used to take a sample from the conveyor belt. A small portion of this scoop was then transferred to each of the triplicate samples using a small spoon and a funnel. Septum caps were replaced immediately on the samples. An aluminum cap was then crimped tightly over the septum for a final seal. Each bottle was then weighed to determine the amount of sample collected. Meal samples were stored in a cooler with ice for shipment back to the PEDCo laboratory and stored in a refrigerator until analysis. Ideally a 2.0 gram sample should be taken each time. However, sampling had to be done quickly to prevent evaporation losses, and the actual sample weight varied from 1.0 g to 4.0 g.

---

[1] P. J. Wan, M. Chittwood, C. M. Cater, "Determination of Residual Hexane in Solvent Extracted Meal," Food Protein R&D Center, Texas A&M University.

Analysis was done by placing the sample bottle into a sand-bath for two hours at 125°C and then gradually cooling the sample to room temperature. A 1.0 mℓ head space sample is then injected into a gas chromatograph. Calibration standards are made by adding a known amount of 99 mole percent n-hexane to processed meal that has been completely dried. To determine the dry weight of the meal sampled after analysis, the samples were placed in a drying oven uncapped and reweighed after the moisture and hexane had been driven off.

3.2 OPACITY READINGS

Opacity was read by a qualified observer using the procedures of Federal Register* Method 9. Readings were taken every 15 seconds over ~~a 12~~ two 6 minute periods at each site.

---

*Federal Register, Vol. ~~35~~ 39, No. ~~15~~ 219, November 12, 1974. ~~August 10, 1977~~.

APPENDIX A

MEAL SAMPLING LOG

CARGILL, INC. FAYETTEVILLE, N.C.

Bottle #	① (g) Bottle Wt	UNIT OPERATION	DATE	TIME		
238	93.10					
239	92.80	Need clearer Title				
240	93.09	and table heading				
241	92.63					
242	93.00					
243	92.76					
244	92.83					
245	92.66					
246	92.67					
247	92.60					
248	92.84					
249	92.98					
250	92.77					
251	93.13					
252	93.12					
253	93.15					
254	92.95					
255	92.87					
256	93.04					
257	93.01					
258	92.82					
259	93.00					
260	93.45					
261	93.01	9:40 3 MIN SHUTDOWN OF				
262	92.99	FLOW FROM PREP PLANT				
263	92.83					
264	92.79	D.T.	7-12-79	10:29		
265	92.74	"	"	"		
266	92.66	"	"	"		
267	92.92	DRYER	"	10:23		
268	92.72	"	"	"		
269	92.79	"	"	"		
270	92.78	COOLER	"	10:30		
271	92.76	"	"	"		
272	92.73	"	"	"		
273 MISSING	92.91	~~GRINDER~~	"	~~10:35~~		
274	92.67	GRINDER	"	10:35		

CASCADE L1-C2462

Hexane - Soybean

Bottle #	(g) Bottle wt					
	[illegible]	~~GRINDER~~	~~"~~	~~"~~		
275	[illegible]	GRINER	7-12-79	10:35		
276	92.[illegible]	"	"	"		
277	92.71	DRYER ~~D.T.~~	"	11:20		
278	92.91	DT	"	"		
279	93.41	"	"	"		
280	93.10	D.T. ~~DRYER~~	"	11:25		
281	92.94	"	"	"		
282	93.08	"	"	"		
283	93.13	COOLER	"	11:28		
284	93.[illegible]	"	"	"		
285	93.14	"	"	"		
286	[illegible]	GRINDER	"	11:30		
287	92.92	"	"	"		
288	92.98	"	"	"		
289	92.[illegible]	D.T.	"	12:15		
290	92.93	"	"	"		
291	92.96	"	"	"		
292	92.82	DRYER	"	12:18		
293	93.12	"	"	"		
294	[illegible]	"	"	"		
295	93.03					
296	92.78					
297	93.04	COOLER	"	12:23		
298	[illegible]	"	"	"		
299	92.69	"	"	"		
300	92.90	GRINDER	"	12:25		

Unreadable data
Unreadable title

CARGILL INC. FAYETTEVILLE, [redacted]

