ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: December 2, 1976

EPA Region 5 Records Ctr.
298179

I.D. 119 115 AAA

TO: Walter H. Franke

FROM: Mike Elbl ML

SUBJECT: AMOCO OIL CO.

As a result of the 10/28/76 start-up of the expanded sulfur recovery facility previously owned by Anlin but now owned by Shell, Amoco's Wood River refinery is no longer in violation of Rule 204(d). New SO_2 emission rates are as follows:

AVERAGE SO_2 EMISSION RATES

	Actual		Allowable	
SOURCE	T/Y	lb/hr	T/Y	lb/hr
BLR 1	604.4	143.2	604.4	143.2
BLR 2	604.4	143.2	604.4	143.2
BLR 3	604.4	143.2	604.4	143.2
BLR 4	604.4	143.2	604.4	143.2
BLR 5	869.0	206.9	869.0	206.9
BLR 6	869.0	206.9	869.0	206.9
DAP Afterburner B-2	0.4	0.1	13.1	3.0
DAP HTR B-401	0.9	0.2	21.6	5.0
No. 2 Polybutene BLR H-1	0.4	0.1	11.8	2.7
No. 5 Pipestill BLR 501	292.2	66.9	1274.6	291.8
No. 5 Pipestill BLR 502	72.1	16.5	316.2	72.4
MPAP HTR B-901	0.4	0.1	12.2	2.8
Asphalt Plant Afterburner B-2	4.6	1.2	134.0	34.8
Asphalt Plant Unirad HTR B-1	0.4	.2	13.5	6.4
Total of Sources Previously Out of Compliance	4527.0	1071.9	5952.6	1405.5
Ultraformer B-2 Furnace, Asec	119.7	27.4	206.6	47.3
B-2 Furnace, Bsec	74.3	17.0	128.0	29.3
B-2 Furnace, 1 Reheat	155.1	35.5	267.8	61.3
B-2 Furnace, 2 Reheat	98.3	22.5	169.0	38.7
B-2 Furnace, 3 Reheat	77.3	17.7	133.7	30.6
B-4A & B-4B Furnace	84.3	19.3	145.5	33.3
B-5 Regen gas furnace	21.4	4.9	27.1	6.2
Maptha Desulf Cat Regen	5.1	1.2	5.2	1.2
Ultrafiner B-151	0.8	0.2	17.0	4.4
B-101	60.7	15.7	67.6	17.5
B-2	2.7	.7	77.2	.2
Ammonia Terminal Heater B-1	1.3	.6	115.3	52.8
GAP Process HTR B-101	4.4	1.4	25.3	8.1
Total Fuel Combustion	5232.4	1236.0	7323.0	1736.4
FCCU Regenerator	720.7	165.0	6195.6	1418.4
TOTAL	5953.1	1401.1	13533.5	3154.8

These figures are based on 1975 fuel usage data with a gas sulfur content now equal to 0.02 mole percent H_2S which converts to 0.0342 $lbSO_2$/MBTU as follows:

