



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id

DEUTZ 2

Component

Diesel Engine

Fluid

TRC PRO-SPEC III SYNTHETIC BLEND 15W40 (16 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05941517	TR05922922	TR05898221
Sample Date		Client Info		24 Aug 2023	02 Aug 2023	05 Jul 2023
Machine Age	hrs	Client Info		2400	2100	1800
Oil Age	hrs	Client Info		900	600	300
Filter Age	hrs	Client Info		300	300	300
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	77	60	44
Chromium	ppm	ASTM D5185m	>20	4	4	3
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	2	2	2
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	19	14	9
Lead	ppm	ASTM D5185m	>40	6	6	3
Copper	ppm	ASTM D5185m	>30	5	5	4
Tin	ppm	ASTM D5185m	>15	3	3	2
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

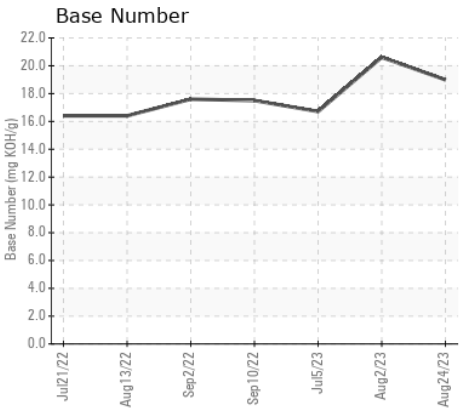
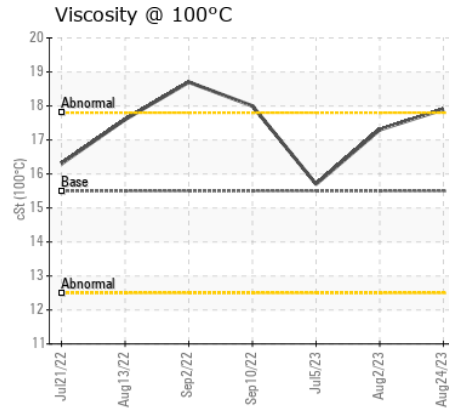
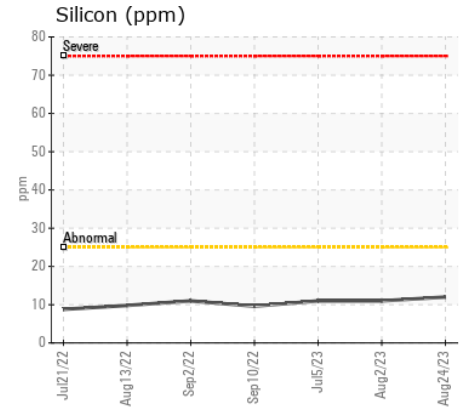
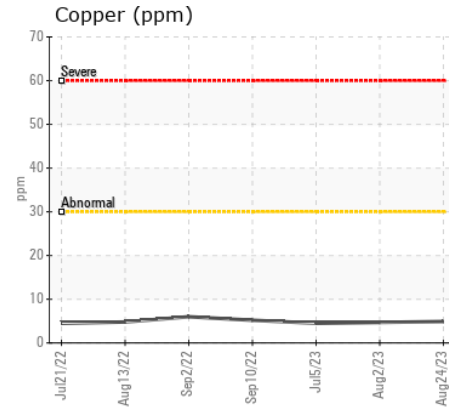
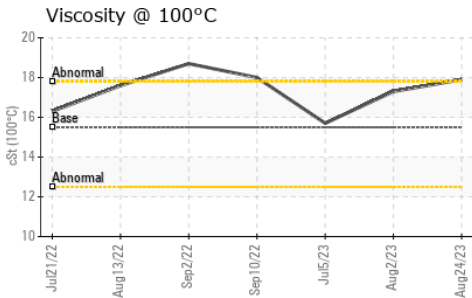
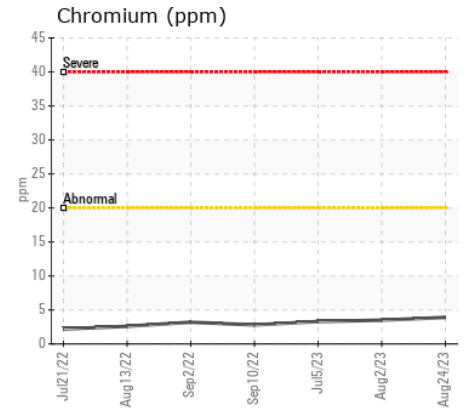
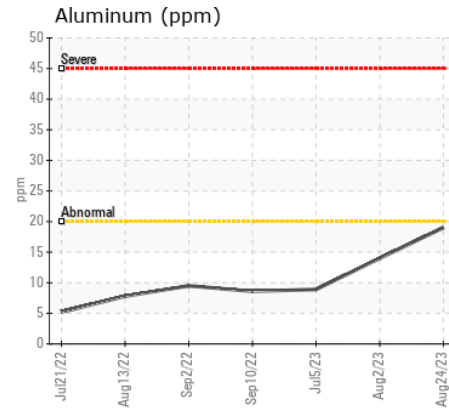
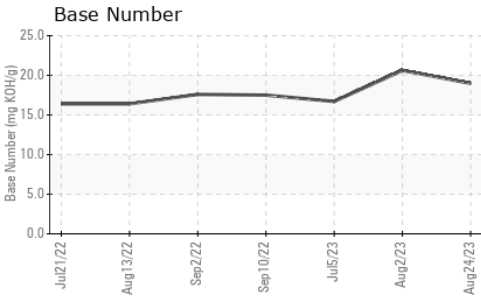
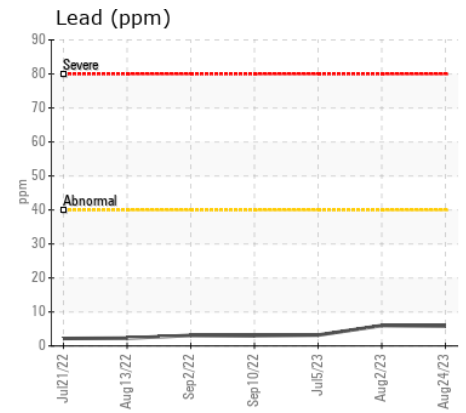
