OIL REPORT

LAB NUMBER: D38809 **UNIT ID:** 1 MR BUB
REPORT DATE: 5/6/2008 **CLIENT ID:** 31077
CODE: 63/286 **PAYMENT:** Prepaid

UNIT

MAKE/MODEL: Cummins 6 BT 5.9L
FUEL TYPE: Diesel
ADDITIONAL INFO: 2005
OIL TYPE & GRADE: 15W/40
OIL USE INTERVAL: 6,500 Miles

CLIENT

DON REE
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COMMENTS

DON: If you have to have a high wear metal, copper is the one least likely to lead to an engine problem. It is likely from a bronze part, as it does not appear to be from main or rod bearings. Silicon was high as well. Suggest checking the air filtration system due to the high silicon. If it's allowing dirt to get through, this could be the cause of the copper. All other metals are okay. Universal averages show normal wear from the Cummins 5.9L after ~6,700 miles run on the oil. The TBN was still okay at 5.4, showing lot of active additive left. 1.0 is low. We'll watch copper.

ELEMENTS IN PARTS PER MILLION

		UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
MI/HR on Oil	6,500							
MI/HR on Unit	44,000							
Sample Date	04/29/08							
Make Up Oil Added								
ALUMINUM	3	3						3
CHROMIUM	1	1						2
IRON	31	31						23
COPPER	**14**	14						4
LEAD	1	1						3
TIN	3	3						1
MOLYBDENUM	46	46						26
NICKEL	0	0						0
MANGANESE	0	0						0
SILVER	0	0						0
TITANIUM	0	0						0
POTASSIUM	4	4						3
BORON	47	47						83
SILICON	**12**	12						7
SODIUM	14	14						4
CALCIUM	2676	2676						2839
MAGNESIUM	454	454						232
PHOSPHORUS	1132	1132						1084
ZINC	1364	1364						1268
BARIUM	0	0						1

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	72.6	69-82					
cSt Viscosity @ 100°C	13.64	12.7-16.3					
Flashpoint in °F	425	>405					
Fuel %	<0.5	<2.0					
Antifreeze %	0.0	0					
Water %	0.0	0.0					
Insolubles %	0.3	<0.7					
TBN	5.4						
TAN							
ISO Code							

*** THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE**

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