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Report of:

AIR POLLUTION SOURCE TESTING
FOR CALIFORNIA AB2588 OF ENGINES
AT THE CHEVRON USA, INC.
CARPINTERIA FACILITY

2 cycles?
Jones.
F, IST Ex

Tested on:

3-2

April 23, 1990

Submitted to:

CHEVRON USA, INC.
P. O. BOX 6917
VENTURA, CALIFORNIA 93006

Submitted on:

August 30, 1990

Submitted by:

ENGINEERING-SCIENCE
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ES ENGINEERING-SCIENCE

REPORT OF AB2588 AIR POLLUTION SOURCE TESTING
PLATFORM HOPE, CALIFORNIA
CHEVRON USA, INC.

INTRODUCTION

Chevron USA (CUSA) retained Engineering Science (ES) to conduct air pollution tests on a Cooper Bessemer natural gas fired engine driving a compressor unit operated by Chevron USA, at Chevron's offshore facility located on Platform Hope, California. The purpose of the testing program was to determine emissions of air toxics as required by California Assembly Bill AB2588.

AB2588 required that Chevron conduct monitoring to determine the emission rates of formaldehyde; and benzene, toluene, ethylbenzene, xylene (BTEX). The testing program was conducted in accordance with California Air Resources (CARB) and EPA test procedures. Dr. Kumar Ganesan from the Santa Barbara County Air Pollution Control District was present to observe the source testing.

SOURCE INFORMATION

The testing was conducted on Platform Hope which is located in waters off the coast of Santa Barbara. On the platform is an internal combustion engine which is used to drive a natural gas compressor unit. The compressor unit is used to pump natural gas to onshore storage facilities. Natural gas is recovered as a part of the normal processing operations of crude oil associated with the platform. The natural gas is compressed and pumped to shore by a Cooper Bessemer, Model GMVC-12, natural gas fired, internal combustion engine. The testing program was conducted with the engine operating at maximum load.

The Cooper Bessemer engine is equipped with a horizontally located stack. The stack has a sample port located approximately two duct diameters from the nearest upstream and downstream disturbances.

TABLE 1
 SUMMARY OF EMISSIONS DATA
 COOPER-BESSEMER ENGINE
 PLATFORM HOPE
 CHEVRON USA, INC.
 April 24, 1990

2-cyl Lean.

Parameter	Results			
Run No.	1	2	3	Average
Formaldehyde				
ppm (v/v dry)	248	243	304	265
lbs/hr	7.24	7.09	8.88	7.74
lbs/MMBTU	0.688	0.702	0.56	0.65
Benzene				
ppm (v/v dry)	0.076	0.082	0.069	0.076
lbs/hr	0.006	0.006	0.005	0.006
lbs/MMBTU	0.0006	0.0006	0.0005	0.0006
Toluene				
ppm (v/v dry)	0.060	0.140	0.052	0.084
lbs/hr	0.005	0.012	0.005	0.007
lbs/MMBTU	0.0005	0.0011	0.0005	0.0007
Ethylbenzene				
ppm (v/v dry)	0.014	0.032	0.011	0.019
lbs/hr	0.001	0.003	0.001	0.002
lbs/MMBTU	0.0001	0.0003	0.0001	0.0002
Xylenes				
ppm (v/v dry)	0.091	0.099	0.033	0.074
lbs/hr	0.007	0.009	0.003	0.006
lbs/MMBTU	0.0007	0.0009	0.0003	0.0006

26 ppb