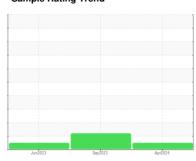


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id

DODGE RAM

Component

Component

Gasoline Engine

ALPHA 10W30 PREM (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

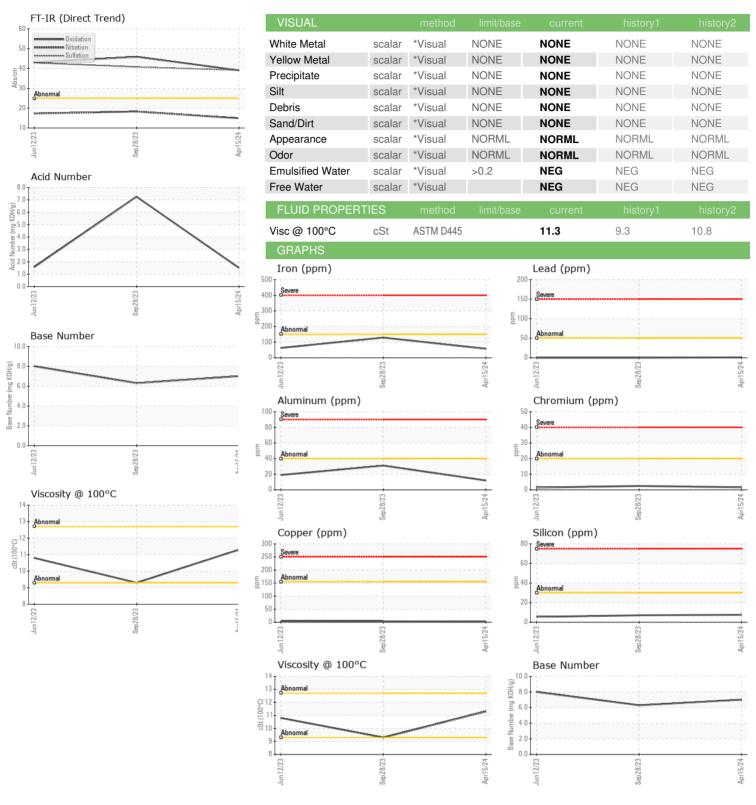
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Date Client Info 15 Apr 2024 28 Sep 2023 12 Jun 2028 Machine Age mis Client Info 152518 129747 109724 Oil Age mis Client Info 16267 20023 0 Oil Changed Client Info Changed Changed							
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mls	Sample Number		Client Info		WC0865848	WC0617386	WC0617383
Oil Age mls Client Info 16267 20023 0 Oil Changed Sample Status Client Info Changed Changed Changed Changed Changed Changed Changed NORMAL Changed NORMAL ABNORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method <4.0	Sample Date		Client Info		15 Apr 2024	28 Sep 2023	12 Jun 2023
Cilient Info	Machine Age	mls	Client Info		152518	129747	109724
CONTAMINATION method limit/base current history1 history2	Oil Age	mls	Client Info		16267	20023	0
Fuel	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	ABNORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imitibase current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >150 57 129 63 Chromium ppm ASTM D5185m >20 2 2 1 Nickel ppm ASTM D5185m >5 1 <1	CONTAMINATION	١	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
WEAR METALS	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	>150	57	129	63
Titanium	Chromium	ppm	ASTM D5185m	>20	2	2	1
Silver	Nickel	ppm	ASTM D5185m	>5	1	<1	0
Aluminum ppm ASTM D5185m >40 12 31 19 Lead ppm ASTM D5185m >50 <1 0 0 Copper ppm ASTM D5185m >10 <1 0 <1 Tin ppm ASTM D5185m >10 <1 <1 <1 Vanadium ppm ASTM D5185m >10 <1 0 <1 Cadmium ppm ASTM D5185m <1 0 <1 <1 Cadmium ppm ASTM D5185m <1 0 0 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 2 0 0 Molybdenum ppm ASTM D5185m 156 <1 <1 <1 Mangaese ppm ASTM D5185m 12 18 17 <1 <2 1 <1 <1 <1 <1 <1	Titanium	ppm	ASTM D5185m		<1	0	0
Lead ppm ASTM D5185m >50 <1	Silver	ppm	ASTM D5185m	>2		0	0
Copper ppm ASTM D5185m >155 3 4 5 Tin ppm ASTM D5185m >10 <1 <1 <1 Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 2 0 0 0 Molybdenum ppm ASTM D5185m 156 <1 <1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 3 2	Aluminum	ppm	ASTM D5185m	>40	12	31	19
Tin ppm ASTM D5185m >10 <1 <1 <1 <1 <1 Vanadium ppm ASTM D5185m	Lead	ppm	ASTM D5185m	>50		0	
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>155	3	4	
Cadmium ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>10	<1	<1	<1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 2 0 0 Molybdenum ppm ASTM D5185m 156 <1 <1 Manganese ppm ASTM D5185m 1 2 1 Magnesium ppm ASTM D5185m 12 18 17 Calcium ppm ASTM D5185m 3255 2950 3786 Phosphorus ppm ASTM D5185m 864 702 833 Zinc ppm ASTM D5185m 892 879 1035 Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >20 10	Vanadium	ppm	ASTM D5185m		<1	0	<1
Boron ppm ASTM D5185m D	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 2 0 0 Molybdenum ppm ASTM D5185m 156 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 156 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 1 2 1 Magnesium ppm ASTM D5185m 12 18 17 Calcium ppm ASTM D5185m 3255 2950 3786 Phosphorus ppm ASTM D5185m 364 702 833 Zinc ppm ASTM D5185m 892 879 1035 Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/:1mm *ASTM D7415	Barium	ppm	ASTM D5185m		2	0	0
