



# 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>DC0035521</b>	DC0031235	DC0031242
Sample Date		Client Info		<b>11 Apr 2024</b>	27 Feb 2024	26 Feb 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

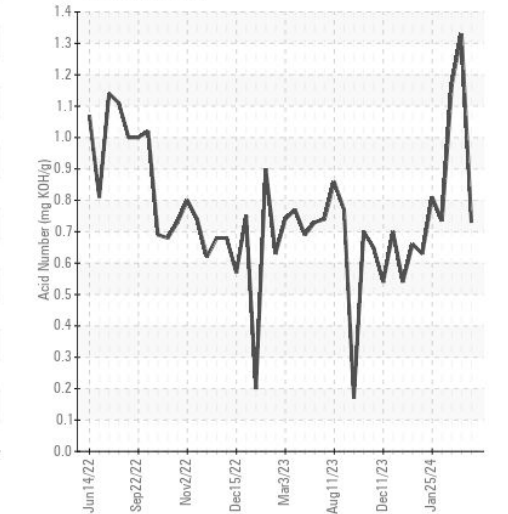
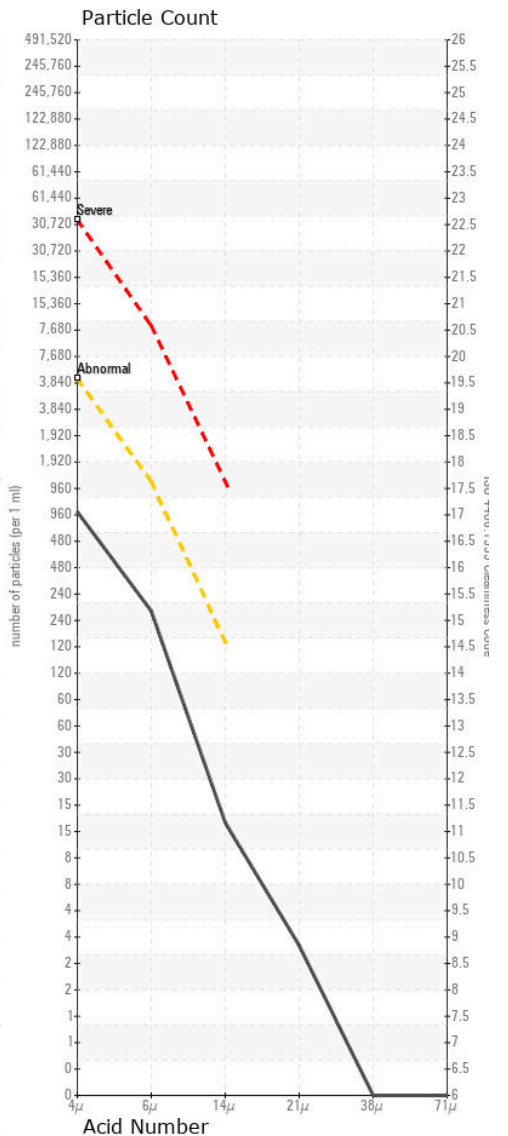
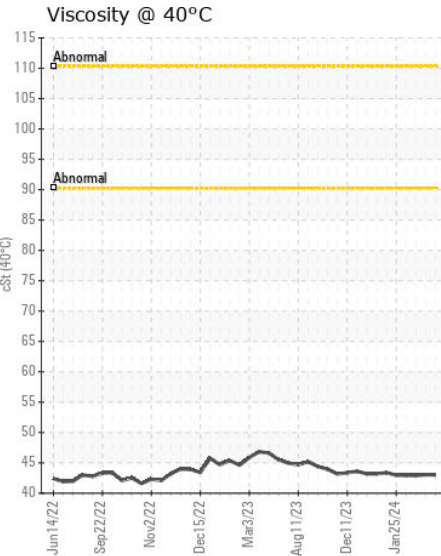
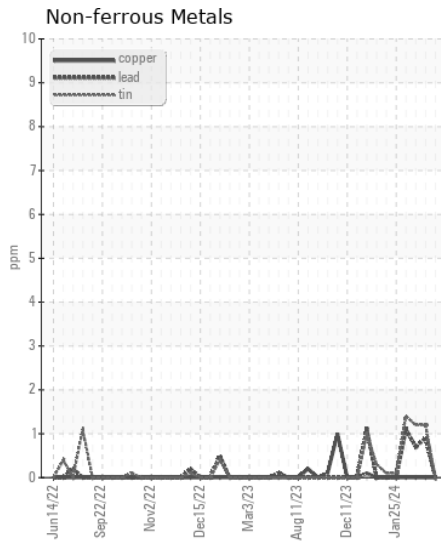
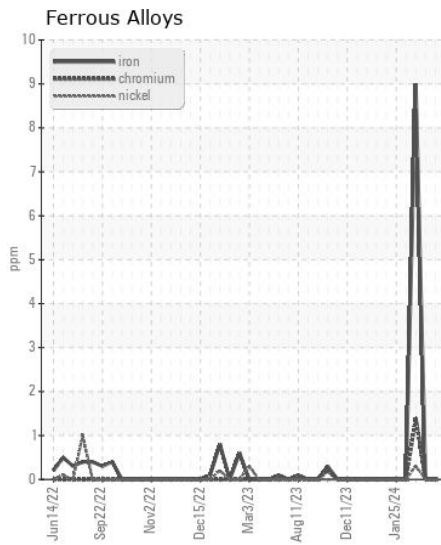
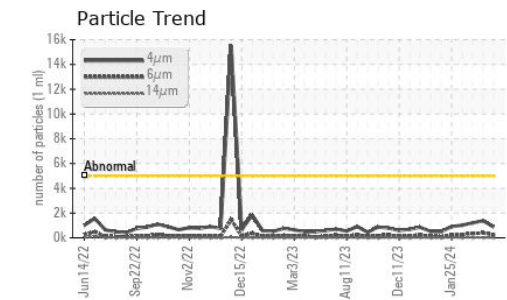
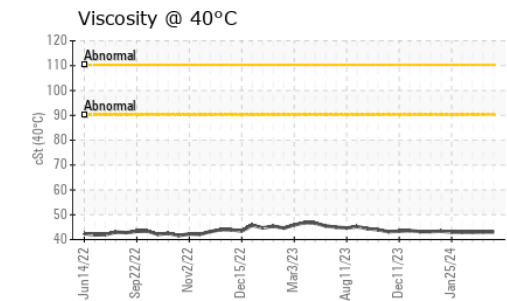
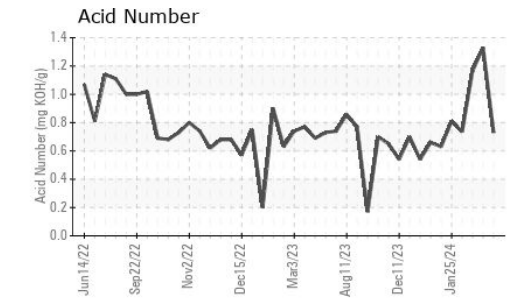
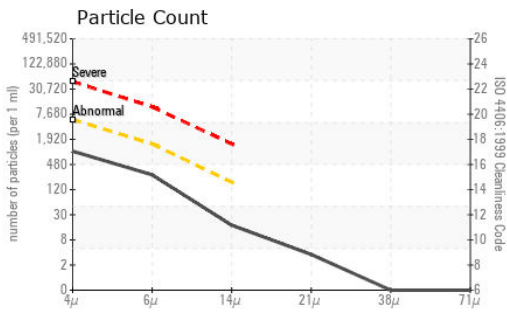
Iron	ppm	ASTM D5185m		<b>0</b>	0	0
Chromium	ppm	ASTM D5185m		<b>0</b>	0	0
Nickel	ppm	ASTM D5185m		<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m		<b>0</b>	0	0
Lead	ppm	ASTM D5185m		<b>0</b>	<1	1
Copper	ppm	ASTM D5185m		<b>0</b>	0	0
Tin	ppm	ASTM D5185m		<b>0</b>	1	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
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>0</b>	<1	<1
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Water		WC Method		<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>876</b>	1379	1020
Particles >6µm		ASTM D7647	>1300	<b>239</b>	390	258
Particles >14µm		ASTM D7647	>160	<b>15</b>	29	17
Particles >21µm		ASTM D7647	>40	<b>3</b>	6	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>17/15/11</b>	18/16/12	17/15/11
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</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>3</b>	3	4
Boron	ppm	ASTM D5185m		<b>0</b>	<1	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>192</b>	194	199
Calcium	ppm	ASTM D5185m		<b>195</b>	225	172
Phosphorus	ppm	ASTM D5185m		<b>688</b>	703	728
Zinc	ppm	ASTM D5185m		<b>820</b>	851	824
Sulfur	ppm	ASTM D5185m		<b>2084</b>	1850	1811
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.73</b>	1.33	1.167
Visc @ 40°C	cSt	ASTM D445		<b>43.01</b>	43.06	42.91
Visc @ 100°C	cSt	ASTM D445		<b>6.95</b>	6.95	6.98
Viscosity Index (VI)	Scale	ASTM D2270		<b>119</b>	119	121



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0035521  
**Lab Number** : 06158647  
**Unique Number** : 10994070  
**Test Package** : MOB 2 ( Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, VI )

**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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 F: (410)327-7695