



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**46 RETAIN - ZD ADVANCED 46**

Component  
**New (Unused) Oil**  
 Fluid  
**{not provided} (--- LTR)**

## RECOMMENDATION

This is a baseline read-out on the submitted sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0033921</b>	DC0035834	DC0035577
Sample Date		Client Info		<b>17 May 2024</b>	10 May 2024	06 May 2024
Machine Age	mls	Client Info		<b>0</b>	0	0
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

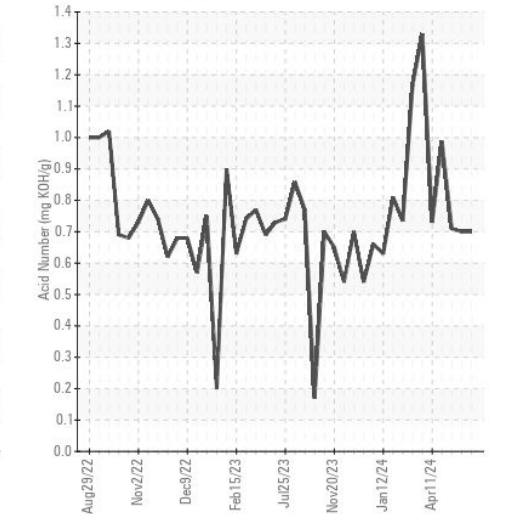
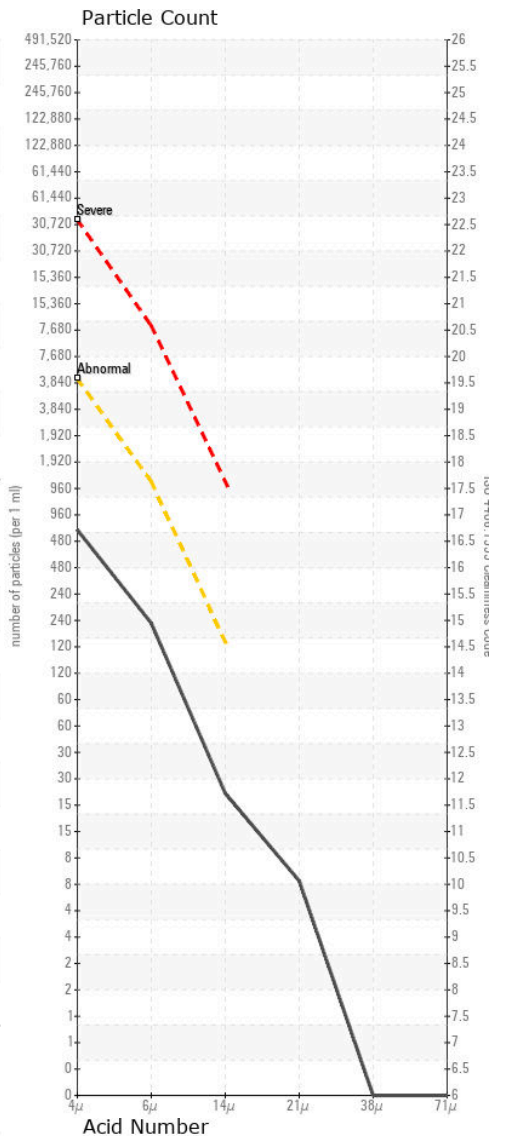
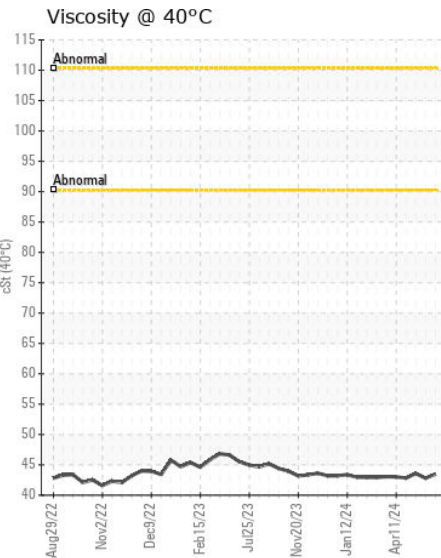
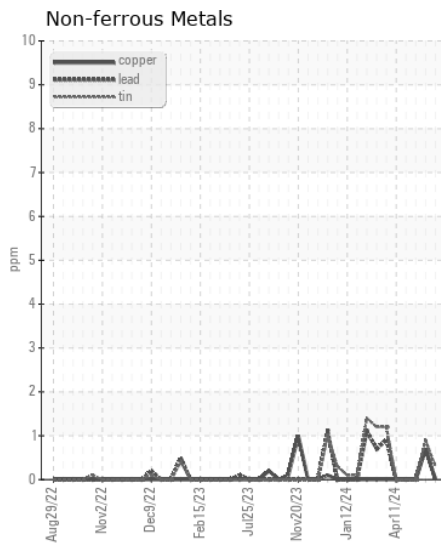
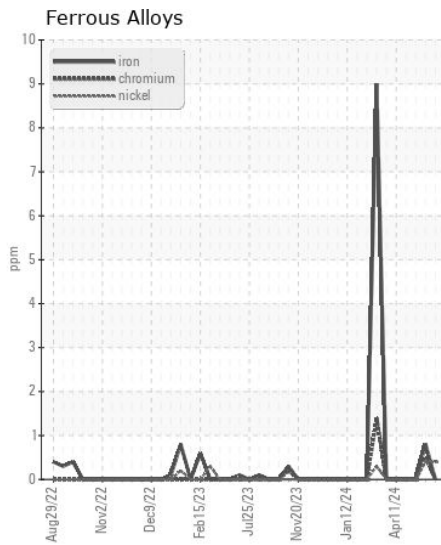
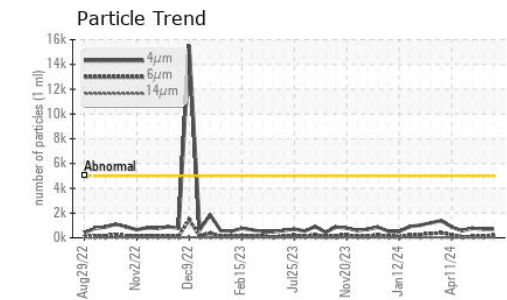
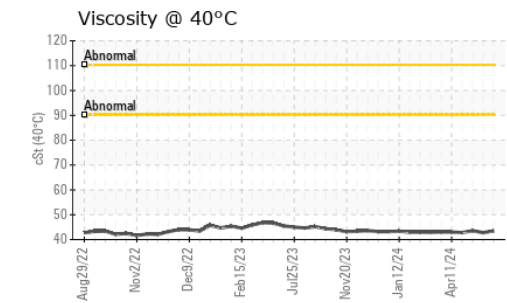
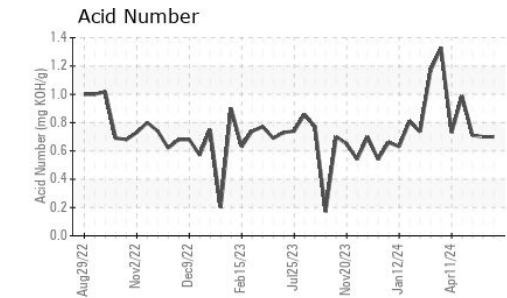
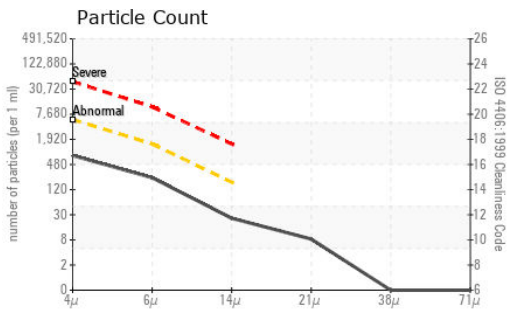
Iron	ppm	ASTM D5185m		<b>0</b>	<1	0
Chromium	ppm	ASTM D5185m		<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Lead	ppm	ASTM D5185m		<b>0</b>	<1	0
Copper	ppm	ASTM D5185m		<b>0</b>	<1	0
Tin	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