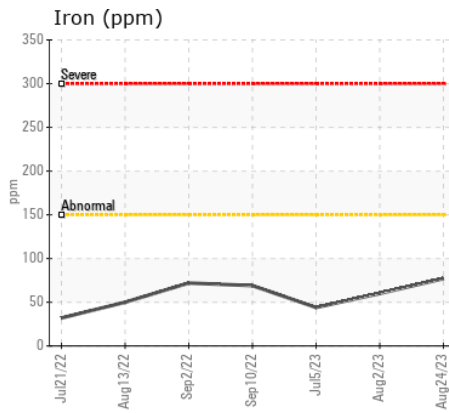
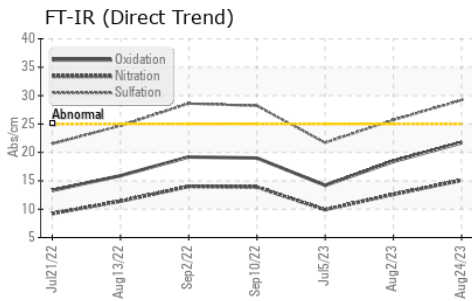
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	12	11	11
Potassium	ppm	ASTM D5185m	>20	4	2	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	15.1	12.6	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.2	25.7	21.7
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	6	3
Boron	ppm	ASTM D5185m		0	5	1
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		3	3	3
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m		35	48	30
Calcium	ppm	ASTM D5185m		8293	7592	6462
Phosphorus	ppm	ASTM D5185m		1423	1300	1148
Zinc	ppm	ASTM D5185m		1845	1654	1438
Sulfur	ppm	ASTM D5185m		6303	5865	5826
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.7	18.4	14.2
Base Number (BN)	mg KOH/g	ASTM D2896		18.99	20.61	16.71
Visc @ 100°C	cSt	ASTM D445	15.5	17.9	17.3	15.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05941517
Lab Number : 05941517
Unique Number : 10632129
Test Package : MOB 2
Received : 01 Sep 2023
Tested : 05 Sep 2023
Diagnosed : 05 Sep 2023 - Doug Bogart

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Certificate L2367
 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)