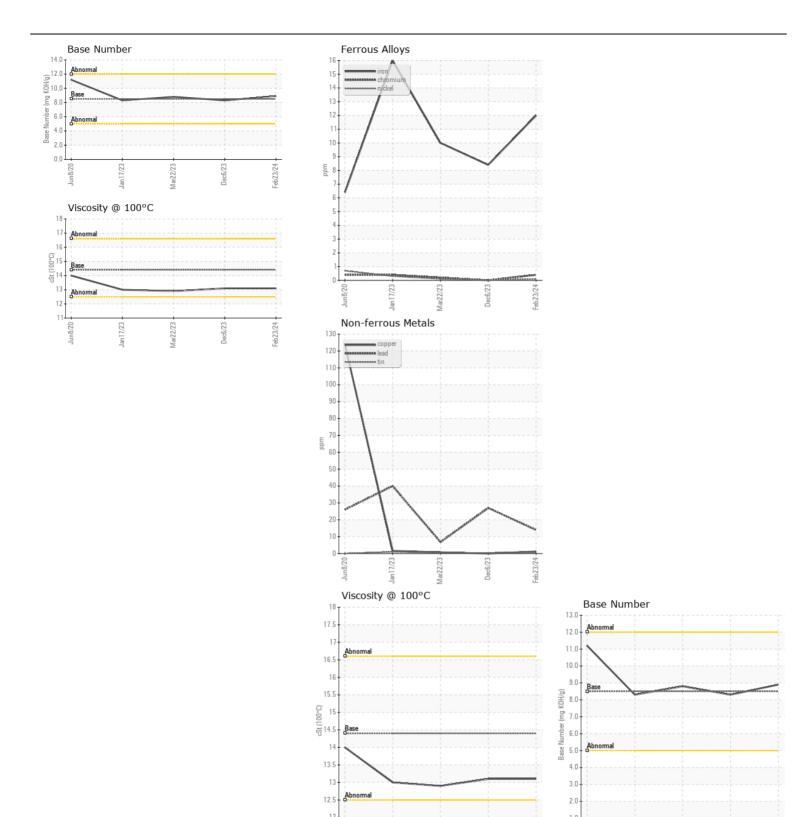
WEAR CONTAMINATION **FLUID CONDITION** **NORMAL NORMAL NORMAL**

MCKENZIE M

Component

DIESEL ENGINE OIL SAE 15W40 (3 GAL) RECOMMENDATION Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. Oil Age Filter Age Oil Change Filter Change Sample State WEAR All component wear rates are normal. Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Silicon Potassium Fuel Water Glycol	e hrs hrs hrs	Method Client Info	Limit/Abn	Current MW0048139 23 Feb 2024 5547	History1 MW0047934	History2
Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. WEAR All component wear rates are normal. Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Sample Num Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample State Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample State Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample State Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample State Sample Num Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample State Sample Num Sample State Sample Dai Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample State Sample Num Sample State	e hrs hrs hrs	Client Info Client Info Client Info Client Info Client Info	Limit/Abn	MW0048139 23 Feb 2024	,	History2
Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. WEAR All component wear rates are normal. Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Sample Da' Machine Ac Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Da' Machine Ag Oil Age Filter Age Oil Change Filter Chang Sample Sta	e hrs hrs hrs	Client Info Client Info Client Info Client Info		23 Feb 2024	1/10/11/14 / 9:34	141410047404
component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. Machine Ago Oil Age Filter Age Oil Change Filter Changes Sample State Sample State Sample State	e hrs hrs hrs ed	Client Info Client Info Client Info				MW0017494
WEAR All component wear rates are normal. WEAR All component wear rates are normal. Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Coil Age Filter Age Oil Change Filter Change Sample State Filter Age Oil Change Filter Change Sample State Filter Age Oil Change Filter Change Sample State Filter Change Filter Change Sample State Filter Change Sample State Filter Age Oil Change Filter Change Sample State Filter Change Sample State Filter Age Oil Change Filter Change Sample State Filter Change Sample State Filter Age Oil Change Filter Change Sample S	hrs hrs	Client Info Client Info			06 Dec 2023	22 Mar 2023
Filter Age Oil Change Filter Change Sample State WEAR All component wear rates are normal. Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium White Meta Titanium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium White Meta Tellow Meta Tellow Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Tellow Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Tellow Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Tellow Meta Titanium Silver Titanium Silver Aluminum United Silver Aluminum White Meta Tellow Meta Tellow Meta Titanium Silver Tin Vanadium White Meta Tellow Meta Titanium Silver Tin Vanadium White Meta Titanium Tin Vanadium White Meta Titanium Nickel Nickel Titanium Nickel T	hrs i	Client Info			4922	2973
Oil Change Filter Change Sample Sta WEAR All component wear rates are normal. Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Titanium Silver Titanium Silver Titanium Silver Titanium Vanadium White Meta Tellow Meta Tellow Meta Titanium Silver Titanium Silver Titanium Silver Titanium Silver Titanium Vanadium White Meta Titanium Silver Titan	d ed			625 625	826 826	540 540
Filter Chang Sample State WEAR All component wear rates are normal. Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Fuel Water Glycol	ed					
WEAR All component wear rates are normal. All component wear rates are normal. Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Sample Sta				Changed	Changed	Changed
WEAR All component wear rates are normal. All component wear rates are normal. All component wear rates are normal. Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Fuel Water Glycol	lus	Client Info		Changed	Changed	Changed