Silicon	ppm	ASTM D5185m		<b>&lt;1</b>	2	<1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	0
Water		WC Method		<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>692</b>	705	768
Particles >6µm		ASTM D7647	>1300	<b>204</b>	112	96
Particles >14µm		ASTM D7647	>160	<b>22</b>	5	8
Particles >21µm		ASTM D7647	>40	<b>7</b>	1	3
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/15/12</b>	17/14/10	17/14/10
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

## FLUID CONDITION

Sodium	ppm	ASTM D5185m		<b>4</b>	1	3
Boron	ppm	ASTM D5185m		<b>0</b>	0	4
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	1	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>190</b>	213	200
Calcium	ppm	ASTM D5185m		<b>158</b>	183	161
Phosphorus	ppm	ASTM D5185m		<b>636</b>	719	656
Zinc	ppm	ASTM D5185m		<b>784</b>	896	799
Sulfur	ppm	ASTM D5185m		<b>1999</b>	2286	2737
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.70</b>	0.70	0.71
Visc @ 40°C	cSt	ASTM D445		<b>43.48</b>	42.79	43.57
Visc @ 100°C	cSt	ASTM D445		<b>6.98</b>	6.92	7.06
Viscosity Index (VI)	Scale	ASTM D2270		<b>118</b>	119	121



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0033921  
**Lab Number** : 06193455  
**Unique Number** : 11050207  
**Test Package** : MOB 2 ( Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, VI )

**Received** : 28 May 2024  
**Tested** : 05 Jun 2024  
**Diagnosed** : 05 Jun 2024 - Jonathan Hester

**THE UNITED OIL COMPANY - OPERATIONS**  
 4405 E. BALTIMORE ST  
 BALTIMORE, MD  
 US 21224  
 Contact: MICHELLE HORNING

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.

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

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