



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
82D-238 - SEAL OIL TANK

Component
Tank Gearbox

Fluid
FLOWERVE DuraClear 32 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HPL0004550	HPL0004515	HPL0002607
Sample Date		Client Info		13 Mar 2024	15 Feb 2024	11 Jan 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	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

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	0	0	0
Chromium	ppm	ASTM D5185m	>15	0	0	<1
Nickel	ppm	ASTM D5185m	>15	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	0	2
Lead	ppm	ASTM D5185m	>100	0	0	<1
Copper	ppm	ASTM D5185m	>200	0	0	0
Tin	ppm	ASTM D5185m	>25	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

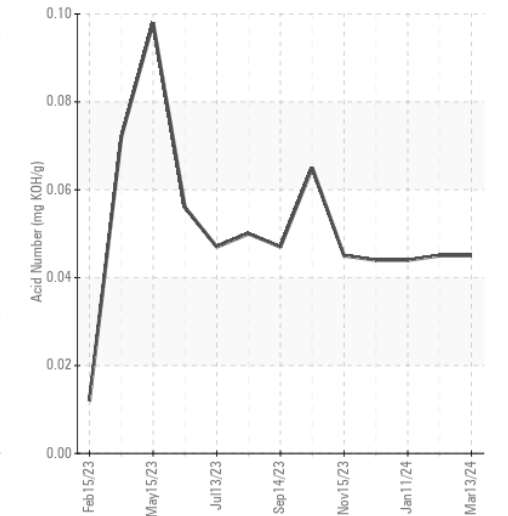
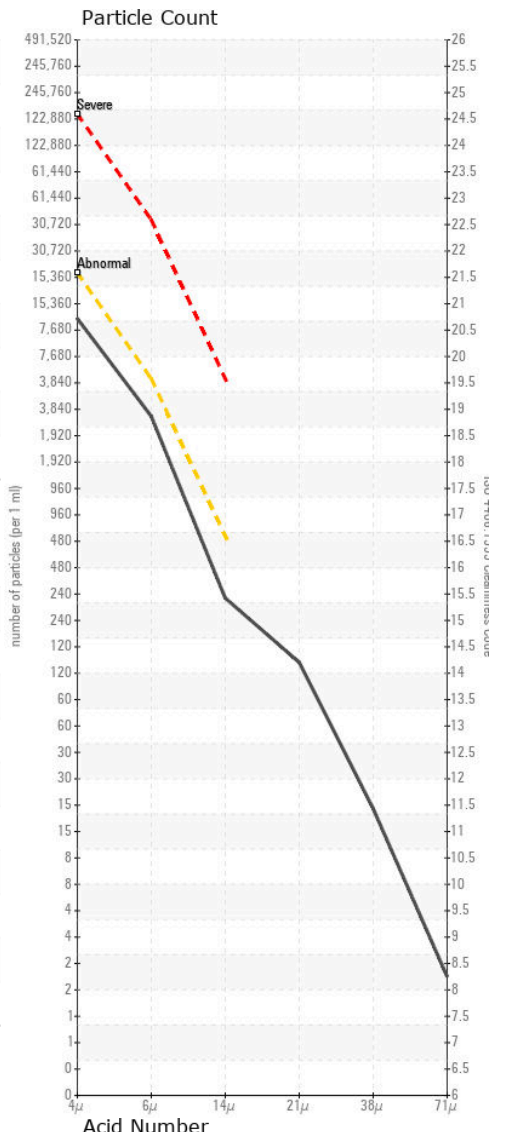
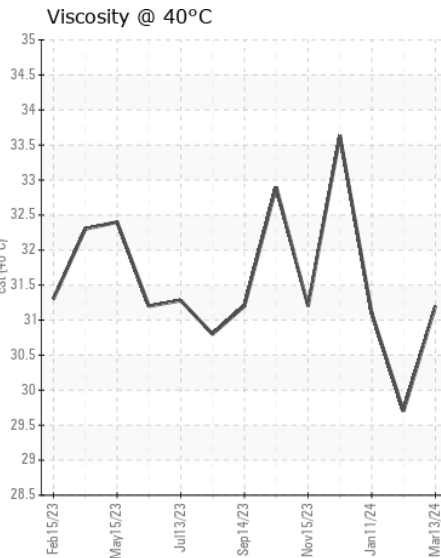
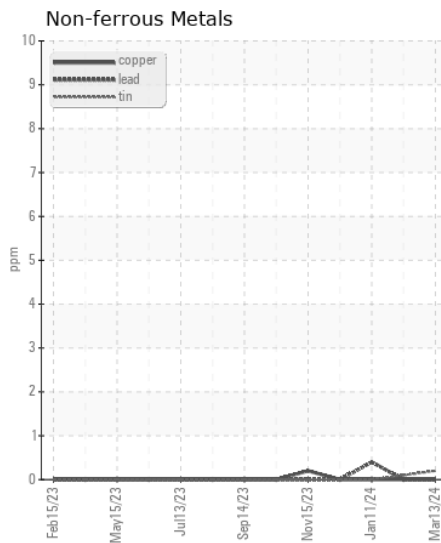
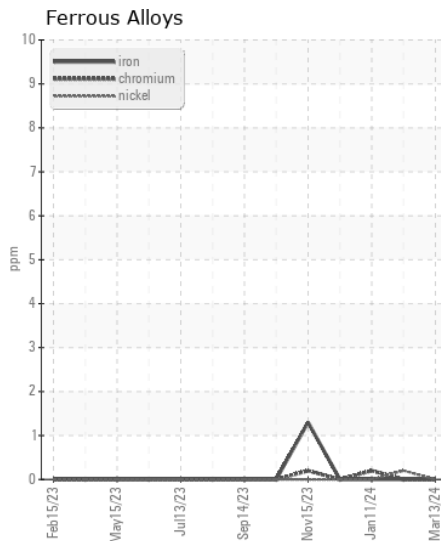
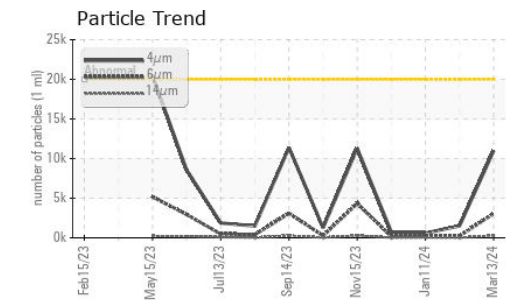
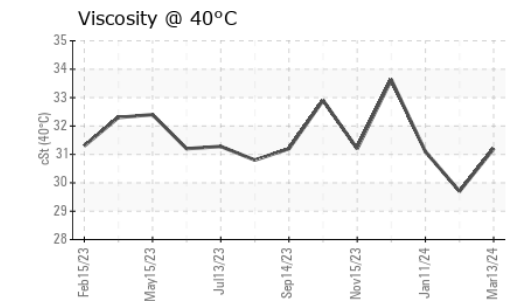
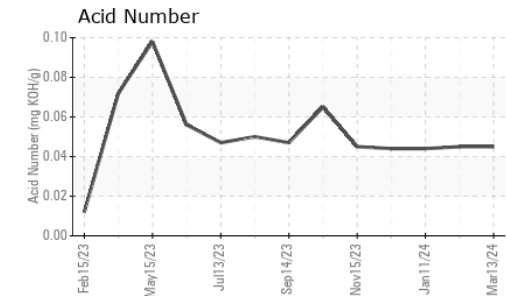
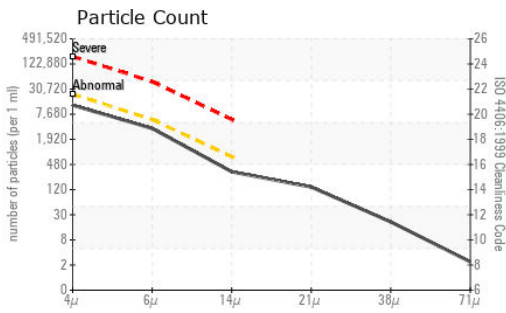
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>50	<1	0	<1
Potassium	ppm	ASTM D5185m	>20	1	0	<1
