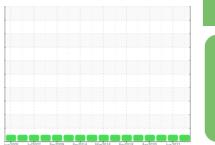


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

DETROIT CHILLER BLDG

Component
Diesel Engine

CHEVRON 15W40 (12 GAL)

Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

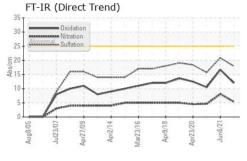
Fluid Condition

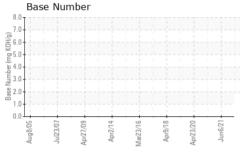
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

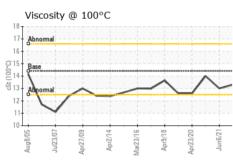
SAMPLE INFORMATION method limit/base current history1 history2			lug2005 Jul2	007 Apr2009 Apr2014	Mar2016 Apr2018 Apr2020	Jun 2021	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		WC0628052	WC0550405	WC0550439
Machine Age hrs Client Info 263 698 1104 Oil Age hrs Client Info 0 0 0 Oil Changed Change	·		Client Info		25 Jun 2024	06 Jun 2021	25 May 2021
Oil Changed Oil Changed Changed Changed Changed Changed Sample Status Client Info Changed Changed Changed Changed Changed Changed NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL Evel WC Method So. 0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	Machine Age	hrs	Client Info		263	698	1104
NORMAL NORMAL NORMAL NORMAL		hrs	Client Info		0	0	0
NORMAL NORMAL NORMAL NORMAL	ŭ		Client Info		Changed	Changed	Changed
Fuel						_	_
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imilibase current history1 history2 WEAR METALS method limil/base current history1 history2 Iron ppm ASTM D5185m >20 0 -1 <1 Nickel ppm ASTM D5185m >2 0 -1 <1 Nickel ppm ASTM D5185m >2 0 -1 <1 Silver ppm ASTM D5185m >2 0 -1 <1 Aluminum ppm ASTM D5185m >30 2 1 0 Lead ppm ASTM D5185m >30 -1 </th <th>CONTAMINATION</th> <th>J</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINATION	J	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >200 1 3 7 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >2 0 <1 <1 Nickel ppm ASTM D5185m >2 0 <1 <1 Silver ppm ASTM D5185m >2 0 <1 <1 Aluminum ppm ASTM D5185m >30 2 1 0 Lead ppm ASTM D5185m >30 2 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	1	3	7
Titanium	Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	<1	0
Aluminum ppm ASTM D5185m >30 2 1 0 Lead ppm ASTM D5185m >30 <1 <1 <1 Copper ppm ASTM D5185m >30 12 <1 2 Tin ppm ASTM D5185m >15 <1 <1 3 Antimony ppm ASTM D5185m 0 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganesium ppm ASTM D5185m 11 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 </th <th>Titanium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>2</th> <th>0</th> <th><1</th> <th><1</th>	Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Lead	Silver	ppm	ASTM D5185m	>2	0	<1	<1
Copper ppm ASTM D5185m >30 12 <1	Aluminum	ppm	ASTM D5185m	>30	2	1	0
Tin	Lead	ppm	ASTM D5185m	>30	<1	<1	<1
Antimony	Copper	ppm	ASTM D5185m	>30	12	<1	2
Vanadium ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	<1	<1	3
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 267 785 226 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 63 112 117 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 318 466 905 Calcium ppm ASTM D5185m 1708 1258 711 Phosphorus ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >20 <	Antimony	ppm	ASTM D5185m			<1	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 267 785 226 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 63 112 117 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 318 466 905 Calcium ppm ASTM D5185m 1708 1258 711 Phosphorus ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >20	Vanadium	ppm	ASTM D5185m		0	<1	<1
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 63 112 117 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 318 466 905 Calcium ppm ASTM D5185m 1708 1258 711 Phosphorus ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 948 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1 <1 INFRA-RED method limit/base curr	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 63 112 117 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		267	785	226
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 318 466 905 Calcium ppm ASTM D5185m 1708 1258 711 Phosphorus ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 1137 765 948 Sulfur ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1	Molybdenum	ppm	ASTM D5185m		63	112	117
Calcium ppm ASTM D5185m 1708 1258 711 Phosphorus ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 1137 765 948 Sulfur ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 5.3 8.1 4.6 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 20.9 15.7	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 950 624 839 Zinc ppm ASTM D5185m 1137 765 948 Sulfur ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.1 Nitration Abs/:nm *ASTM D7624 >20 5.3 8.1 4.6 Sulfation Abs/:nm *ASTM D7415 >30 17.9 20.9 15.7 FLUID DEGRADATION method limit/base current history1	Magnesium	ppm	ASTM D5185m		318	466	905
Zinc ppm ASTM D5185m 1137 765 948 Sulfur ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1	Calcium	ppm	ASTM D5185m		1708	1258	711
Sulfur ppm ASTM D5185m 3880 1868 2574 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 5.3 8.1 4.6 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 20.9 15.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	Phosphorus	ppm	ASTM D5185m		950	624	839
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 5.3 8.1 4.6 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 20.9 15.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	Zinc	ppm	ASTM D5185m		1137	765	948
Silicon ppm ASTM D5185m >30 6 4 6 Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1	Sulfur	ppm	ASTM D5185m		3880	1868	2574
Sodium ppm ASTM D5185m >50 2 2 3 Potassium ppm ASTM D5185m >20 3 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 <1	Silicon	ppm	ASTM D5185m	>30	6	4	6
INFRA-RED	Sodium	ppm	ASTM D5185m	>50	2	2	3
Soot % % *ASTM D7844 >3 0.1 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 5.3 8.1 4.6 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 20.9 15.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	Potassium	ppm	ASTM D5185m	>20	3	<1	<1
Nitration Abs/cm *ASTM D7624 >20 5.3 8.1 4.6 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 20.9 15.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.9 20.9 15.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	Soot %	%	*ASTM D7844	>3	0.1	0.2	0.1
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	Nitration	Abs/cm	*ASTM D7624	>20	5.3	8.1	4.6
Oxidation Abs/.1mm *ASTM D7414 >25 12.0 16.7 10.5	Sulfation	Abs/.1mm	*ASTM D7415	>30	17.9	20.9	15.7
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 7.8	Oxidation	Abs/.1mm	*ASTM D7414	>25	12.0	16.7	10.5
	Base Number (BN)	mg KOH/g	ASTM D2896		7.8		



