013-003

Boulder County Health Department Air Inspection Report

Action 021

EXHIBIT B

COUNTY NUMBER	SOURCE NUMBER	EMISSION POINTS	DATE
013	003	000	9/5/95

COMPANY: Southwestern Portland Cement
SITE LOCATION: 5134 Ute Highway, Lyons CO
CONTACT PERSON: Steve Mossberg
TELEPHONE NUMBER: 823-2113
INSPECTION TYPE: Major Routine
HOURS REQUIRED: 9.0 hrs
Prep/Travel: 2.0
Inspection: 3.0
Report/EIS: 4.0

INSPECTOR: Jeff Zayach
COUNTY: 013
TIME: 1:00pm

PERMIT NUMBER: see report

OCT 16 1995

COMPLIANCE STATUS: Not In Compliance

This was a major source inspection as per CDPHE/APCD, BCHD 1995 Air Contract. The inspection was conducted with Randy Wiley, Production Manager Greg Wright, Electrical Engineer and John Lohr, Plant Manager. The source is a dry process portland cement manufacturing facility. The plant was in full operation during the inspection. The CEM is certified and fully operational. Quarterly reports are submitted to CDPHE and all upsets are reported to the BCHD and to CDPHE.

Changes Since The Last Inspection

A new monitor has been added to the stack. The monitor is a 100 Ultra Flow made by United Science. The sampling method is via sound. A sound wave is shot at an angle through the plume. The measure of the amount of sound that is received on the bounce back determines e amount of particulates in the stack. The technology is supposedly very accurate. The RATA test has been completed. The last drift est, as specified under EPA Reference Method 6C, was completed on Wednesday August 6, 1995. Monitoring Inc. Out of Denver, is consultant that Southwestern Portland Cement uses for calibration and monitor maintenance.

Southwestern Portland Cement has completed the belt #7 and belt #9 transfer point. This was a major accomplishment as it had been a compliance issue since 1992. There was no emissions noted at the transfer point during the inspection. The belt #4 to #6 transer point was completed in the summer of 1995. A larger dust collector was installed.

The coal unloading spout, Permit #P10,718 is now exempt from regulation #3 due to less than 1 ton of emissions from that point. Please see SWP file for exemption letter from State Health. The limitation is that if SWP exceeds 100,000 Tons per Year of coal unloaded, they would need to file a Revised APEN with APCD.

I have indicated to Southwestern Portland Cement for the second year in a row,that they should be calculating permit emissions to insure that they are in complaince with permit limitations and the regulations of the Colorado Air Quality Control Commission. I informed John Lohr that I would send him a letter in reference to the calculations.

Dowe Flats

The Dowe flats stream crossings are now completed. County road 47 is 80% completed with only grading left to be finished. The highway 66 work is 50% complete. Southwestern portland Cement has agreed to pave all of the residences driveways from 66 to proerty line. In addition, they will be restoring vegetation that was disturbed. We have received one complaint from a resident that feels they will not be able to reclamate the site to its original stature. All roadway contructions will be completed by October 1, 1995. The conveyor system will be completed by the second quarter of 1996. Southwestern will begin mining the pit in the first part of 1996.

I have indictated to John Lohr that I would provide him with a letter that outlines how the BCHD calculates the emissions for permit conditions as it relates to the facility. I indicated that Southwestern Portland Cement should be calculating emissions to determine if they are in accordance with the regulations of the Colorado Air Quality Control Commission.