Magnesium ppm ASTM D5185m 12 18 17 Calcium ppm ASTM D5185m 3255 2950 3786 Phosphorus ppm ASTM D5185m 864 702 833 Zinc ppm ASTM D5185m 892 879 1035 Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/:nm *ASTM D7415 >30 39.1 40.8 42.9	Molybdenum	ppm	ASTM D5185m		156	<1	
Calcium ppm ASTM D5185m 3255 2950 3786 Phosphorus ppm ASTM D5185m 864 702 833 Zinc ppm ASTM D5185m 892 879 1035 Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 </th <th>Manganese</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>1</th> <th>2</th> <th>1</th>	Manganese	ppm	ASTM D5185m		1	2	1
Phosphorus ppm ASTM D5185m 864 702 833 Zinc ppm ASTM D5185m 892 879 1035 Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 </th <th>Magnesium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>12</th> <th>18</th> <th>17</th>	Magnesium	ppm	ASTM D5185m		12	18	17
Zinc ppm ASTM D5185m 892 879 1035 Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 <th>Calcium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>3255</th> <th>2950</th> <th>3786</th>	Calcium	ppm	ASTM D5185m		3255	2950	3786
Sulfur ppm ASTM D5185m 3675 3240 4026 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045	Phosphorus	ppm					
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045 1.51 7.252 1.57	_	ppm			892		
Silicon ppm ASTM D5185m >30 8 7 6 Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg K0H/g ASTM D8045 1.51 7.252 1.57	Sulfur	ppm	ASTM D5185m		3675	3240	4026
Sodium ppm ASTM D5185m >400 3 2 3 Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg K0H/g ASTM D8045 1.51 7.252 1.57	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 10 30 21 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg K0H/g ASTM D8045 1.51 7.252 1.57	Silicon	ppm	ASTM D5185m	>30	8		
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045 1.51 7.252 1.57	Sodium	ppm	ASTM D5185m	>400	3	2	3
Soot % % *ASTM D7844 0.9 1.4 1.2 Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045 1.51 7.252 1.57	Potassium	ppm	ASTM D5185m	>20	10	30	21
Nitration Abs/cm *ASTM D7624 >20 14.9 18.3 17.3 Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg K0H/g ASTM D8045 1.51 △ 7.252 1.57	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 39.1 40.8 42.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045 1.51 7.252 1.57	Soot %	%	*ASTM D7844		0.9	1.4	1.2
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045 1.51 ▲ 7.252 1.57	Nitration	Abs/cm	*ASTM D7624	>20	14.9	18.3	17.3
Oxidation Abs/.1mm *ASTM D7414 >25 39.1 45.9 43.2 Acid Number (AN) mg KOH/g ASTM D8045 1.51 7.252 1.57	Sulfation	Abs/.1mm	*ASTM D7415	>30	39.1	40.8	42.9
Acid Number (AN) mg KOH/g ASTM D8045 1.51 ▲ 7.252 1.57	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 1.51 ▲ 7.252 1.57	Oxidation	Abs/.1mm	*ASTM D7414	>25	39.1	45.9	43.2
	Acid Number (AN)	mg KOH/g	ASTM D8045			△ 7.252	1.57
	Base Number (BN)	mg KOH/g	ASTM D2896			6.30	8.01



OIL ANALYSIS REPORT





Certificate 12367

Laboratory Sample No.

: WC0865848 Lab Number : 06153819 Unique Number : 10989242

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Apr 2024 **Tested** : 23 Apr 2024

Diagnosed : 23 Apr 2024 - Jonathan Hester Test Package : MOB 2 (Additional Tests: TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369. st - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

EKEQUIPMENT@STARLIGHTPRINT.COM T: F:

EK EQUIPMENT LLC

392 ELWOOD RD

FORT PLAIN, NY

Contact: ELAM

US 13339