



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		TR05898221	TR05641735	TR05641734
Sample Date		Client Info		05 Jul 2023	10 Sep 2022	02 Sep 2022
Machine Age	hrs	Client Info		1800	1500	1300
Oil Age	hrs	Client Info		300	1300	1100
Filter Age	hrs	Client Info		300	200	400
Oil Changed		Client Info		Not Changd	Changed	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	44	69	72
Chromium	ppm	ASTM D5185m	>20	3	3	3
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>2	2	2	3
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	9	9	10
Lead	ppm	ASTM D5185m	>40	3	3	3
Copper	ppm	ASTM D5185m	>30	4	5	6
Tin	ppm	ASTM D5185m	>15	2	2	3
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

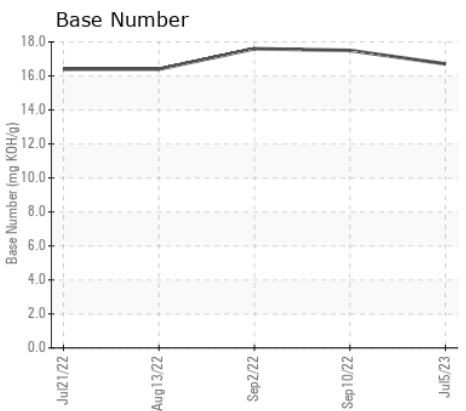
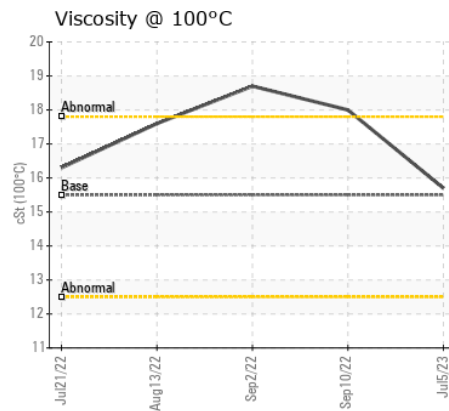
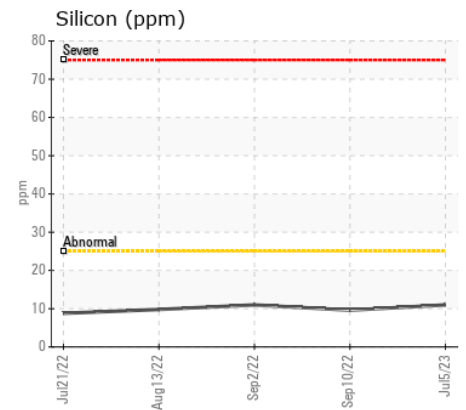
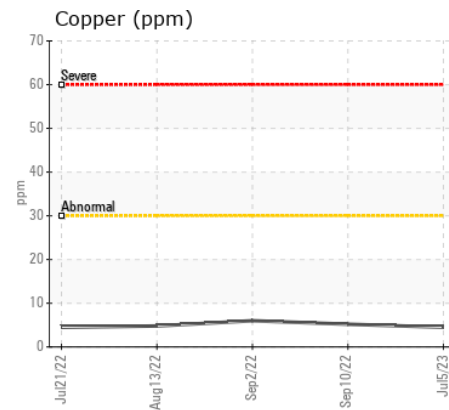
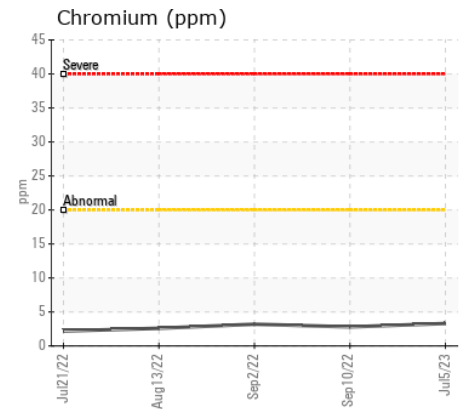
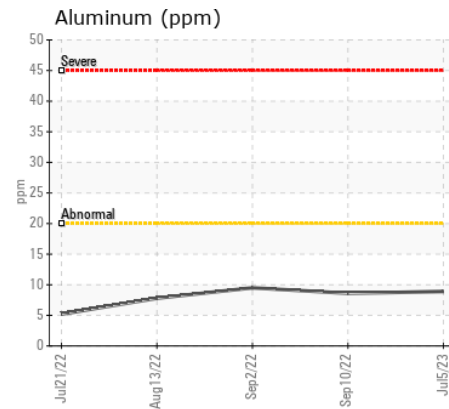
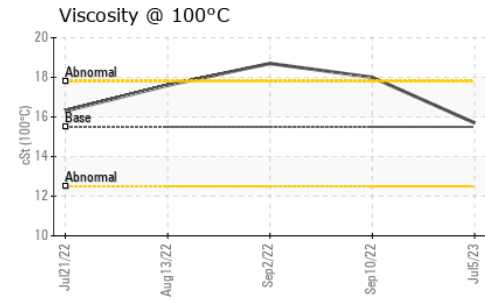
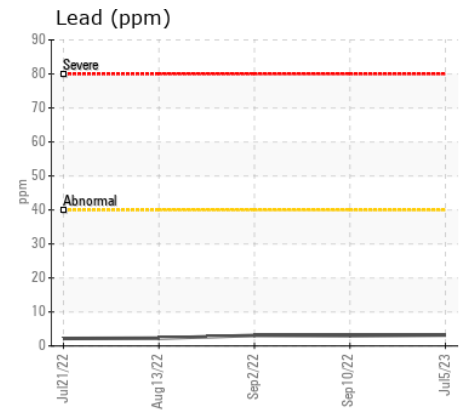
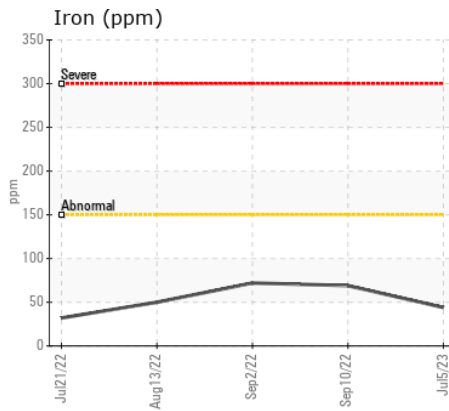
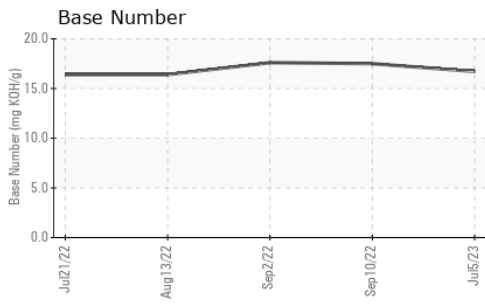
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	11	10	11
Potassium	ppm	ASTM D5185m	>20	3	<1	<1
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	0.5	1.4	1.5
Nitration	Abs/cm	*ASTM D7624	>20	9.9	13.9	14.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	28.2	28.6
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		3	4	4
Boron	ppm	ASTM D5185m		1	3	4
Barium	ppm	ASTM D5185m		0	<1	<1
Molybdenum	ppm	ASTM D5185m		3	4	6
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		30	28	30
Calcium	ppm	ASTM D5185m		6462	6643	6805
Phosphorus	ppm	ASTM D5185m		1148	1124	1138
Zinc	ppm	ASTM D5185m		1438	1466	1490
Sulfur	ppm	ASTM D5185m		5826	4619	4711
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.2	19.0	19.2
Base Number (BN)	mg KOH/g	ASTM D2896		16.71	17.5	17.6
Visc @ 100°C	cSt	ASTM D445	15.5	15.7	18.0	18.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05898221
Lab Number : 05898221
Unique Number : 10559577
Test Package : MOB 2
Received : 13 Jul 2023
Tested : 17 Jul 2023
Diagnosed : 17 Jul 2023 - Wes Davis

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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)