



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

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		DC0035834	DC0035577	DC0035502
Sample Date		Client Info		10 May 2024	06 May 2024	15 Apr 2024
Machine Age	mls	Client Info		0	0	0
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

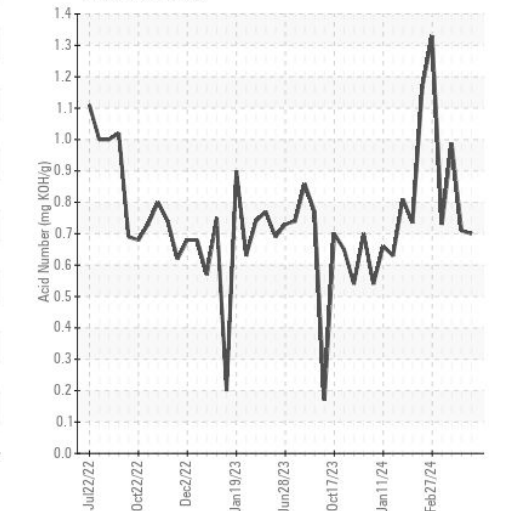
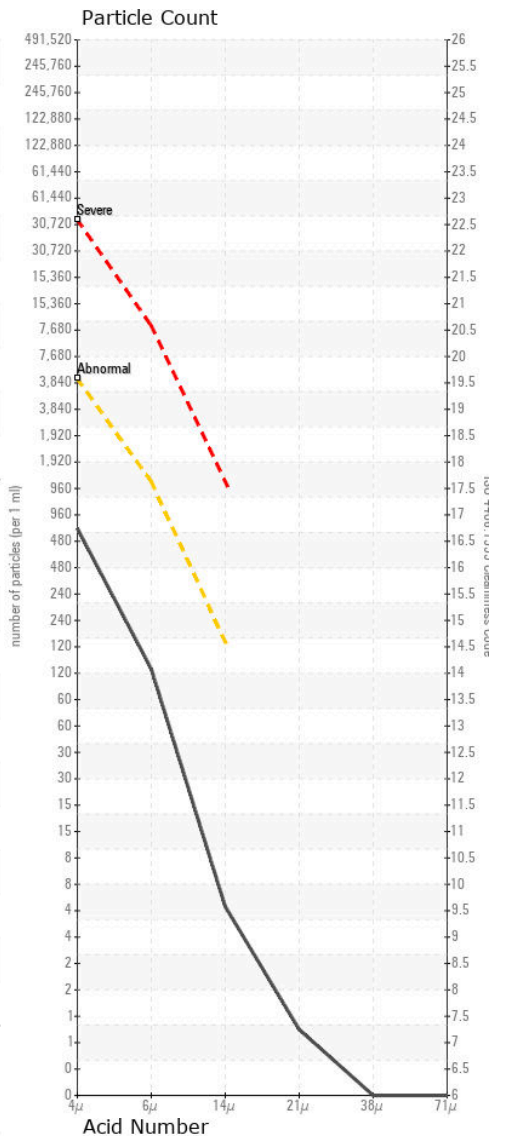
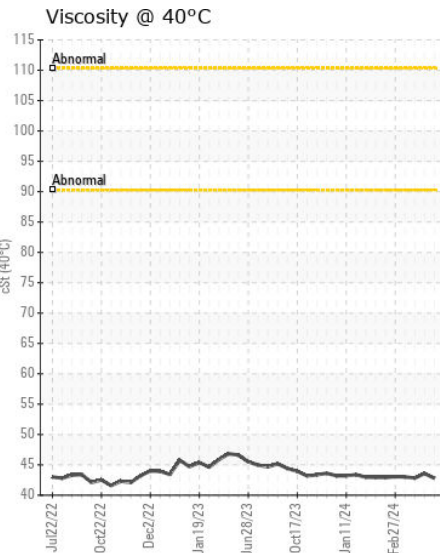
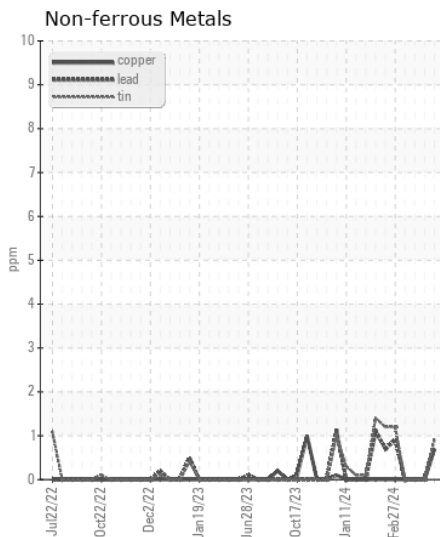
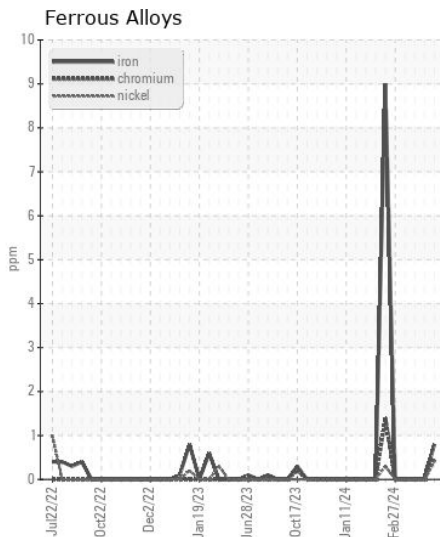
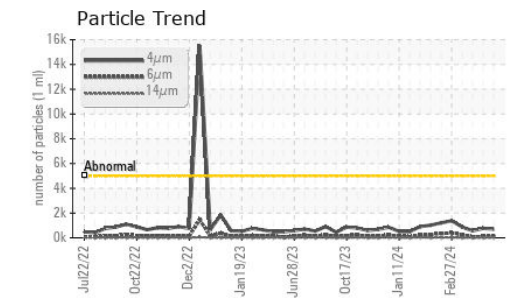
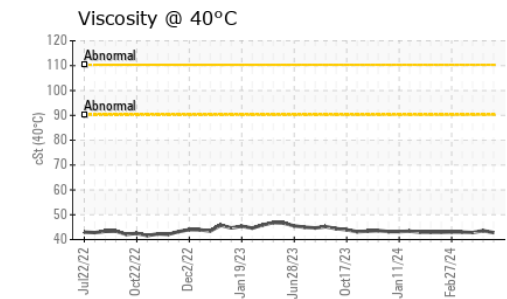
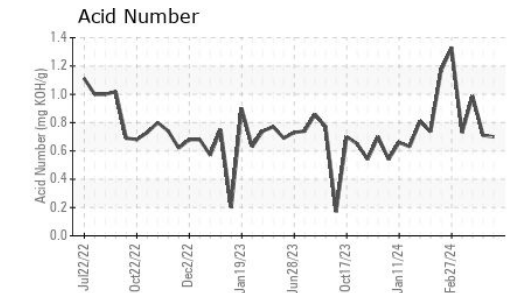
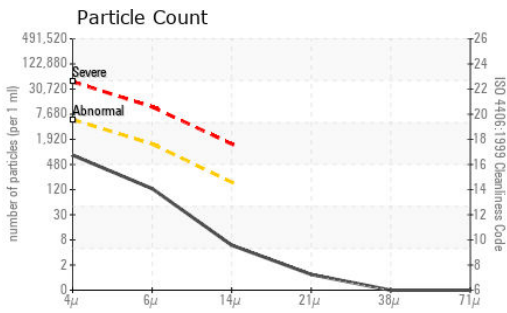
Iron	ppm	ASTM D5185m		<1	0	0
Chromium	ppm	ASTM D5185m		<1	0	0
Nickel	ppm	ASTM D5185m		<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m		1	0	0
Lead	ppm	ASTM D5185m		<1	0	0
Copper	ppm	ASTM D5185m		<1	0	0
Tin	ppm	ASTM D5185m		<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Silicon	ppm	ASTM D5185m		2	<1	<1
Potassium	ppm	ASTM D5185m	>20	2	0	1
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	705	768	569
Particles >6µm		ASTM D7647	>1300	112	96	81
Particles >14µm		ASTM D7647	>160	5	8	9
Particles >21µm		ASTM D7647	>40	1	3	4
Particles >38µm		ASTM D7647	>10	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/14/10	17/14/10	16/14/10
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	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		NEG	NEG	NEG

FLUID CONDITION

Sodium	ppm	ASTM D5185m		1	3	3
Boron	ppm	ASTM D5185m		0	4	0
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		1	0	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		213	200	206
Calcium	ppm	ASTM D5185m		183	161	164
Phosphorus	ppm	ASTM D5185m		719	656	673
Zinc	ppm	ASTM D5185m		896	799	846
Sulfur	ppm	ASTM D5185m		2286	2737	2346
Acid Number (AN)	mg KOH/g	ASTM D8045		0.70	0.71	0.987
Visc @ 40°C	cSt	ASTM D445		42.79	43.57	42.82
Visc @ 100°C	cSt	ASTM D445		6.92	7.06	7.03
Viscosity Index (VI)	Scale	ASTM D2270		119	121	123



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0035834
Lab Number : 06187200
Unique Number : 11043952
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)

T:
 F: (410)327-7695