543.4 DIM

CONTENTS

Abstract	1
Introduction	1
Experimental procedures	2
Generation and collection of exhaust sample	3
Processing of sample prior to NO _x determination	3
Methods and instrumentation for measurement of NO_x	5
Methods	5
Static oxidation in tank (ST method)	5
Bureau of Mines method (BM method)	5
Chevron research method (CR method)	6
Phenoldisulfonic acid method (PDS method)	6
Method for direct measurement of NO (Direct method)	7
Instrumentation	8
Results	8
Evaluation and calibration of instrumentation	8
Beckman 255 NO ₂ analyzer (NDUV analyzer)	8
Beckman 315 and LIRA 200 (MSA) nondispersive infrared NO analyzers (NDIR	
analyzers)	10
Spectronic 20 spectrophotometer	17
Intercomparison of methods	17
Intercomparison of ST, BM, CR, PDS methods	17
Intercomparison of Direct (NDIR) and ST methods	18
Discussion	24
Indirect methods	24
NO ₂ losses caused by presence of water vapor	24
NO_2 losses caused by reactions between hydrocarbon exhaust components and NO_2	25
Direct measurement of NO	26
References	28
AppendixFuel analysis data	29