CASCADE® L1-C2462

HEXANE - SOYBEAN MEAL 7/3/79

BOTTLE NUMBER	BOTTLE WT (g) (1)	Need cleaner title Unreadable data				
301	[illegible]	GRINDER	7/12/79	12:25		
302	[illegible]	"	"	"		
303	[illegible]	D.T.	"	1:18		
304	[illegible]	"	"	"		
305	[illegible]	"	"	"		
306	[illegible]	DRYER	"	1:23		
307	[illegible]	"	"	"		
308	[illegible]	"	"	"		
309	[illegible]	COOLER	"	1:25		
310	[illegible]	"	"	"		
311	[illegible]	"	"	"		
312	93.04	GRINDER	"	1:28		
313	93.07	"	"	"		
314	93.04	"	"	"		
315	93.30	D.T.	"	2:20		
316	93.23	"	"	"		
317	[illegible]	"	"	"		
318	93.00	DRYER	"	2:24		
319	[illegible]	"	"	"		
320	93.03	"	"	"		
321	92.63	COOLER	"	2:26		
322	[illegible]	"	"	"		
323	[illegible]	"	"	"		
324	[illegible]	GRINDER	"	2:28		
325	[illegible]	"	"	"		
326	[illegible]	"	"	"		
327	[illegible]	D.T.	"			
328	[illegible]	"	"			
329	[illegible]	"	"			
330	93.00	DRYER ~~COOLER~~	"			
331	92.73	"	"			
332	[illegible]	"	"			
333	[illegible]	"	"			
334	92.72	HEXANE SAMPLE - STORAGE TANK MIXES WITH WORKING TANK				
335	93.00	"	"	"		
336	92.03	COOLER	"			
337						

CASCADE LT-C2462

Bottle #						
338						
339	92.[illegible]	"	"			
340	93.17	GRINDER	"			
341	92.[illegible]	"	"			
342	93.09	"	"			
343	93.41					
344	93.20					
345	92.70					
346	92.46					
347	92.52					
348	92.76	Need straight copy of data				
349	92.77					
350	92.22					
351	92.95					
352	92.64					
353	92.40					
354	92.64	NEW HEXANE SAMPLE FROM TRUCK				
355	92.59	"				
356	92.45			"		
357	92.69					
358	92.24					
359	92.54					
360	92.58					
361	92.31					
362	92.28					
363	92.40					
364	92.47					
365	92.67					
366	92.66					
367	92.49					
368	92.43					
369	92.54					
370	92.16					
371	92.43					
372	92.42					
373	92.57					
374	92.48					

for FEDC

SAMPLING LOG FOR MEAL SAMPLES
FAYETTEVILLE, NC
CARGILL, INC.

JULY 13, 1979 (2ND DAY OF TEST)

TESTING DONE BY
NANCY MCLAUGHLIN (EPA)
CARL PARKER (RTI)

PEDCo Copy

July 13, 1974
Cargill, Fayetteville

Bottle #	Time	Location	
327	09:50	D.T.	} Air Exposure Somewhat Excessive (Funnel clogged up)
328	9:52	"	
329	09:53	"	
330	09:55	DRYER	
331	9:57	"	
332	09:58	"	
333	9:59	COOLER	
336	9:59	"	
337	10:01	"	
338	10:02	GRINDER	
339	10:02	"	
340	10:03	"	
341	10:55	D.T.	
342		"	
343	10:57	"	
344	10:58	DRYER	
345		"	
346	10:59	"	
347	10:59	COOLER	
348	11:01	"	
349	11:02	"	
350		GRINDER	
351		"	
352	11:05	"	

334, 335 NO Bottles

Needs clearer copy

Funnel was too small for quick collection of sample (med clogged up in the narrow funnel) Before the [illegible] (#341-352) the funnel was slit for quicker sample collection. The slower sampling would lead to underestimate the true [illegible] of the med

