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# ENTROPY

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STATIONARY SOURCE SAMPLING REPORT

E EI REF. NO. 5450

TEXASGULF CHEMICALS COMPANY

PHOSPHORIC ACID PLANT

AURORA, NORTH CAROLINA

TOTAL REDUCED SULFUR EMISSIONS COMPLIANCE TESTING

*UNITS 1 AND 3*

*FUME SCRUBBER STACKS*

*VACUUM PUMP STACKS*

*BIRD FILTER STACKS*

MARCH 9, 10, 11, and 12, 1987

REPORT CERTIFICATION

The sampling and analysis performed for this report was carried out under my direction and supervision.

Date March 18, 1987

Signature Willis S. Nesbit

Willis S. Nesbit

I have reviewed all testing details and results in this test report and hereby certify that the test report is authentic and accurate.

Date March 18, 1987

Signature Walter S. Smith

Walter S. Smith, P.E.

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## INTRODUCTION

1.1 Outline of Test Program. Stationary source sampling was performed for Texasgulf Chemicals Company, at their facility in Aurora, North Carolina, on March 9, 10, 11, and 12, 1987. EPA Method 16 was performed to determine the total reduced sulfur emissions for compliance purposes. A test log is presented in Table 1-1.

1.2 Test Participants. Table 1-2 lists the personnel present during the test program.

TABLE 1-1  
PHOSPHORIC ACID PLANT TEST LOG

<u>Unit</u>	<u>Sampling Location</u>	<u>Test Date</u>	<u>Run Numbers</u>
1	Fume Scrubber Stack	3/10	1-FS-1, 1-FS-2, 1-FS-3
1	Vacuum Pump Stack	3/10	1-VP-1, 1-VP-2, 1-VP-3
1	Bird Filter Stack	3/11 3/12	1-BF-1 1-BF-2, 1-BF-3
3	Fume Scrubber Stack	3/12	3-FS-1, 3-FS-2, 3-FS-3
3	Vacuum Pump Stack	3/09	3-VP-1, 3-VP-2, 3-VP-3
3	Bird Filter Stack	3/12	3-BF-1, 3-BF-2, 3-BF-3

TABLE 1-2  
TEST PARTICIPANTS

Texasgulf Chemicals Company	Wayne Powell Test Coordinator
North Carolina Department of Natural Resources and Community Development	Arthur Smoot Test Observer
Radian Corporation	Mike Hartman Test Observer
Entropy Inc.	Willis S. Nesbit Project Supervisor
	Arthur T. McDonald Sampling Team Leader
	Timothy M. Brice Instrument Technician

## SUMMARY OF RESULTS

Table 2-1 presents the total reduced sulfur emissions from the testing performed March 9 through 12, 1987. Detailed test results are given in Appendix A; field and analytical data are presented in Appendix B.

TABLE 2-1  
TOTAL REDUCED SULFUR EMISSIONS (as H<sub>2</sub>S) SUMMARY

	<u>Run 1</u>	<u>Run 2</u>	<u>Run 3</u>	<u>Avg.</u>
<u>Unit 1</u>				
Fume Scrubber Exhaust				
Test Date	3/10/87	3/10/87	3/10/87	
Air Flow Rate, SCFM, dry	13,109	13,200	13,164	13,158
Emission Rate, lb/Ton	2.05	1.94	1.92	1.97
Vacuum Pump Exhaust				
Test Date	3/10/87	3/10/87	3/10/87	
Air Flow Rate, SCFM, dry	179	254	256	230
Emission Rate, lb/Ton	2.22	2.06	1.85	2.04
Bird Filter Exhaust				
Test Date	3/11/87	3/12/87	3/12/87	
Air Flow Rate, SCFM, dry	1,305	1,217	1,242	1,255
Emission Rate, lb/Ton	0.00502	0.0140	0.00240	0.00714
<u>Unit 3</u>				
Fume Scrubber Exhaust				
Test Date	3/12/87	3/12/87	3/12/87	
Air Flow Rate, SCFM, dry	32,323	32,201	32,795	32,440
Emission Rate, lb/Ton	0.119	0.0936	0.124	0.112
Vacuum Pump Exhaust				
Test Date	3/09/87	3/09/87	3/09/87	
Air Flow Rate, SCFM, dry	456	433	410	433
Emission Rate, lb/Ton	0.00737	0.0160	0.0140	0.0125
Bird Filter Exhaust				
Test Date	3/12/87	3/12/87	3/12/87	
Air Flow Rate, SCFM, dry	1,541	1,502	1,240	1,428
Emission Rate, lb/Ton	0.00059	0.00067	0.00084	0.00070