

GEAR HEAD

OIL ANALYSIS

EXTRACT

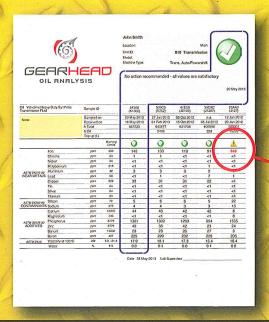
Using provided clear bottle, extract engine oil from oil reservoir and fill out data label provided.



Place oil sample in pre-paid shipping container, and send through US Mail. NO POSTAGE NECESSARY!



Lab tech sends detailed analysis report to customer.



Sample Report



RECEIVE YOUR DIAGNOSTICS ELECTRONICALLY FROM THE ROAD.

As any fleet operator understands, saving a few pennies a mile on maintenance costs can add up very quickly, saving thousands of dollars per year.

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WHAT IS OIL ANALYSIS?

Engine oil analysis is a process that involves a sample of engine oil, and analyzing it for various properties and materials in order to monitor wear metals and contamination. By analyzing a sample of used engine oil, you can determine the wear rate, and overall service condition of an engine, along with spotting potential problems and imminent failure before it happens. This has become a critical tool for commercial shipping fleets, where downtime due to engine failure can be costly and potentially dangerous.



John Smith

Location:

Main

Unit ID:

8035

Model:

Machine Type:

Engine, Diesel: Liquid-Cooled



GEARHEAD OIL ANALYSIS

Lead level is HIGH, suggesting close monitoring, or possibly maintenance action

Oxidation is HIGH

15 Mar 2014

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Oil Shell Rotella T 15W40		Sample ID		8DBE9 (L1077)	7C349 (K3325)	77979 (K2985)	706D5 (K2457)	6B3A2 (K2101)
Note:		Sampled on	= 1	09 Mar 2014	02 Dec 2013	21 Oct 2013	09 Sep 2013	05 Aug 2013
		Received on		15 Mar 2014	04 Dec 2013	06 Nov 2013	23 Sep 2013	20 Aug 2013
		m Total	Z Vo A	353381	297684	269013	242066	216000
		m Oil		162107	106410	67729	50792	26000
		Top up (l.)						
			Warning Limits	<u>^</u>				
	Iron	ppm	100	79	49	31	19	11
ASTM D6595-00 WEAR METALS	Chrome	ppm	15	3	3	2	2	1
	Nickel	ppm	24	<1	<1	<1	<1	<1
	Molybdenum	ppm	450	14	17	18	14	12
	Aluminium	ppm	15	8	7	5	5	4
	Lead	ppm	30	32	26	19	10	2
	Copper	ppm	20	10	5	4	4	2
	Tin	ppm	34	<1	<1	<1	<1	<1
	Silver	ppm	24	<1	<1	<1	<1	<1
	Titanium	ppm	150	<1	<1	<1	<1	<1
ASTM D6595-00 CONTAMINANTS	Silicon	ppm	15	12	5	8	7	5
	Sodium	ppm	40	32	28	23	15	11
ASTM D6595-00 ADDITIVES	Calcium	ppm	12000	2756	2785	2678	2662	2604
	Magnesium	ppm	2500	77	90	99	62	56
	Phosphorus	ppm	4158	1655	1436	1265	1118	1362
	Zinc	ppm	4808	1373	1350	1319	1338	1330
	Barium	ppm	273	<1	<1	<1	<1	<1
	Boron	ppm	1632	19	22	30	17	17
ASTM D445	Viscosity at 100°C	cSt	7.0 - 21.9	16.2	15.6	15.4	15.5	14.8
	Soot	%	5.0	1.5	1.1	0.7	0.5	0.3
	Oxi	abs/mm2	21.0	21.4	18.3	14.0	10.8	7.9
	Nit	abs/mm2	21.0	8.5	7.7	6.3	5.0	3.3
	Antiwear (ZDDP)	abs/mm2	The World	0.0	0.0	0.2	0.0	0.0
	Sulfate By-Products	abs/mm2		20.4	18.1	14.3	10.9	7.1
	TBN	mgKOH/g	<2.0	3.0	2.3	3.0	3.9	6.9
	Glycol	%	5.0	0.0	0.0	0.0	0.0	0.1
	Water	%	0.2	0.0	0.0	0.0	0.0	0.0
	Diesel Fuel	%	5.0	0.0	0.0	0.0	0.0	0.0

Date 21 Apr 2014 Lab Supervisor _____