



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
86
 Component
Hydraulic System
 Fluid
Hydraulic System Oil (20 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR0001566	TR0001359	TR0001182
Sample Date		Client Info		03 Jul 2024	20 Mar 2024	12 Dec 2023
Machine Age	hrs	Client Info		21408	20872	20473
Oil Age	hrs	Client Info		21408	20872	20473
Filter Age	hrs	Client Info		21408	20872	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	2	4
Chromium	ppm	ASTM D5185m	>10	0	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	1	1	2
Lead	ppm	ASTM D5185m	>10	1	0	0
Copper	ppm	ASTM D5185m	>75	▲ 79	53	58
Tin	ppm	ASTM D5185m	>10	0	<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

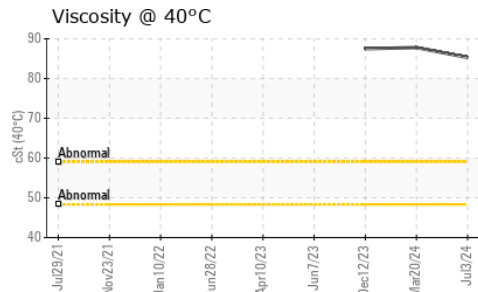
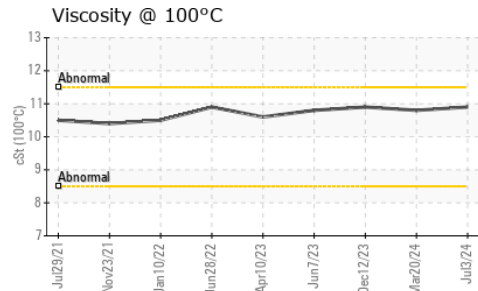
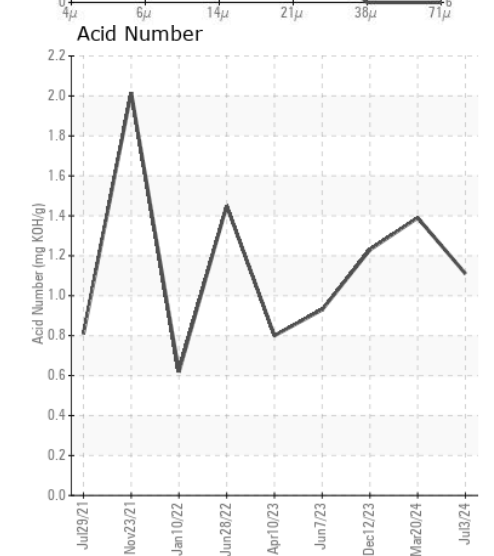
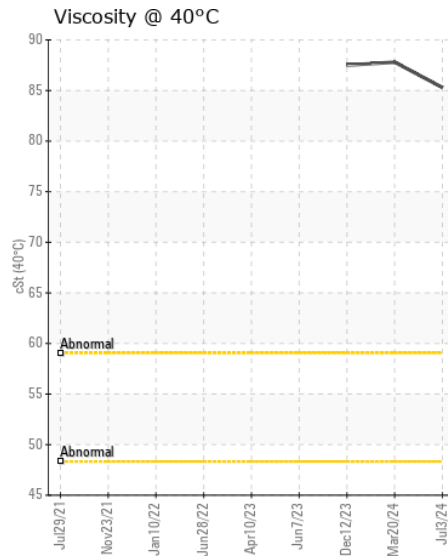
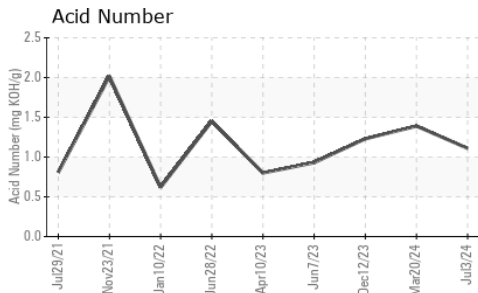
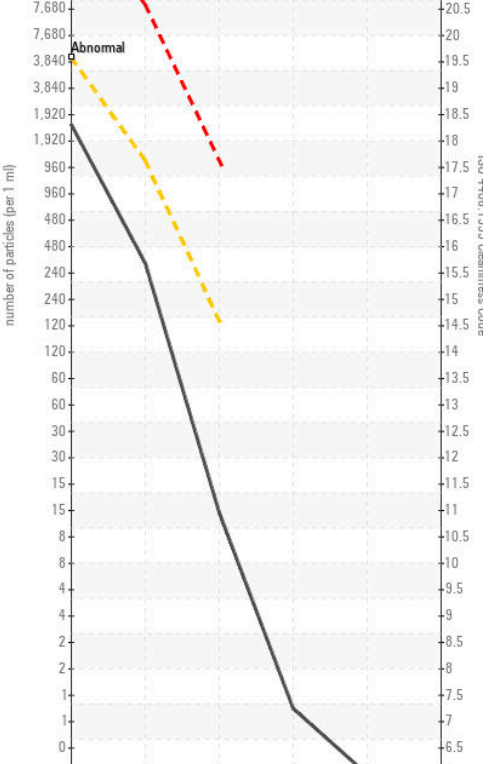
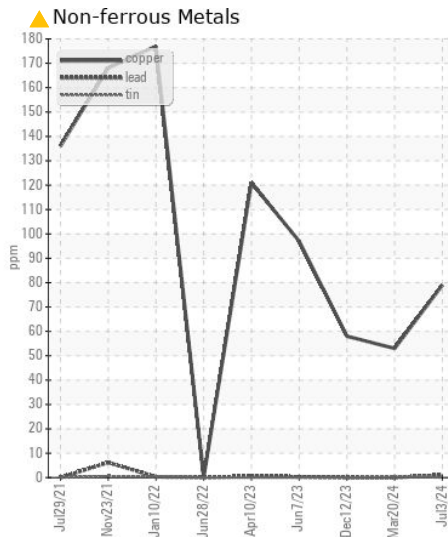
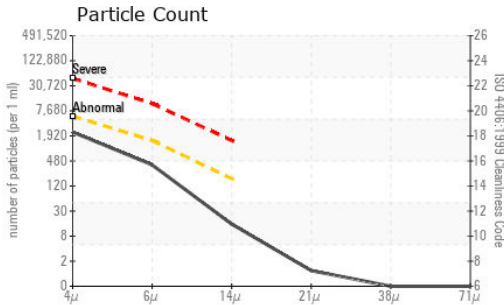
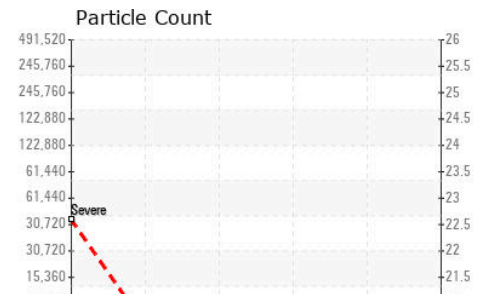
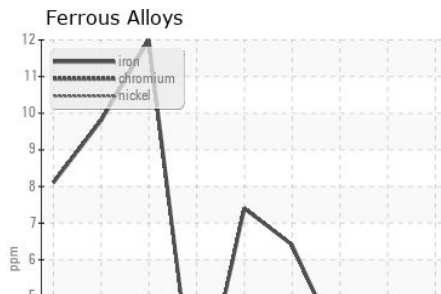
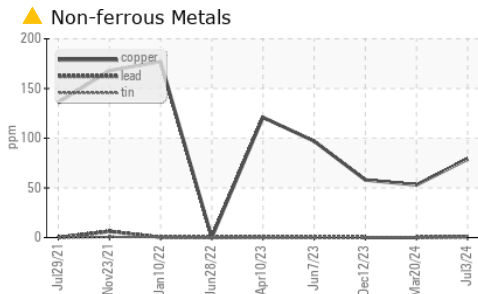
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>20	5	5	7
Potassium	ppm	ASTM D5185m	>20	0	<1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	2080	1279	2243
Particles >6µm		ASTM D7647	>1300	340	185	186
Particles >14µm		ASTM D7647	>160	13	11	6
Particles >21µm		ASTM D7647	>40	1	1	3
Particles >38µm		ASTM D7647	>10	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	18/16/11	17/15/11	18/15/10
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	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	>0.1	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		5	4	0
Boron	ppm	ASTM D5185m		10	9	9
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		5	5	6
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		22	25	23
Calcium	ppm	ASTM D5185m		2511	2435	2503
Phosphorus	ppm	ASTM D5185m		830	871	829
Zinc	ppm	ASTM D5185m		976	1057	1092
Sulfur	ppm	ASTM D5185m		3650	3948	3623
Acid Number (AN)	mg KOH/g	ASTM D8045		1.11	1.39	1.23
Visc @ 40°C	cSt	ASTM D445		85.3	87.8	87.5
Visc @ 100°C	cSt	ASTM D445		10.9	10.8	10.9
Viscosity Index (VI)	Scale	ASTM D2270		113	107	109



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR0001566 **Received** : 08 Jul 2024
Lab Number : 06230170 **Tested** : 09 Jul 2024
Unique Number : 11113663 **Diagnosed** : 10 Jul 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KV100, VI)

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To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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)