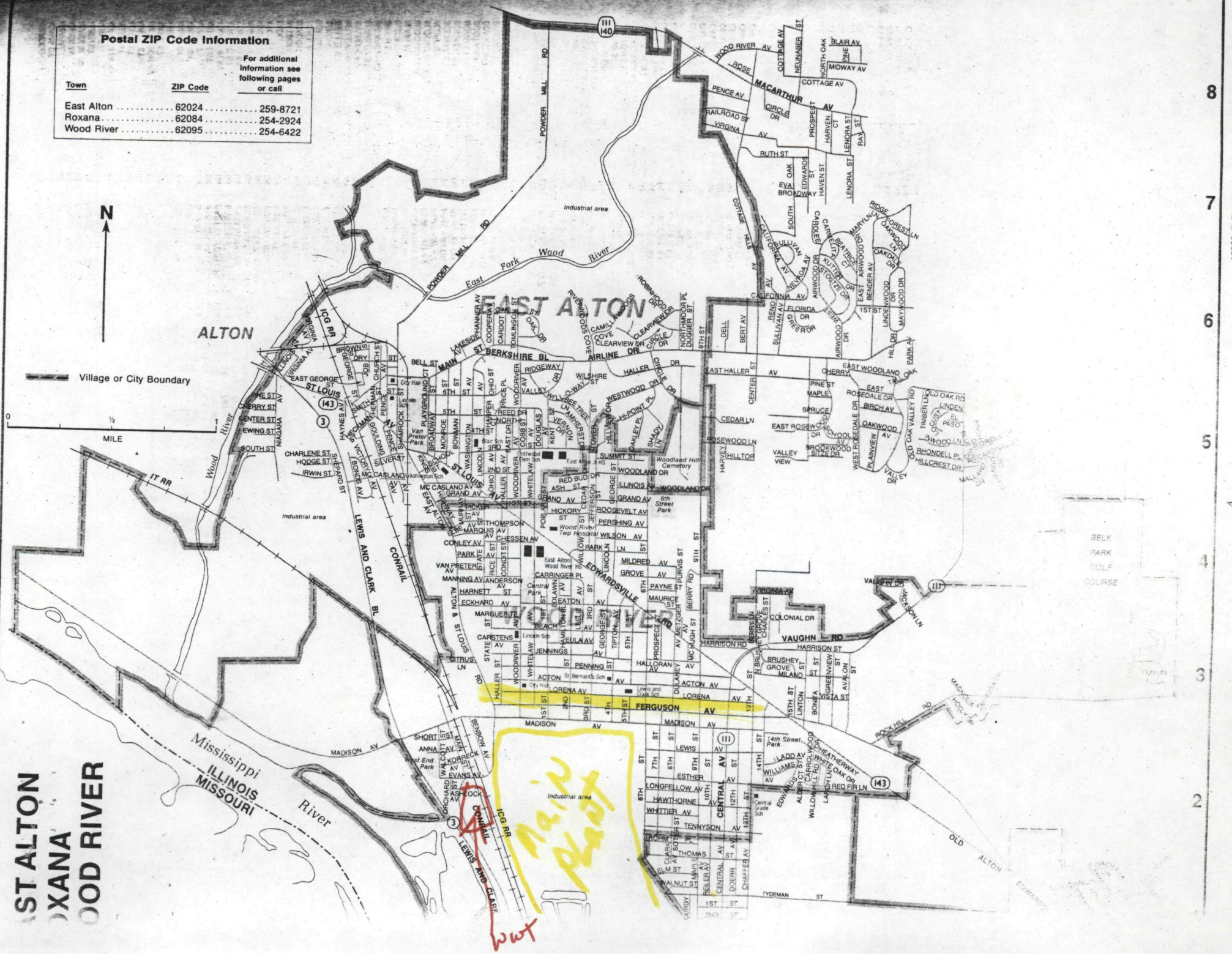
$$\frac{.02 \text{ mole H2S}}{100 \text{ moles gas}} \times \frac{34 \text{ lb H2S}}{\text{mole H2S}} \times \frac{\text{mole ref gas}}{387 \text{ scf } (60^{o}F)} \times \frac{1000 \text{ ft}^3}{.967 \text{ MBTU}} \times \frac{32 \text{ lbs}}{34 \text{ lb H2S}} \times \frac{2 \text{ lb } SO_2}{\text{lbs}} =$$

.0342 lbSO2/MBTU

The figures will change somewhat when a more accurate gas sulfur figure is obtained and when more representative fuel usage figures are available.

MWE:pbo

cc: Miles A. Zamco (Orig.)
cc: Region IV Files


Postal ZIP Code Information
Town
ZIP Code
For additional information see following pages or call
East Alton 62024 259-8721
Roxana 62084 254-2924
Wood River 62095 254-6422
N
Village or City Boundary
0
½
1
MILE
ALTON
EAST ALTON
WOOD RIVER
Industrial area
Mississippi River
ILLINOIS
MISSOURI
Wood River
East Fork Wood River
POWDER MILL RD
ICG RR
CONRAIL
LEWIS AND CLARK BL
EDWARDSVILLE RD
MAIN ST
BERKSHIRE BL
AIRLINE DR
ST LOUIS
MACARTHUR AV
FERGUSON AV
MADISON AV
CENTRAL AV
VAUGHN RD
BELK PARK GOLF COURSE
Woodlawn Hill Cemetery
6th Street Park
14th Street Park
West End Park
Van Prater Park
Central Park
Wood River Twp Hospital
East Alton Wood River HS
City Hall
Lincoln Sch
Washington Sch
St Bernard's Sch
Lewis and Clark Sch
Central Grade Sch
Main Plant
WOT
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AMOCO OIL COMPANY
WOOD RIVER REFINERY

RELIEF VALVES DISCHARGING TO THE ATMOSPHERE WHICH ARE CAPABLE OF RELEASING MORE THAN 0.65 POUND OF HYDROGEN SULFIDE OR MERCAPTANS IN FIVE MINUTES

VALVE NO.	SIZE IN. X IN.	SERVICE
Crude Distillation Unit*		
P-3 A to H (8 valves)	6 x 8	H/C Vapor
P-5	3 x 4	"
P-56	4 x 6	Fuel Gas
Catalytic Cracking Unit*		
PSV-203 A to J (10 valves)	6 x 8	H/C Vapor
PSV-206 A to I (9 valves)	6 x 8	"
PSV-209	6 x 8	"
PSV-210	6 x 10	"
PSV-212	4 x 6	Propane-Propylene
PSV-274	1½ x 2	H_2S, Propane & Steam
PSV-300	4 x 6	H/C Vapor
Catalytic Reforming*		
E-2A	4 x 6	H/C vapor
E-5A	3 x 4	"
F-1B	6 x 8	"
Alkylation Unit*		
S-508	3 x 4	Butanes
I-10	3 x 4	Butanes & Butenes
I-10A	3 x 4	" "

*Not currently in operation.