

Understanding an Oil Analysis Report



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Bureau Veritas - Oil Analysis
12715 Royal Drive, Stafford, TX, 77477
800 - 248 - 7778

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Sample Analysis Report
Status: **D** Reason: **Coolant Leak**

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Account Information

Customer ID #: **Customer PK**
Company Name: **ACME Industries, Inc.**
Company Worksite: **Demo Site #12**
Company Address: **12345 Main Street
Houston, TX 77086**

Unit Information

Unit ID: **81629**
Unit Mfg: **International, 2007**
Unit Model: **IH7400 TAN RL**
Unit Serial No: **1HTWGAZT87J445473**
Unit Worksite: **Demo Site #12**

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Sample Information

Lab No: **201705260886**
Sample Tracking #: **S22434208234**
Sample Date: **5/16/2017**
Received Date: **5/23/2017**
Completed Date: **5/24/2017**

Component Information

Component Description: **Diesel Engine**
Component Mfg: **International**
Component Model: **DT570**
Component Serial #: **2134108**
Completed Type: **Engine**

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Other Sample Information

PO No: **1298798712**
Work Order No: **WK-23124**

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Fluid Information

Fluid Manufacturer: **Castrol**
Fluid Brand / Product: **Vector**
Fluid Grade: **15W40**

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ANALYSIS INDICATES CRITICAL CONDITIONS! COOLANT additives are present. GLYCOL test POSITIVE. Silicon present may be wholly or partially coolant additives. CHECK for recent coolant loss or unusual required additions. PERFORM a coolant pressure test. If leak-down is confirmed, INSPECT for the source of coolant intrusion. Data provided indicates oil and filter were changed at sampling. RESAMPLE at 1/2 normal interval.

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SPECTROCHEMICAL ANALYSIS (D5185) IN PART PER MILLION

LAB NO.	SAMPLE DRAWN	WEAR METALS										CONTAMINANTS			ADDITIVES							
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Phosphorus	Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Antimony
Reference Sample		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1300	1200	1800	425	<1	<1	80	<1
0886	15-May-17	49	2	<1	5	25	29	<1	<0.1	<1	<1	122	3929	3965	1412	1006	1523	465	<1	102	110	<1
0916	20-Feb-17	40	3	<1	3	2	3	<1	<0.1	<1	<1	22	443	1379	1521	1254	1853	417	<1	43	78	<1
0606	22-Dec-16	17	<1	1	<1	<1	1	1	<0.1	<1	<1	3	24	55	1157	1339	1962	416	<1	95	70	1
0716	18-Oct-16	47	1	<1	<1	<1	2	<1	<0.1	<1	<1	7	33	75	1165	1331	1973	447	<1	66	75	<1
0632	8-Aug-16	31	1	<1	<1	<1	2	<1	<0.1	<1	<1	6	26	55	947	1159	1645	353	<1	31	53	<1

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SAMPLE INFORMATION

Lab No.	Sample Drawn	Unit Time	Fluid Time	UoM	Filter Change	Oil Change
Reference Sample	-	-	-	-	-	-
0886	15-May-17	-	-	HRS	Y	Y
0916	20-Feb-17	-	2253	MI	Y	Y
0606	22-Dec-16	-	475	HRS	Y	Y
0716	18-Oct-16	-	476	HRS	Y	Y
0632	8-Aug-16	-	-	HRS	Y	Y

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FLUID PROPERTIES / CONTAMINANTS

D8279 VIS 100C (cSt)	Visc Grade	E2412 Soot (abs)	E2412 Glycol (abs)	Water %	Fuel %
Reference Sample	12.5	40	<0.1	NEG	<0.1
0886	12.5	40	0.1	POS	<1.0
0916	12.9	40	0.2	NEG	<1.0
0606	13.2	40	0.1	NEG	<1.0
0716	12.7	40	0.2	NEG	<1.0
0632	12.7	40	0.3	NEG	<1.0

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KEY: UoM - UNIT OF MEASURE Y - YES N - NO > - GREATER THAN < - LESS THAN N/R - NOT REPORTED

Testing performed by Bureau Veritas®, an ISO/IEC 17025:2005 accredited laboratory L-A-B Accredited Certificate Number L2264-01 - L2264-04 Testing. (*) - Not in scope of accreditation.
Notice: This analysis is intended as an aid in predicting mechanical wear. Test results, maintenance recommendations and accuracy are affected by customer-provided samples, equipment identification, maintenance history and apply only to this sample as provided. No guarantee, expressed or implied, is made against failure of this piece of equipment or a component thereof. The ultimate responsibility for the maintenance of this piece of equipment and all of its components is the responsibility of the equipment owner. See full terms and conditions at: www.bureauveritas.com/oil-analysis-alyxis.

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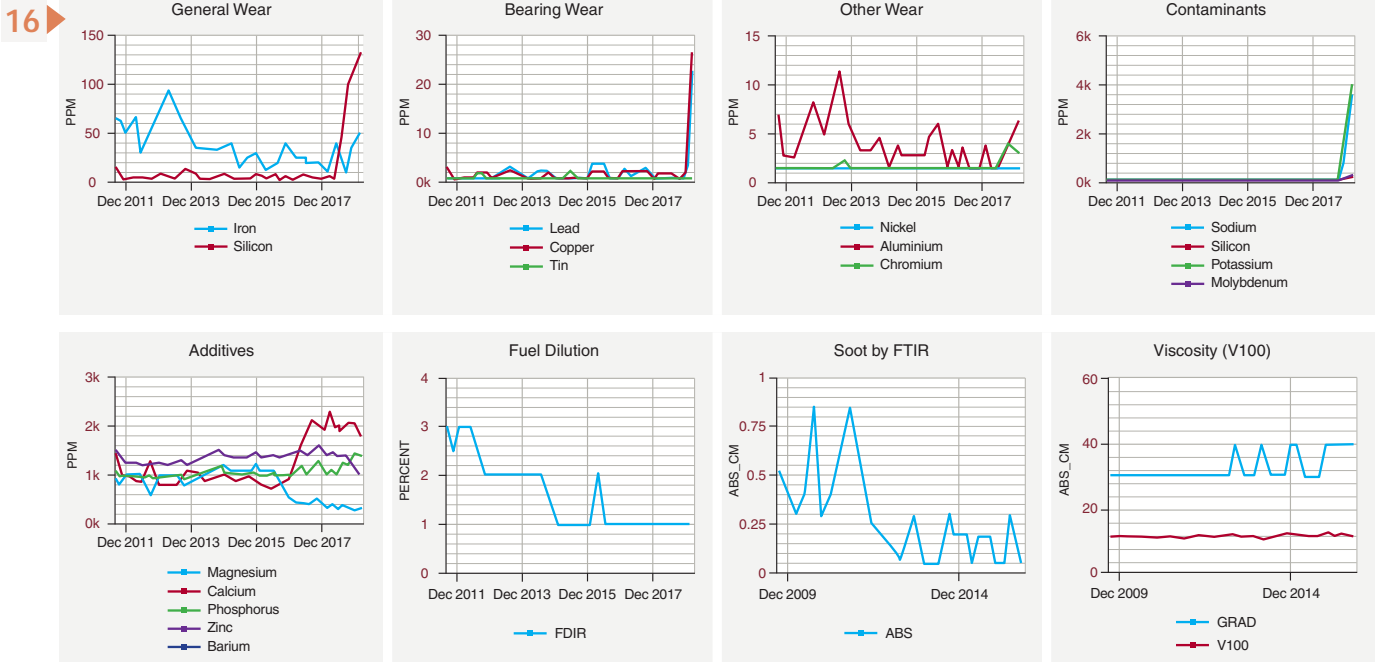


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Oil Analysis Report Explained

1. Address and phone number for the laboratory where the sample was processed.
2. All processed samples are assigned a status which indicates the severity of the sample's condition: A - Normal, B - Monitor, C - Abnormal, D - Critical.
3. Laboratory account number, customer name, address and worksite are those of the sampling account.
4. The difference between the Date Sampled and the Date Received by the laboratory could point to turnaround time issues - samples are stored too long before shipping or there could be shipping services issues. The difference between Date Received and Date Completed represents the laboratory's turnaround time.
5. Track unit oil analysis results by internal company PO and Work Order Numbers.
6. Complete fluid information identifies its specific properties for an accurate analysis of the results and is critical to determining if the correct fluid is being used or if "lube mixing" has occurred.
7. The contact information for the data analyst who reviewed your results is provided so that you can speak directly to them about any questions you might have.
8. Wear metals identified by spectrochemical analysis tell the analyst which components are wearing making unit manufacturer and model essential to the best analysis possible.
9. Results that need immediate attention appear in red. In this case, Status has been elevated to D due to the high levels of sodium and potassium - strong evidence of a coolant leak.
10. Additive metals can be present for many reasons as several are used in the formulations of some oils, detergents and dispersants. Knowing lube type and grade can alert an analyst to depletion levels and help in determining if "lube mixing" has occurred.
11. The time on both the oil and the unit and the units of measurement used as well as whether or not there was an oil or filter change can provide an analyst with a much better picture of the results and allow for a more in-depth analysis.
12. Viscosity measures a lubricant's resistance to flow at temperature. Depending on lube grade, it is tested at 40 or 100 degrees Centigrade and is reported in Centistokes.
13. Fluid properties analysis measures the degradation of certain lubricant properties.
14. For engine samples, Fuel, Soot and Water are reported in % volume. High Fuel Dilution decreases load capacity. Excessive Soot reduces combustion efficiency. Water decreases lubricity, hinders additives and contributes to oxidation.
15. Any specialty testing results, such as Particle Count, would appear at the end of this section.
16. A second page allows users to view up to eight graphs that can be customized in Labcheck Online to track trends in specific test results.