APPENDIX B

MEAL SAMPLES LABORATORY ANALYSIS REPORT

DATA SHEET

Plant: Cargill, Fayetteville, N.C. Date: 7/12/79 - 7/13/79

Date Analysis	Sample No.-	Location	Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
8/15/79	264	D.T.	7/12/79	10:21	2.53	1100	1300
8/15/79	265	D.T.	7/12/79	10:21	2.28	1100	1400
8/15/79	266	D.T.	7/12/79	10:21	2.09	910	1100
8/15/79	267	Dryer	7/12/79	10:23	2.39	880	1000
8/15/79	268	Dryer	7/12/79	10:23	2.45	730	890
8/15/79	269	Dryer	7/12/79	10:23	1.35	890	1200
8/16/79	270	Cooler	7/12/79	10:30	2.64	980 ✓	1100
8/16/79	271	Cooler	7/12/79	10:30	1.78	1300	1400
8/16/79	272	Cooler	7/12/79	10:30	2.66	1000	1200
8/16/79	274	Grinder	7/12/79	10:35	2.10	780	740 (1)
8/16/79	275	Grinder	7/12/79	10:35	2.02	770	690 (1) ?
8/16/79	276	Grinder	7/12/79	10:35	1.94	830	770 (1)
8/31/79	277	Dryer	7/12/79	11:20	2.46	730	890
8/31/79	278	Dryer	7/12/79	11:20	1.70	870	1200
8/31/79	279	Dryer	7/12/79	11:20	2.33	880	1200
8/31/79	280 (2)	D.T.	7/12/79	11:25	1.81	830	1200
8/31/79	281	D.T.	7/12/79	11:25	2.57	600	740
8/31/79	282 (2)	D.T.	7/12/79	11:25	2.21	560	680
8/31/79	283	Cooler	7/12/79	11:28	2.57	820	970
8/31/79	284	Cooler	7/12/79	11:28	2.42	780	920
8/31/79	285	Cooler	7/12/79	11:28	1.73	730	940
8/31/79	286	Grinder	7/12/79	11:30	2.32	420	460
8/31/79	287	Grinder	7/12/79	11:30	2.23	420	490
8/31/79	288	Grinder	7/12/79	11:30	2.37	420	480
9/4/79	289	D.T.	7/12/79	12:15	1.95	1000	1400
9/4/79	290	D.T.	7/12/79	12:15	2.01	940	1300
9/4/79	291	D.T.	7/12/79	12:15	2.08	910	1200
9/4/79	292	Dryer	7/12/79	12:18	2.50	750	930
9/4/79	293	Dryer	7/12/79	12:18	4.11	660	810
9/4/79	294	Dryer	7/12/79	12:18	2.71	620	780
9/4/79	297	Cooler	7/12/79	12:23	2.68	760	830
9/4/79	298	Cooler	7/12/79	12:23	1.40	990	1300
9/4/79	299	Cooler	7/12/79	12:23	2.12	810	1000

(1) Dry weight not recorded correctly.

(2) Reanalysis of this sample yielded same results.

Needs straightly aligned copy

PEDCo should have these values

DATA SHEET

Plant: Cargill, Fayetteville, N.C. Date: 7/12/79 - 7/13/79

Date Analysis	Sample No.- Location		Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
9/5/79	300	Grinder	7/12/79	12:25	1.74	440	570
9/5/79	301	Grinder	7/12/79	12:25	2.08	470	590
9/5/79	302	Grinder	7/12/79	12:25	2.68	450	560
9/5/79	303 (2)	D.T.	7/12/79	1:18	2.73	960	2000
9/5/79	304	D.T.	7/12/79	1:18	1.77	953	660
9/5/79	305 (2)	D.T.	7/12/79	1:18	1.93	520	800
9/5/79	306	Dryer	7/12/79	1:23	2.22	260	320
9/5/79	307	Dryer	7/12/79	1:23	1.76	300	380
9/5/79	308	Dryer	7/12/79	1:23	2.21	330	410
9/5/79	309	Cooler	7/12/79	1:25	2.39	390	480
9/5/79	310	Cooler	7/12/79	1:25	2.33	520	610
9/5/79	311	Cooler	7/12/79	1:25	2.78	370	410
9/5/79	312	Grinder	7/12/79	1:28	2.76	310	380
9/5/79	313	Grinder	7/12/79	1:28	2.37	340	410
9/5/79	314	Grinder	7/12/79	1:28	2.84	380	450
9/5/79	315 (2)	D.T.	7/12/79	2:20	1.92	2000	3100
9/5/79	316	D.T.	7/12/79	2:20	2.18	970	1500
9/5/79	317 (2)	D.T.	7/12/79	2:20	2.08	590	810
9/5/79	318	Dryer	7/12/79	2:24	3.98	440	510
9/5/79	319	Dryer	7/12/79	2:24	1.99	530	650
9/5/79	320	Dryer	7/12/79	2:24	1.85	470	580
9/5/79	321	Cooler	7/12/79	2:21	2.24	630	790
9/5/79	322	Cooler	7/12/79	2:21	2.65	480	560
9/5/79	323	Cooler	7/12/79	2:21	2.43	500	620
9/6/79	324	Grinder	7/12/79	2:28	2.32	380	470
9/6/79	325	Grinder	7/12/79	2:28	2.70	340	410
9/6/79	326	Grinder	7/12/79	2:28	2.54	400	480
9/6/79	327	D.T.	7/13/79	9:50	2.79	930	1300
9/6/79	328	D.T.	7/13/79	9:52	3.19	870	1100
9/6/79	329	D.T.	7/13/79	9:53	2.11	880	1200
9/6/79	330	Dryer	7/13/79	9:55	3.06	470	610
9/6/79	331	Dryer	7/13/79	9:57	3.18	530	650
9/6/79	332	Dryer	7/13/79	9:58	3.00	510	610