The points of emission at the facility are as follows:

oint #	Point Description	Permit
01	*Primary Crusher*	*grandfathered*
02	***Raw Material Dryer***	***12B0444-1***
03	*Secondary Crusher*	*grandfathered*
04	*Raw Material Storage Silo*	*grandfathered*
05	*Raw Mill (grinding)*	*grandfathered*
06	*Homogenizing / Blending*	*grandfathered*
07	***Precalciner / Kiln Process***	***12B0444-2***
08	***Clinker Cooler***	***12B0444-2***
09	*Clinker Storage Silos*	*grandfathered*
10	*Clinker Conveying / A-Frame Storage*	*grandfathered*
11	*Finish Mill*	*grandfathered*
12	*Cement Load Out*	*grandfathered*
13	*Cement Storage Silos*	*grandfathered*
14	*Coal Unloading*	*exempt*
15	***Clinker Storage - outside***	***84B0369F***
16	*Drilling*	*grandfathered*
17	*Blasting*	*grandfathered*
18	***Truck Loading & Un-loading***	***84B0369F***
19	***Haul Roads***	***84B0369F***
20	*Scraper Activities*	*grandfathered*
21	*Grading*	*grandfathered*
22	*Bulldozing*	*grandfathered*
23	*Wind Erosion*	*grandfathered*
4	*Wind Erosion - Stockpiles*	*grandfathered*
ς	*Belt Conveyor System for DOWE Flats*	*94BO593-1*
	Primary Crusher DOWE Flats	*94BO593-2*
27	*Construction of Bridge, development of Quarry, Reclamation of land after mining*	*93BO1414F*
28	*DOWE Flats Limestone Quarry*	*93BO1414FD*

It should be noted that even though some sources are exempt, they are still subject to all applicable standards and regulations of theAir Quality Commission including; visible emissions shall not exceed 20% opacity.

It is not clear if Southwest Portland is adhering to a baghouse maintenance schedule. When asked during the inspection how maintenance and bag change outs are determined, Mr. Wiley replied that the maintenance personnel do a visual check for problems. This suggests to this department that a problem must develop prior to maintenance occurring. It is suggested that a firm maintenance and operation plan be formulated for the facility.

The waste kiln dust is either being sold or reclaimed in the quarry. According to John Lohr, 10% of the waste dust is sold to Summitville, 30% goes back into the process and the remainder is hauled to the quarry for storage and reclamation.

INSPECTION AND PROCESS

Point 01, Primary Crusher

There was a lot of dust in the area. The primary crusher was in operation during the inspection. There was a fugitive dust emission coming from the area below the crusher, where the crushed material was transferred from the crusher to the belt. John Lohr made a call to maintenance to get the problem corrected while we were at the site The crusher is controlled by a micropulse baghouse. The baghouse is automatically cleaned by pulses of air that are triggered when the magnahelic pressure (pressure differential across the various bags) aches a certain number. The waste dust load out is a problem area. The material is loaded, via drop chute, to dump trucks which haul e material to the pit for reclamation. There was a significant emission coming out of the dump truck during the entire inspection. When

I asked Mr. Wiley why there was such an e...ions problem at this point, he first responded tha. .he operator was not properly pugging the material (water is sprayed into the silo of waste dust). He talked with the operator who indicated that the material was being pugged properly, and there was nothing they could do about the emission since the material is difficult to work with. He estimated that they load out about twenty loads a day. This is an area of significant emissions, based on loadout information, and it should be addressed.

Point 02, Raw Material Dryer (Permit #12B0444-1)

There was no visible emission at the time of the inspection. The permit number was marked on the dryer. After the material is dried to remove all moisture, it is taken back to the secondary crusher where it crushed to a specific size. The permit limitation s for emissions are as follows:

	PERMIT LIMITATIONS			*ACTUAL EMISSIONS*	
Pollutant	**Lb/Hr**	**Tons/Yr**	**Maximum lbs/hr**	**Actual Tons**	**Actual lbs**
NOx	*4*	*13.9*	*7.13*	*52.5*	*17.3*
S02	*10.5*	*36.7*	*19.42*	*.0.057*	*.018*
VOC	*41.4*	*144.8*	*72.38*	*.134*	*.044*
CO	*16.4*	*57.3*	*18.02*	*3.8*	*1.26*
TSP	*6.5*	*22.8*	*6.5*	*23.9*	*7.9*
PM10	*6.5*	*22.8*	*6.5*	*20.1*	*6.67*
Pb	*4.81*	*15.8*	*4.81*	*14.9*	*5.57*

Shaded areas represent permit exceedences.