All component wear rates are normal. Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta Yellow Meta Titanium White Meta Yellow Meta Contamination in the oil. CONTAMINATION There is no indication of any contamination in the oil. Fuel Water Glycol				NORMAL	ABNORMAL	NORMAL
All component wear rates are normal. Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m	>50	12	8	10
Titanium Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta Yellow Meta Titanium Silver Aluminum Lead Copper Tin Vanasium White Meta Yellow Meta There is no indication of any contamination in the oil. Fuel Water Glycol	ppm	ASTM D5185m	>4	<1	0	<1
Silver Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta Yellow Meta CONTAMINATION There is no indication of any contamination in the oil. Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum Lead Copper Tin Vanadium White Meta Yellow Meta Yellow Meta CONTAMINATION Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m		<1	0	<1
Lead Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m	>5	0	0	0
Copper Tin Vanadium White Meta Yellow Meta CONTAMINATION Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m	>12	4	4	4
Tin Vanadium White Meta Yellow Meta Yellow Meta There is no indication of any contamination in the oil. There is no indication of any contamination in the oil. Fuel Water Glycol	ppm	ASTM D5185m	>17	14	<u> </u>	7
Vanadium White Meta Yellow Meta Yellow Meta CONTAMINATION Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m	>70	1	0	<1
White Meta Yellow Meta Yellow Meta Yellow Meta Yellow Meta Silicon There is no indication of any contamination in the oil. Fuel Water Glycol	ppm	ASTM D5185m	>15	<1	<1	<1
There is no indication of any contamination in the oil. Silicon Potassium Fuel Water Glycol	ppm	ASTM D5185m		<1	0	0
CONTAMINATION Silicon Potassium Fuel Water Glycol	scalar	*Visual	NONE	NONE	NONE	NONE
There is no indication of any contamination in the oil. Potassium Fuel Water Glycol	l scalar	*Visual	NONE	NONE	NONE	NONE
There is no indication of any contamination in the oil. Potassium Fuel Water Glycol		AOTM DE CO	0.5			
There is no indication of any contamination in the oil. Fuel Water Glycol	ppm	ASTM D5185m		8	6	8
Water Glycol	ppm	ASTM D5185m		3	1	2
Glycol		WC Method		<1.0	<1.0	<1.0
· ·		WC Method	>0.1	NEG	NEG	NEG
C+ 0/	0/	WC Method		NEG	NEG	NEG
Soot %	% Aba/am	*ASTM D7844	00	0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624		7.2	7.9	7.0
Sulfation	Abs/.1mm	*ASTM D7415		22.9	23.5	23.2
Silt	scalar	*Visual	NONE	NONE LIGHT	NONE	NONE
Debris	scalar	*Visual	NONE		NONE	
Sand/Dirt	scalar	*Visual *Visual	NONE NORML	NONE NORML	NONE NORML	NONE NORML
Appearance Odor	scalar scalar	*Visual	NORML	NORML	NORML	NORML
	ater scalar		>0.1	NEG	NEG	NEG
Emulanca W		Visuai			INLO	INLO
FLUID CONDITION Sodium	ppm	ASTM D5185m	>158	0	0	0
Boron	ppm	ASTM D5185m	250	323	313	362
The BN result indicates that there is suitable alkalinity remaining in the	ppm	ASTM D5185m	10	2	0	0
oil. The condition of the oil is suitable for further service. Molybdenui	n ppm	ASTM D5185m	100	133	118	130
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	637	620	618
Calcium	ppm	ASTM D5185m	3000	1645	1458	1518
Phosphorus	ppm	ASTM D5185m	1150	749	784	683
Zinc	ppm	ASTM D5185m	1350	889	898	815
Sulfur	ppm	ASTM D5185m	4250	2834	2480	2404
Oxidation		*ASTM D7414	>25	17.2	18.0	16.8
Base Number	Abs/.1mm		0.5	0.0	8.3	8.8
Visc @ 100		ASTM D2896	8.5	8.9		12.9







Certificate L2367

Laboratory Sample No.

: MW0048139 Lab Number : 06124718 Unique Number: 10938869 Test Package : MAR 2

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

Jan 17/23

: 21 Mar 2024 **Tested** Diagnosed

Mar22/23

: 22 Mar 2024 : 22 Mar 2024 - Wes Davis

Feb23/24 -

0.0

Jan 17/23

ARTCO - ADM AG SERVICES & OIL SEEDS 2505 BLUFF ROAD MT VERNON, IN

US 47620 Contact: JOE FLOYD

joseph.floyd@adm.com T:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

11.5

* - 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)

F: