



OIL REPORT

LAB NUMBER: H42210
REPORT DATE: 4/5/2016
CODE: 20/32

UNIT ID: KARMA
CLIENT ID: 71988
PAYMENT: CC: Visa

UNIT

MAKE/MODEL: Yanmar 2GM20 2-cyl
FUEL TYPE: Diesel
ADDITIONAL INFO: 1980

OIL TYPE & GRADE: Shell Rotella T 15W/40
OIL USE INTERVAL: 52 Hours

CLIENT

COMMENTS

JOHN: Thanks for the note about the engine hours. If keeping track of hours isn't very accurate, then maybe using months or seasons is a better way to go. Let us know what you think and we can change things on our end as needed. This latest report looks good. Silicon is a little higher, but aluminum is back down to 3 ppm, so we aren't as worried about piston wear. That also helps silicon look like a harmless sealer or lube, but make sure the air filter/intake is in good order, just to be safe. The 1.0% fuel is harmless and probably from normal use. No new issues for Karma!

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	52	UNIT / LOCATION AVERAGES	70	3				UNIVERSAL AVERAGES
	MI/HR on Unit	910		860	790				
	Sample Date	3/16/2016		3/28/2014	8/19/2011				
	Make Up Oil Added	0 qts			0 qts				
	ALUMINUM	3	4	5	3				2
	CHROMIUM	1	1	2	0				1
	IRON	18	22	39	9				12
	COPPER	2	2	3	1				2
	LEAD	1	2	2	2				2
	TIN	0	0	1	0				1
	MOLYBDENUM	15	35	42	48				30
	NICKEL	0	0	1	0				0
	MANGANESE	0	0	0	0				0
	SILVER	0	0	0	0				0
	TITANIUM	0	0	0	0				0
	POTASSIUM	4	2	0	1				3
	BORON	44	60	59	77				66
	SILICON	22	19	20	15				12
	SODIUM	5	3	3	1				5
	CALCIUM	2643	2316	2133	2172				2441
	MAGNESIUM	34	91	118	120				166
	PHOSPHORUS	1111	1091	1027	1136				1062
	ZINC	1445	1312	1171	1321				1208
	BARIUM	0	0	0	0				1

Values
Should Be*

PROPERTIES	SUS Viscosity @ 210°F	69.4	68-79	62.0	64.7			
	cSt Viscosity @ 100°C	12.80	12.4-15.5	10.79	11.52			
	Flashpoint in °F	400	>410	450	425			
	Fuel %	1.0	<3.0	<0.5	<0.5			
	Antifreeze %	0.0	0.0	0.0	0.0			
	Water %	0.0	0.0	0.0	0.0			
	Insolubles %	0.3	<0.6	0.4	0.3			
	TBN							
	TAN							
	ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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