Fuel usage for 1994 for this point is as follows:

Description	**units**	**Hr Avg.**	**Hr Max.**	**Annual Max.**	**Actual Annual Used**
)ryer Feed **Heat Input**	Tons MMBTU	*150* *30*	*160* *35*	*1,050,000* *.21 x 10(6)*	*707,169*
Primary Fuel N.G. **Backup Fuel: Coal**	SCF Tons	*29903* *1.3*	*41860* *1.4*	*209.32 x 10(6)*	*159.92 x 10(6)* *0*

Point 03, Secondary Crusher

There was no visible emissions noted during the inspection. The material being crushed is transported to the crusher via an enclosed belt system. The crushed material is then transported to the homogenizing silo where any material that has not been properly crushed is sent back to the secondary crusher. The homogenizing silo blends the correct mixtures for the type of cement needed. From here the material is transferred to the raw material silos.

Point 04, Raw Materials Silos

This point has been a problem in the past and was a problem during this inspection. The transfer point of belt #7 as it enters the raw material silo had a huge pile of dust buildup. There was an occasional puff of dust from the point but, at the time it was not in violation of regulation #1. Upon closer inspection on top of the silo itself, there was a large accumulation of dust inside the enclosed transfer area where the material is transferred from belt #7 to belt #9. The door to the enclosed transfer point was open, which could have been the source of the dust observed from the ground.

In speaking with Keith Huck, he said the problem lies with the total vertical fall the material must go through to reach belt 9. He said that they will completely re-engineer this transfer point, and eliminate the vertical drop, during the annual maintenance shut down at the end of June 1994. He is sending a letter outlining the plan.

)oint 05 & 06, Raw Materials Grinding

. iere was no emissions observed at this point during the inspection. The particulate emissions at this point is controlled by a baghouse.

Point 07, Precalciner / Kiln (Permit #12[illegible]4-2)

The precalciner is the beginning of the process, as it forms the chemical reaction of liberating C02 which in turn will form the chemical reaction that is required to make cement.

ere was some minor dust on the inside portion of the building that is associated with the kiln. There were no other visible emissions at this point. Two baghouses control particulate emissions from the kiln process. One of the two baghouses is called the alkali bypass. The alkali bypass removes most of the waste kiln dust from the kiln exhaust stream which contains recondensed hydrocarbons, high alkali dust and sulfur oxides.

The material enters the kiln from the pre-heater at approximately 700 degrees fahrenheit and slowly moves toward the hottest end of the kiln. As the material moves toward the increasingly hotter temperature, it becomes slightly molten. The clinker is formed above the molten material, by floating on top of the molten material. As the material leaves the kiln and enters the Clinker Cooler it is approximately 2200 degrees fahrenheit.

The permit limitations on emissions for this point are as follows:

Pollutant	PPM	DSCFM	Permit LB/HR	Permit TPY	Actual TPY
NOx	*550*	*166610*	*656.9*	*2649*	*103.02*
S02	*200*	*166610*	*332.3*	*1340*	*3.308*
VOC	*30*	*166610*	*34.3*	*138*	*0*
CO	*135*	*166610*	*98.1*	*396*	*0*
PM10			*23.9*	*96.4*	*83.16*
Pb			*10.8*	*43.6*	*2.17*
TSP			*23.9*	*96.4*	*195.05*

e fuel usage for this point for 1994 is as follows:

Description	Units	Hr Avg.	Hr Max.	Permit Annual	Actual Annual
Kiln Feed (dry)	Tons	*110*	*120*	*887,040*	*419,229*
Heat Input	MMBTU	*325*	*340*	*2.62×10^6*	*1.60×10^6*
100% Coal	Tons	*14.13*	*14.84*	*113,945*	*32,951*
100% Nat. Gas	SCF	*302325*	*317440*	*2438×10^6*	*461×10^6*
Tires	Tons	*2.28*	*2.50*	*18400*	*0*

Point 08 & 09, Clinker Cooler and Clinker Storage Silos

There was no visible emissions observed from this point during the inspection. The particulate emissions are controlled by a baghouse. There is an exhaust fan that takes the excess heat from the cooling process and directs it back to the kiln for a more efficient energy transfer. After the material is cooled it is transferred to the A-Frame for storage.

Point 10,Clinker Conveying and A-Frame Storage

There was minor visible emissions observed at this point during the inspection. The particulate emissions control for this point is a baghouse. Drag chains transfer the cooled clinker material to a belt which takes it to the A-Frame for storage. There was some pile up dust / clinker on the top of the A-Frame where the belt enters the A-Frame. This is one of the areas to be targeted for improving during ne annual maintenance shut down.

Point 11, 12, 13, Finish Mill, Cement Load-Out, and Cement storage
There was no visible emissions from either of the two remaining points. The particulate emissions for all three points are controlled by a baghouse. The finish mill takes any materials that have not been ground to specification and re-grinds them.

Point 14, Coal Unloading & Storage (Exempt)
This point used to be permit #P-10-718, but was granted an exemption from permit requirements in 1993. It should be noted that even though the point is exempt, if the thruput exceeds 100,000 tons per year of coal a Revised APEN will need to be filed with the State APCD. There was no coal being unloaded during the inspection. The coal loadout for 1994 was 72,240tons.

Point 15, Clinker Storage Piles - Outside (Permit #84B0369F)
There was no visible emissions from this point during the inspection. The piles are watered as necessary per Todd Trangmar, SWP. This source as well as the haul roads and loading activities are regulated under the fugitive dust control plan attached to the permit. The following permit limitations apply:

Description	Units	Permit Limitation	Actual Emission
TSP	Tons / Yr	*10.2*	*In Compliance*
Clinker Production	Tons / Yr	*180,000*	*125,782 Tons Clinker Produced*
Clinker Stockpile	Tons Stored At Time	*120,000*	*10,000 / max=25,000*

Points 16-28 Raw Material Acquisition
There was a limited amount of material acquisition occurring during the inspection. There were no fugitive emissions were noted at any of the acquisition or dump areas in the pits on the south side of highway 66. All of the haul roads throughout were being heavily watered. The following pits are used for the following purposes:

-A Pit = Shale acquisition
-C Pit = Limestone Acquisition
-E Pit = South of Hygiene Rd. as of July 1993 has been closed and is under reclamation
total of 56,739 Tons of material was hauled in from the Larimer Pit in 1994. The reaming material was from pits at the Lyons facility.

STATUS:

Facility has exceeded permit limitations for permit 12B0444-1 and 12BO444-2 (see report above). A revised APEN indicating the changes in emissions was due to APCD by April 30, 1995. A revised apen indicating a permit modification (attached) should be filed with the state immediatly to reflect the appropriate changes.

Out of Compliance - see attached letter and calculations.

AIR POLLUTION CON[illegible] OMPLIANCE DETERMINATION WORKSHE

SOURCE NUMBER: 003
SOURCE NAME: Southwestern Portland Cement
LOCATION: Lyons
COUNTY: Bldr 013
CONTACT: Steve Mossberg
TELEPHONE: 823-6685
DATE: 9/7/95
TIME: 1:00 - 4:00pm

INSPECT TYPE: ANNUAL
ACTION TYPE: 12
INSPECTOR: Jeff Zayach

EIS POINT ID: 02
POINT NAME: Raw Material Dryer

PERMIT: 12B0444-1
CONTROL EQUIP: Baghouse

NSPS REG?: YES: 6.B,IV
NESHAPS REG?: NO
PSD REG?: NO
1994 ANNUAL THRUPUT:

MATERIAL DRIED (Tons): 748,065 Tons
GAS BURNED: 182,055 MMBTU
173.4 10E6 SCF
#2OIL BURNED: 0
COAL BURNED: 0
TIRES BURNED: 0

OP'NAL SCHED:

6,055 Hours

Emission Calculation Summary - SWP Data 1994

POLLUTANT	PART	PM10	OPACITY	VOC	CO	NOX	SO2	LEAD
Regulation	12B0444-1	12B0444-1	1,II,A.1	12B0444-1	12B0444-1	12B0444-1	12B0444-1	12B0444-1
Design Rate (TON/HR)	160							
Yr Nat Gas Limit (10E6 SCF)	209.32							
Yr Coal Limit (Tons/Yr)	1.3							
Hr Allow EM (lb/hr)	6.5	6.5	20%	41.4	16.4	4	10.5	4.81
Hr Allow EM (Tons/yr)	22.8	22.8		144.8	57.3	13.9	36.7	15.8
Allow EM (10E6 BTU/Hr)	35						1.2	
eat Input Annual Max (MMBTU 10E(6))	0.21							
Yr Thruput Dried Material (tons)	748065	748065		748065	748065	748065	748065	748065
Reference	3-05-006-13	3-05-006-13	INSP					3-05-006-13
EM Factor (lb/ton)	64	54						0.04
Contr. Factor	0.999	0.999						
Yr Actual EM (tons)	23.938	20.198						14.961
Time Factor	6055.000	6055.000						5362.500
Actual EM (lb/hr)	7.907	6.671	0%					5.580
Heat Input (10E6 MMBTU)	1.570							
Yr Thruput (10E6 SCF Gas Burned)	173.4	173.4		173.4	173.4	173.4	173.4	173.4
Reference	1-02-006-01	1-02-006-01		1-02-006-01	1-02-006-01	1-02-006-01	1-02-006-01	
EM Factor (LB/10E6 SCF)	3	3		1.4	40	550	0.6	
Contr Factor	0.999	0.999		0	0	0	0	
YR Actual EM (tons)	0.000	0.000		0.121	3.468	47.685	0.052	
Time Factor	6055	6055		6055	6055	6055	6055	
Actual EM (lb/hr)	8.59125E-05	8.5912E-05		0.040092486	1.145499587	15.75061932	0.01718249	
Yr Total EM (tons)	23.9383401	20.1980151		0.12138	3.468	47.685	0.05202	14.9613
Yr Total EM (lb/hr)	7.906966177	6.67151614		0.040092486	1.145499587	15.75061932	0.01718249	5.57997203
COMPLIANCE (yes=3, no=1):								
Nat Gas Limit (10E6 SCF)	3	NA	NA	NA	NA	NA	NA	NA
Hr Allow EM (lb/hr)	1	1	YES	3	3	1	3	1
Yr Allow EM (Tons/yr)	1	3	NA	3	3	1	3	3
REV APEN? (3=YES,1=NO)	YES	YES				YES		YES

COMMENTS:

1. File Name = 003-02
2. The shaded values in the compliance section at the bottom of the worksheet represent permit exceedences.
3. A revised APEN with the increases above indicated must be submitted to APCD immediately
revised APENS shouldbe submitted to APCD by April 30 of the year following the exceedence - April 30, 1995 APEN was due

AIR POLLUTION CONTROL COMP ETERMINATION WORKSHEET

SOURCE NUMBER: 003
OURCE NAME: Southwestern Portland Cement
LOCATION: Lyons
COUNTY: Bldr 013
CONTACT: Steve Mossberg
TELEPHONE: 823-6685
DATE: 9/5/95
TIME: 1:00 - 4:00pm