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	10970	1508	590
Particles >6µm		ASTM D7647	>5000	3058	231	153
Particles >14µm		ASTM D7647	>640	283	14	41
Particles >21µm		ASTM D7647	>160	122	4	17
Particles >38µm		ASTM D7647	>40	18	0	1
Particles >71µm		ASTM D7647	>10	2	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/19/15	18/15/11	16/14/13
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	<1	0
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		<1	0	<1
Calcium	ppm	ASTM D5185m		0	0	0
Phosphorus	ppm	ASTM D5185m		3	0	29
Zinc	ppm	ASTM D5185m		0	0	0
Sulfur	ppm	ASTM D5185m		121	62	49
Acid Number (AN)	mg KOH/g	ASTM D8045		0.045	0.045	0.044
Visc @ 40°C	cSt	ASTM D445		31.2	29.7	31.1



Certificate L2367

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

Sample No. : HPL0004550

Lab Number : 06121718

Unique Number : 10930551

Test Package : MOB 2 (Additional Tests: PRTCOUNT)

Received : 18 Mar 2024

Tested : 25 Mar 2024

Diagnosed : 25 Mar 2024 - Jonathan Hester

MARATHON PETROLEUM CO.

IL. REFINING DIVISION, 400 S MARATHON AVE

ROBINSON, IL

US 62454

Contact: M.S. MANHART

mmanhart@marathonpetroleum.com

T: (618)544-2121

F: x:

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)