



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH T880 27 - KENWORTH (S/N 433448)
 Component
Diesel Engine
 Fluid
TRC PRO-SPEC IV SYNTHETIC BLEND 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06228161	TR06006551	TR05776210
Sample Date		Client Info		22 Jun 2024	14 Jul 2023	13 Nov 2022
Machine Age	mls	Client Info		403800	353968	302956
Oil Age	mls	Client Info		25000	25093	24395
Filter Age	mls	Client Info		25000	25093	24395
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	14	11	10
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	2
Lead	ppm	ASTM D5185m	>40	<1	<1	1
Copper	ppm	ASTM D5185m	>330	1	<1	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

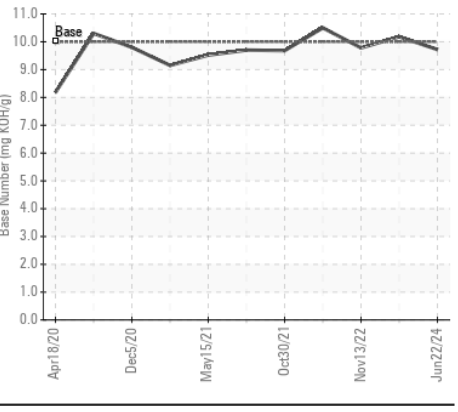
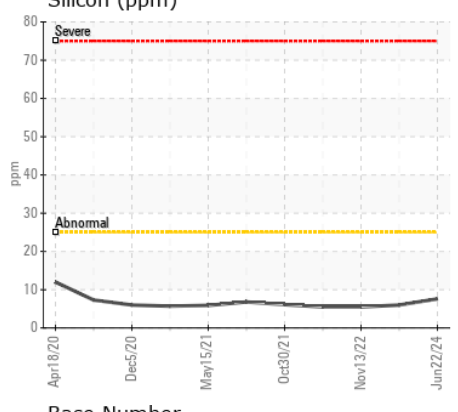
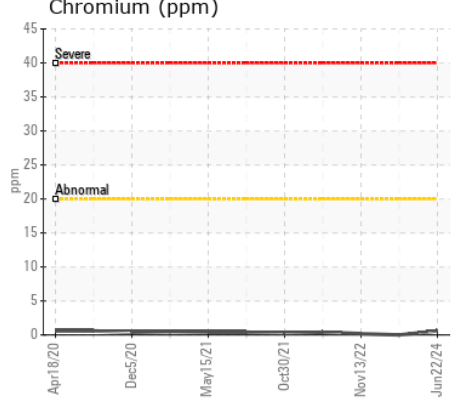
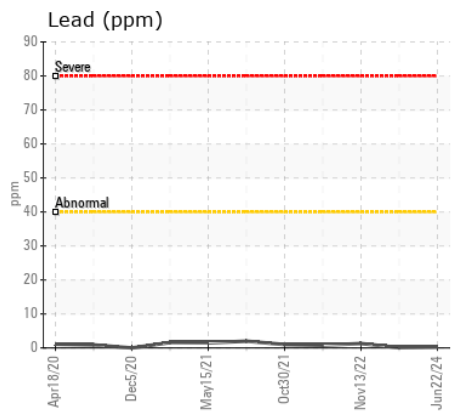
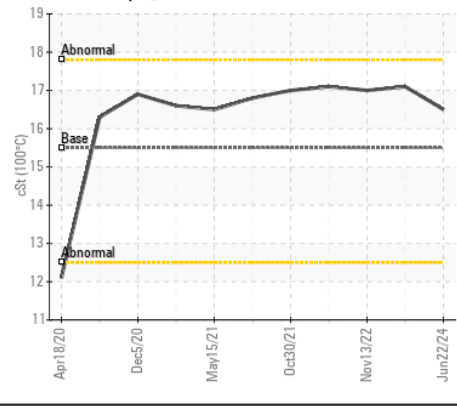
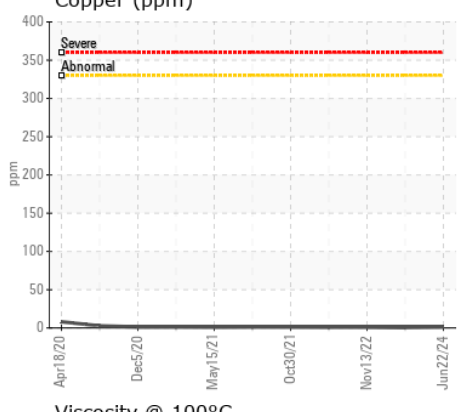
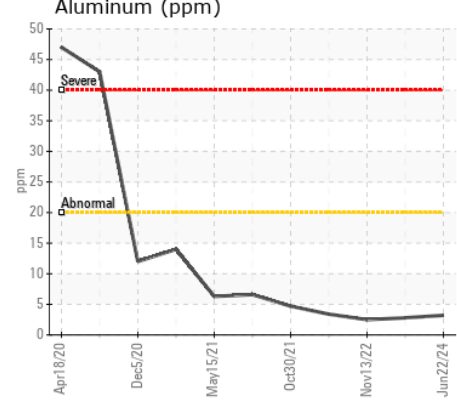
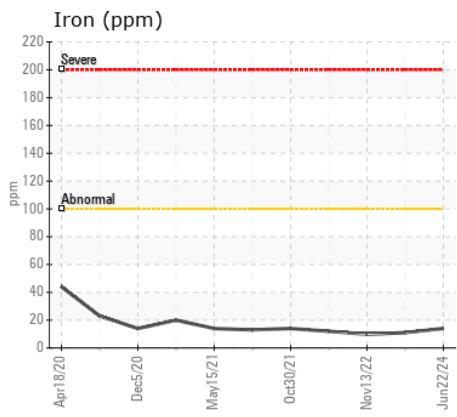
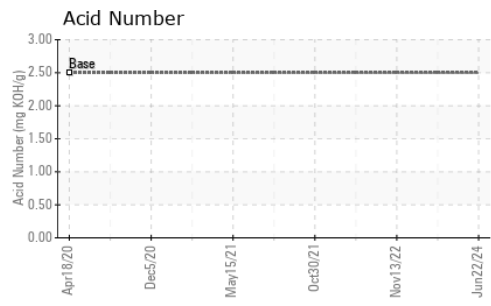
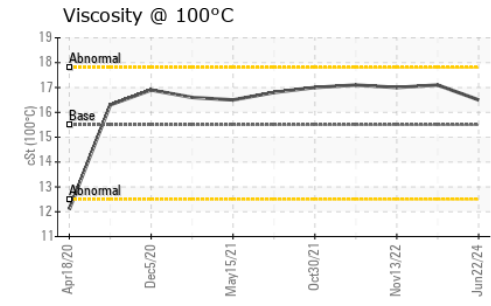
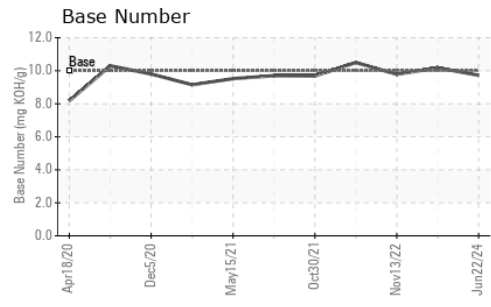
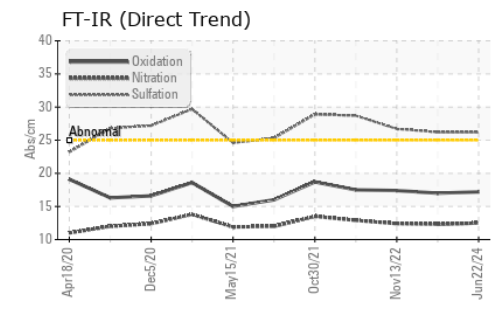
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	6	6
Potassium	ppm	ASTM D5185m	>20	5	4	2
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	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	12.5	12.3	12.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.2	26.2	26.7
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		2	3	2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	2
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		16	32	18
Calcium	ppm	ASTM D5185m	2300	4788	4576	4489
Phosphorus	ppm	ASTM D5185m		837	979	873
Zinc	ppm	ASTM D5185m	1200	1101	1153	1070
Sulfur	ppm	ASTM D5185m		3884	4336	4732
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	17.0	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.72	10.18	9.78
Visc @ 100°C	cSt	ASTM D445	15.5	16.5	17.1	17.0



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06228161 **Received** : 03 Jul 2024
Lab Number : 06228161 **Tested** : 08 Jul 2024
Unique Number : 11111654 **Diagnosed** : 08 Jul 2024 - Angela Borella
Test Package : MOB 2 (Additional Tests: TAN Man)

ZACHRY FARMS
 15231 COUNTY FARM RD
 CARLYLE, IL
 US 62231
 Contact: CHARLES FLATT

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)

T:
F: