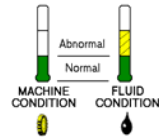




ABNORMAL



Lab Number : V0912501

Nancy McAtee
National Transportation Safety Board
490 L'Enfant Plaza, SW

Washington, DC 20594

ISO 9001:2008 Certified and ISO/IEC 17025:2005 Accredited

ID: WPR17LA0146-IIC-01-L - Accident# WPR17LA046, Left Oil Filter, Aircraft

Page 1

02/22/2018

19:22:57

Unit Type : Engine, Aircraft (GN_AR001)

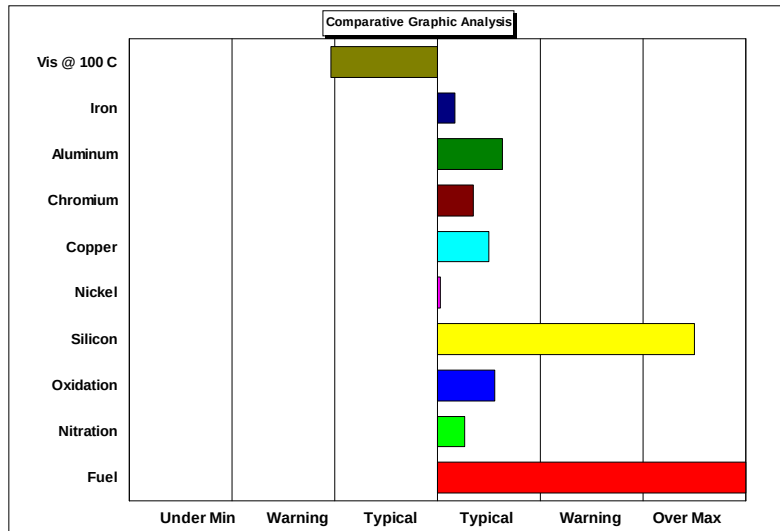
Oil Type : SAE 50 (GN_033) P.O. : POSTED CASH

Sampled : 01/20/2017 Shipped : 02/15/2018 Received : 02/16/2018 Printed : 02/22/2018

ABNORMAL: Abnormal results for fluid are present. Equipment appears satisfactory.

Viscosity is low and fuel is detected. Sample also failed flash point (<180°C). Silicone antifoam or sealant material may be present. Low wear rates suggest this is not dirt (silica). Please provide equipment make and model as well as the full name and grade of the lubricant in service. Please provide time on the unit and lubricant.

* = exceeds Caution limit ** = exceeds Alarm limit



Lab Number	Minimum	Maximum	V0912501
Sample Date			01/20/17
Unit Time (HR)			0
Fluid Time (HR)			0
Vis @ 100 C mm2/	16.30	21.89	*17.69
Metals			
Iron ppm		148	20
Aluminum ppm		27	14
Chromium ppm		28	8
Copper ppm		30	12
Lead ppm			>1000
Tin ppm		10	<2
Nickel ppm		47	1
Silver ppm		4.5	<0.1
Antimony ppm			<1
Silicon ppm		20	**24
Sodium ppm			<2
Boron ppm			<1
Zinc ppm			5
Phosphorus ppm			75
Calcium ppm			6
Magnesium ppm			5
Barium ppm			<1
Molybdenum ppm			<1
Potassium ppm			<4
FTIR			
Oxidation Abs/cm		30	14
Water FTIR % Vol		0.20	<0.10
Nitration Abs/cm		30	4
Fuel % Vol		2.5	**9.4
Glycol % Vol		0.20	<0.10

Evaluated By: Bobby R Licu, Evaluations Manager - For questions about this report, please call [REDACTED] :

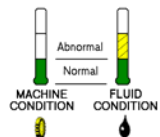
Code : [REDACTED]

The results shown in this test report specifically refer to the sample(s) tested as received unless otherwise stated. All tests have been performed using the latest revision of the methods indicated, unless specifically marked otherwise on the report. Precision parameters apply in the determination of the above results. Users of the data shown on this report should refer to the latest published revisions of ASTM D-3244, IP 367, ISO 4259 and Appendix E of IP Standard Methods for Analysis and Testing when utilizing the test data to determine conformance with any specification or process requirement. This Test Report is issued under the Company's General Conditions of Service (copy available upon request or on the company website at www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ABNORMAL



