

## 8800 MONOLEC ULTRA<sup>®</sup> ENGINE OIL

VERMILION BOARD OF EDUCATION, Vermilion, OH

Detroit Diesel 8.2L Diesel Engine • SIC 8211 Elementary & Secondary Schools

Drain Intervals extended from 6,000 miles to 25,700 with LE's 8800.

CUSTOMER TESTIMONIAL

### CUSTOMER PROFILE

The Vermilion Board of Education oversees the local school district, including student transportation. They have been an LE customer since 1992.

### APPLICATION

The Vermilion Board of Education uses a variety of school buses to transport students. These are powered by Detroit Diesel 8.2L and Cummins 5.9L engines.

### AREA OF INTEREST

The Vermilion BOE was not experiencing any problems or concerns with the engine oil they were using in the school buses. It was a major oil company's oil and had been used for a number of years. Oscar Hayes, Transportation Supervisor and Walter Wellner, Mechanic, were both satisfied with the performance of this oil. However, they are always looking for ways to improve the efficiency of the garage and the buses, and to lower operating costs for the Vermilion School District.

### LE SOLUTION

In the Spring of 1992 the local LE Representative made a sales presentation and recommended LE's 8800 MONOLEC ULTRA Engine Oil for the school buses. It is formulated for heavy-duty, long-drain service in diesel and gasoline engines. LE's

8800 improves fuel efficiency, reduces wear and provides all-season, all-weather performance. It is made from select paraffinic base oils and contains MONOLEC<sup>®</sup>, LE's exclusive wear-reducing additive.

### CUSTOMER COST SAVINGS

Anticipating the savings of using long-drain engine oil, Oscar Hayes and Walter Wellner agreed to do a test on one Detroit Diesel 8.2L unit. The unit had 72,402 miles on the engine. To determine that LE's 8800 MONOLEC ULTRA Engine Oil was doing its job, oil analysis was performed periodically. To begin the test, analysis was also done on the major oil company oil from the engine before switching to LE's 8800.

A copy of the LEAP Analysis (Lubrication Engineers Analysis Program) report is shown below. Please note that line 1 is the analysis done on the major oil company product. The other analyses are on LE's 8800. **Note that the oil drain intervals have been extended from 6,000 miles with the major oil company product to 25,700 with LE's 8800.** At the same time, iron wear in parts per million (ppm) per mile has been reduced by 82%. Copper and Lead have been cut 88% and 91% respectively. Fuel soot was reduced by 76%. The viscosity was maintained in the middle of the SAE 40 viscosity range and the TBN (total base number) is still high.

**LUBRICATION  
ENGINEERS<sup>®</sup>, Inc.**

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98-11-13  
LI70200

This unit now has over 185,000 miles and the engine and turbo have never needed repair. All of these excellent results have been achieved by LE's 8800 MONOLEC ULTRA Engine Oil 15W-40, a 100% paraffinic based oil.

The entire diesel fleet of Vermilion Board of Education school buses has now been converted to LE's 8800 MONOLEC ULTRA Engine Oil.

We want to thank Oscar Hayes, Transportation Supervisor; Earl Molenda, Jr., Mechanic and the local LE Representative for providing the information to prepare this report.

ID 7 E NAME VERMILION CITY SCHOOLS CITY VERMILION OH TYPE DIESEL ENGINE VEHICLE MUNICIPAL VEHICLE MAKE DETROIT DIESEL MODEL 8.2 L LUBRICATION ENGINEERS GRADE ULTRA (8800) SAE 15W40	 <h1 style="margin: 0;">LEAP</h1> <p style="margin: 0;"><i>LUBRICATION ENGINEERS, Inc.</i></p> <p style="margin: 0;"><b>Analysis Program</b></p> <p style="margin: 0;">P. O. Box 7128 Fort Worth, Texas 76111 (817) 834-6321</p>	SEVERITY STATUS: *  LUBRICATION ENGINEERS ROBERT H. STEWART 6601 COUNTY RD 46 RAMSON OH 45881  593000-918-0010	
DATE: 10/10/96	LUBE FLUID: UNIT: 25700	MAKEUP: LUBE/FLUID: LAB # 547344	REPORT DATE: 10/22/96

NO ABNORMAL FINDINGS; Time OR Mileage CONFLICTS with PREVIOUS SAMPLE; check hourmeter for proper operation and/or check reporting method;

LUBE FLUID UNIT	VALUES EXPRESSED IN PARTS PER MILLION (PPM) BY WEIGHT																				NON-METALLIC CONTAMINANTS			LUBE FLUID DATA						
	WEAR METALS										CONTAMINANT					ADDITIVE METALS					SULFUR	PHOSPHORUS	MOLYBDENUM	VIS	VIS	TAN	TBN			
	IRON	CHROMIUM	COPPER	ALUMINUM	COBALT	LEAD	TIN	SILICON	NICKEL	ANTHRACENE	SODIUM	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE								POSSIBLE	POSSIBLE	POSSIBLE
6000	79	9	0	5	15	13	0	0	0	0	0	15	24	0	160	1125	786	0	1095	1455	0.5	0.8	<.1					14.2		5.16
72402																														
6000	30	3	1	2	5	3	0	0	0	0	0	10	7	0	111	1177	306	0	1151	1346	0.5	0.5	<.1					14.1		5.60
86755																														
6015	59	1	0	1	13	2	0	0	0	0	0	16	9	0	96	1240	551	0	1397	1627	0.5	0.2	<.1					15.0		5.60
96924																														
8207	10	0	4	0	3	1	0	0	0	0	0	10	1	0	136	1083	153	0	1563	1494	0.5	<.1	<.1					14.1		6.54
105131																														
11850	62	1	0	1	10	2	0	0	0	0	0	6	0	0	156	1723	214	0	1242	1785	0.5	0.6	<.1					14.9		5.64
116981																														
16440	72	1	0	1	11	2	2	0	0	0	0	7	0	0	138	1799	203	0	1555	1672	0.5	0.7	<.1					15.1		5.42
121574																														
19724	63	1	0	1	10	2	1	0	0	0	0	11	0	1	153	1799	463	0	1472	1981	0.5	0.9	<.1					15.6		6.64
141296																														
21925	72	1	0	1	13	2	1	0	0	0	0	12	0	3	144	2022	589	0	1546	2074	0.5	1.0	<.1					15.8		6.63
143499																														
60	8	1	4	8	6	0	0	0	0	0	0	9	0	7	152	1853	742	0	1623	2231	0.5	0.8	<.1					15.8		7.62
25700																														

- CEG #
- Y 4
- N 5
- Y 6
- Y 1
- N 2
- Y 3