INSPECT TYPE: ANNUAL
ACTION TYPE: 12
INSPECTOR: Jeff Zayach

EIS POINT ID: 07
POINT NAME: Kiln / Precalciner
NSPS REG?: YES
NESHAPS REG?: NO
PSD REG?: NO
1994 ANNUAL THRUPUT:

PERMIT: 12B0444-2
CONTROL EQUIP: Baghouse

KILN FEED: 418,505 Tons
COAL BURNED: 72,240 Tons (0.5% SULFUR; 8% ASH; 1,618,176 MMBTU)
OIL BURNED: 0
GAS BURNED: 461,887 MCF
TIRES BURNED: 0
7803.25 Hrs

OPERATIONAL SCHEDULE:

POLLUTANT	PART	PM10	OPACITY	VOC	CO	NOX	SOX	Lead
REGULATION	12B0444-2	12B0444-2	1.II.A.1	12B0444-2	12B0444-2	12B0444-2	12B0444-2	12B0444-2
DESIGN RATE (TON/HR)	120.00							
HR ALLOW EM (LB/HR)	23.90	23.90	20%	34.30	98.10	656.90	332.30	10.80
YR ALLOW EM (TON/YR)	96.40	96.40		138.00	396.00	2649.00	1340.00	43.60
ANNUAL CONSUMPTION (COAL TON/YR)	113945.00							
MMBTU Annual Maximum(10E6)	2.62							
YR THRUPUT (TONS COAL BURNED)	72240.00	72240.00		72240.00	72240.00	72240.00	72240.00	72240.00
REFERENCE	AP-42, 8.6-6	AP-42, 8.6-6	Permit	AP-42, 8.6-6	AP-42, 8.6-6	AP-42, 8.6-6	AP-42, 8.6-6	AP-42, 8.6-6
EM FACTOR (LB/TON)	108.00	46.00				5.70	7.00	0.12
%S	0.50	0.50				0.50	0.50	0.50
CONT FACTOR	0.9	0.9					0.974	
YR ACTUAL EM (TON)	195.048	83.076				102.942	3.287	2.187
BTU VALUE (10E6 BTU/TON)	4.88	4.88				4.88	4.88	4.88
YR HEAT INPUT (10E6 BTU)	1618176.00	1618176.00				1618176.00	1618176.00	1618176.00
YR THRUPUT (10E6 SCF GAS BURNED)	461.88	461.88		461.88	461.88	461.88	461.88	
REFERENCE	3-90-006-02	3-90-006-02		3-90-006-02	3-90-006-02	3-90-006-02	3-90-006-02	
EM FACTOR (LB/10E3 GAL)	0.00	0.00		0.00	0.00	0.00	0.00	
%S	0.35	0.35		0.35	0.35	0.35	0.35	
CONT FACTOR	0.99						0.75	
YR ACTUAL EM (TON)	0.001	0.081		0.081	0.081	0.081	0.020	
BTU VALUE (10E6 BTU/GAL)							0.13	
YR HEAT INPUT (10E6 BTU)							61430.04	
YR THRUPUT (10E6 SCF BURNED)							1.59	
BTU VALUE (BTU/SCF)							1075.00	
YR HEAT INPUT (10E6 BTU)							1711.40	
YR ACT EM TOTAL (TONS)	195.049	83.157	NA	0.081	0.081	103.023	3.307	2.187
TIME FACTOR (HRS/YR)	7803.25	7803.25		7803.25	7803.25	7803.25	7803.25	7803.25
HR ACTUAL EM (LB/HR)	49.99	21.31		0.02	0.02	26.41	0.85	0.56
COMPLIANCE (3=YES,1=NO) YR								
lb/hr		3		3	3	3	3	3
Tons/yr		3		3	3	3	3	3
COAL/YR	3		na	na	na	na	na	na
RE APEN? (3=YES,1=NO)							NO	

COMMENTS:
1. FILE NAME: 003-07
2. An APEN needs to be filed with CDPHE, APCD