Lab Number : V0912502

Nancy McAtee
National Transportation Safety Board
490 L'Enfant Plaza, SW

Washington, DC 20594

ISO 9001:2008 Certified and ISO/IEC 17025:2005 Accredited

ID: WPR17LA0146-IIC-01-R - Accident# WPR17LA046, Right Oil Filter, Aircraft

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02/22/2018

19:22:58

Unit Type : Engine, Aircraft (GN_AR001)

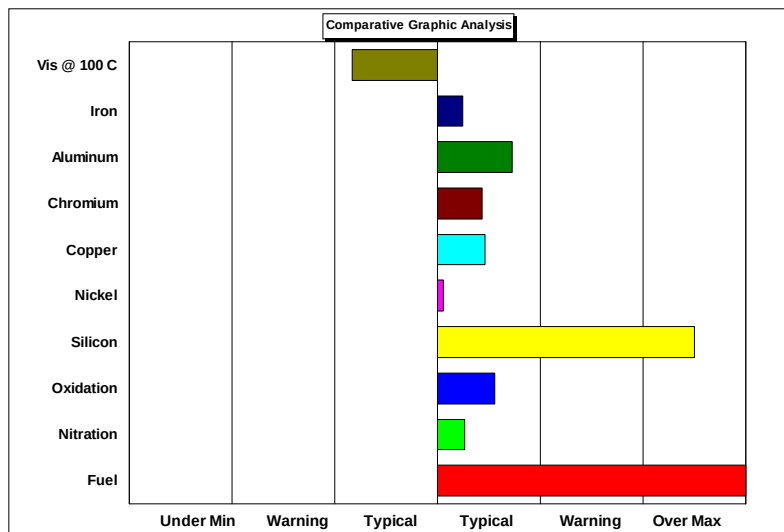
Oil Type : SAE 50 (GN_033) P.O. : POSTED CASH

Sampled : 01/20/2017 Shipped : 02/15/2018 Received : 02/16/2018 Printed : 02/22/2018

ABNORMAL: Abnormal results for fluid are present. Equipment appears satisfactory.

Fuel dilution detected. Sample also failed flash point (<180°C). Silicone antifoam or sealant material may be present. Low wear rates suggest this is not dirt (silica). Please provide equipment make and model as well as the full name and grade of the lubricant in service. Please provide time on the unit and lubricant.

* = exceeds Caution limit ** = exceeds Alarm limit



Lab Number	Minimum	Maximum	V0912502
Sample Date			01/20/17
Unit Time (HR)			0
Fluid Time (HR)			0
Vis @ 100 C mm2/	16.30	21.89	18.07
Metals			
Iron ppm		148	30
Aluminum ppm		27	16
Chromium ppm		28	10
Copper ppm		30	11
Lead ppm			>1000
Tin ppm		10	<2
Nickel ppm		47	2
Silver ppm		4.5	<0.1
Antimony ppm			<1
Silicon ppm		20	**24
Sodium ppm			<2
Boron ppm			<1
Zinc ppm			6
Phosphorus ppm			71
Calcium ppm			6
Magnesium ppm			6
Barium ppm			<1
Molybdenum ppm			<1
Potassium ppm			<4
FTIR			
Oxidation Abs/cm		30	14
Water FTIR % Vol		0.20	<0.10
Nitration Abs/cm		30	4
Fuel % Vol		2.5	**7.3
Glycol % Vol		0.20	<0.10

Evaluated By: Bobby R Licu, Evaluations Manager - For questions about this report, please call

Code :

The results shown in this test report specifically refer to the sample(s) tested as received unless otherwise stated. All tests have been performed using the latest revision of the methods indicated, unless specifically marked otherwise on the report. Precision parameters apply in the determination of the above results. Users of the data shown on this report should refer to the latest published revisions of ASTM D-3244; IP 367; ISO 4259 and Appendix E of IP Standard Methods for Analysis and Testing when utilizing the test data to determine conformance with any specification or process requirement. This Test Report is issued under the Company's General Conditions of Service (copy available upon request or on the company website at www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This report shall not be reproduced except in full, without the written approval of the laboratory.

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