OIL ANALYSIS REPORT



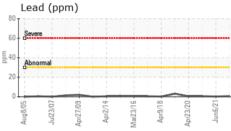


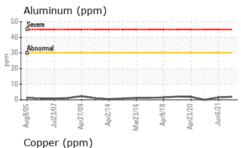


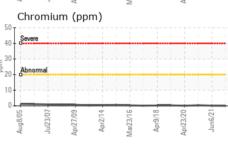
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
ELLID DDODED	TIEC	mothod	limit/bass	ourront.	biotom/1	hiotom/0

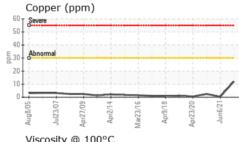
FLUID PROPER	HES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	13.0	14.0

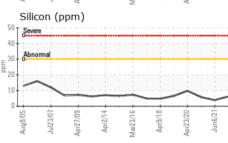
Iror	n (ppr	n)						
Sever	re							
Abno	ormal							
100								
0								_
Aug8/05	Jul23/07	Apr27/09	Apr2/14	Mar23/16 ·	Apr9/18	Apr23/20	Jun6/21	
Aluminum (ppm)								

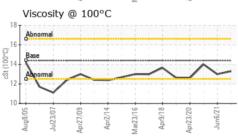


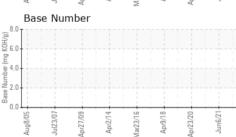














Certificate 12367

Laboratory Sample No.

: WC0628052 Lab Number : 06220573 Unique Number : 11098770

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** Diagnosed

: 25 Jun 2024 : 27 Jun 2024

JEANS HOSPITAL 760 CENTRAL AVE. PHILADELPHIA, PA

: 27 Jun 2024 - Wes Davis

US 19111 Contact: DOMINICK NOCITO DOMINIC.NOCITO@TUNS.TEMPLE.EDU

Test Package : MOB 1 (Additional Tests: TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (215)768-4510

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: JEAPHI [WUSCAR] 06220573 (Generated: 06/28/2024 03:09:48) Rev: 1

Contact/Location: DOMINICK NOCITO - JEAPHI