(2) Reanalysis of this sample yielded same results.

DATA SHEET

Plant: Cargill, Fayetteville, N.C. Date: 7/12/79 - 7/13/79

Date Analysis	Sample No.	Location	Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
9/6/79	333	Cooler	7/13/79	9:59	3.71	480	560
9/6/79	336	Cooler	7/13/79	9:59	3.49	580	670
9/6/79	337	Cooler	7/13/79	10:01	3.16	650	750
9/6/79	338	Grinder	7/13/79	10:02	3.64	350	400
9/6/79	339	Grinder	7/13/79	10:02	2.97	300	350
9/6/79	340	Grinder	7/13/79	10:03	2.81	350	430
9/6/79	341	D.T.	7/13/79	10:55	3.57	600	770
9/6/79	342	D.T.	7/13/79	10:55	1.90	620	800
9/6/79	343	D.T.	7/13/79	10:57	3.69	730	940
9/6/79	344	Dryer	7/13/79	10:58	3.20	550	660
9/6/79	345	Dryer	7/13/79	10:59	3.13	650	820
9/6/79	346	Dryer	7/13/79	10:59	3.01	510	620
9/6/79	347	Cooler	7/13/79	10:59	2.45	700	840
9/6/79	348	Cooler	7/13/79	11:01	3.17	610	710
9/6/79	349	Cooler	7/13/79	11:02	3.31	560	660
9/6/79	350	Grinder	7/13/79	11:05	3.74	380	450
9/6/79	351	Grinder	7/13/79	11:05	3.84	380	450
9/6/79	352	Grinder	7/13/79	11:05	3.50	420	500

Needs straightly aligned copy

APPENDIX C

OPACITY DATA SHEETS

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY DRYER VENT
CONTROL DEVICE CYCLONE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS BLOWER
HEIGHT OF DISCHARGE POINT 8'

	Initial			Final
CLOCK TIME	12:25			12:37
OBSERVER LOCATION Distance to Discharge	50'			
Direction from Discharge	NORTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	GRAY METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	10% CLOUDS			
PLUME DESCRIPTION Color	NO VISIBLE PLUME			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

1. MEAL DRYER

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY GSA
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							

FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
	41							
	42							
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
	51							
	52							
	53							
	54							
	55							
	56							
	57							
	58							
	59							

[FR Doc.74-26169 Filed 11-11-74;8:45 am]

C-2

1. MEAL DRYER

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY COOLER
CONTROL DEVICE CYCLONE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS BLOWER
HEIGHT OF DISCHARGE POINT 5'

	Initial			Final
CLOCK TIME	12:38			12:50
OBSERVER LOCATION Distance to Discharge	50'			
Direction from Discharge	NORTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	GRAY METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	10% CLOUDS			
PLUME DESCRIPTION Color	NO VISIBLE PLUME			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

2. MEAL COOLER

C-3

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							

C-4

FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
	41							
	42							
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
	51							
	52							
	53							
	54							
	55							
	56							
	57							
	58							
	59							

[FR Doc.74-26150 Filed 11-11-74;8:45 am]

2. NIEBL COOLER

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY EXTRAC. BLDG. VENT
CONTROL DEVICE NONE

HOURS OF OBSERVATION 12:00
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS STACK
HEIGHT OF DISCHARGE POINT 50'

	Initial			Final
CLOCK TIME	1:40			1:52
OBSERVER LOCATION Distance to Discharge	100'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	BLUE SKY			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	10% CLOUDS			
PLUME DESCRIPTION Color	NO VISIBLE PLUME			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

C-5

3. EXTRACTION BLDG VENTILATION VENT

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
	11	0	0	0	0			
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							

FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
	41							
	42							
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
	51							
	52							
	53							
	54							
	55							
	56							
	57							
	58							
	59							

[FR Doc.74-26150 Filed 11-11-74;8:48 am]

C-6

3. EXTRACTION BLDG VENTILATION VENT

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE ~~[illegible]~~ 7/12/79
TYPE FACILITY HEXANE EXTRACTION
CONTROL DEVICE NONE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS 12" dia pipe with hat
HEIGHT OF DISCHARGE POINT 50'

	Initial			Final
CLOCK TIME	153			2105
OBSERVER LOCATION Distance to Discharge	100'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	BLUE SKY			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	10% CLOUDS			
PLUME DESCRIPTION Color	NO VISIBLE PLUME			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

4. MAIN VENT (MOS)

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FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
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4, MAIN VENT (MOS)

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY PREP. BLDG (GEN. VENT.)
CONTROL DEVICE ~~NEFF~~ BAGHOUSE

#1 VENT FROM LEFT

HOURS OF OBSERVATION 12 TO
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS
HEIGHT OF DISCHARGE POINT 25

	Initial			Final
CLOCK TIME	2:43			2:55
OBSERVER LOCATION Distance to Discharge	75'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	BROWN METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	10% CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

5. BEAN CRACKING

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FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
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	34							
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[FR Doc.74-26150 Filed 11-11-74;8:45 am]

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S. BEAU CRACKING

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY PREPBLDG #2 VENT FROM LEFT
CONTROL DEVICE BAGHOUSE

HOURS OF OBSERVATION 12:40
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS
HEIGHT OF DISCHARGE POINT 25'

	Initial			Final
CLOCK TIME	2:55			3:07 1:07
OBSERVER LOCATION Distance to Discharge	75'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	BROWN METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	81°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	100% CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

G. HULL GRINDING

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FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
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[FR Doc.74-26150 Filed 11-11-74;8:46 am]

6. HULL GRINDING

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY PREP. BLDG VENT #3 FROM LEFT
CONTROL DEVICE BAGHOUSE

HOURS OF OBSERVATION 1.3 1.0
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PET
POINT OF EMISSIONS
HEIGHT OF DISCHARGE POINT 25'

	Initial			Final
CLOCK TIME	2:30			2:42
OBSERVER LOCATION Distance to Discharge	75'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	BROWN METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	10% CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

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7. MEAL GRINDING

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
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	34							
	35							
	36							
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[FR Doc.74-26150 Filed 11-11-74;8:46 am]

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7. MEAL GRINDING

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY FLAKER
CONTROL DEVICE cyclone

HOURS OF OBSERVATION 12/60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS stack
HEIGHT OF DISCHARGE POINT 40'(ON ROOF)

	Initial			Final
CLOCK TIME	4:05			4:17
OBSERVER LOCATION Distance to Discharge	10'			
Direction from Discharge	EAST			
Height of Observation Point	40'(Roof)			
BACKGROUND DESCRIPTION	GRAY METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	100% OVERCAST			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

8 FLAKER ASPIRATORS

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
	10	0	0	0	0			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
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[FR Doc.74-26150 Filed 11-11-74;8:45 am]

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8 . FLINKER ASPIRATOR

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY CARGILL INC.
LOCATION FAYETTEVILLE, N.C.
TEST NUMBER
DATE 7/12/79
TYPE FACILITY FLAKER
CONTROL DEVICE CYCLONE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS STACK WITH HAT
HEIGHT OF DISCHARGE POINT 50'

	Initial			Final
CLOCK TIME	4:17			4:29
OBSERVER LOCATION Distance to Discharge	10'			
Direction from Discharge	EAST			
Height of Observation Point	40'			
BACKGROUND DESCRIPTION	GRAY METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9 MPH			
Ambient Temperature	86°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	100% OVERCAST			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

9 FLAKER ASPIRATOR

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FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	1	0	0	0	0			
	2	0	0	0	0			
	3	0	0	0	0			
	4	0	0	0	0			
	5	0	0	0	0			
	6	0	0	0	0			
	7	0	0	0	0			
	8	0	0	0	0			
	9	0	0	0	0			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY _____ OBSERVER _____
LOCATION _____ TYPE FACILITY _____
TEST NUMBER _____ POINT OF EMISSIONS _____
DATE _____

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
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