



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**BUFFALO TURBINE BT514**

Component  
**Gasoline Engine**

Fluid  
**TRC PRO-SPEC IV XP SYN BLEND SAE 10W30 (3 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06239331</b>	TR05454847	---
Sample Date		Client Info		<b>16 Jul 2024</b>	25 Jan 2022	---
Machine Age	hrs	Client Info		<b>7670</b>	680	---
Oil Age	hrs	Client Info		<b>526</b>	259	---
Filter Age	hrs	Client Info		<b>526</b>	259	---
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Sample Status				<b>NORMAL</b>	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	<b>34</b>	38	---
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m	>40	<b>13</b>	15	---
Lead	ppm	ASTM D5185m	>50	<b>2</b>	3	---
Copper	ppm	ASTM D5185m	>155	<b>2</b>	2	---
Tin	ppm	ASTM D5185m	>10	<b>2</b>	2	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

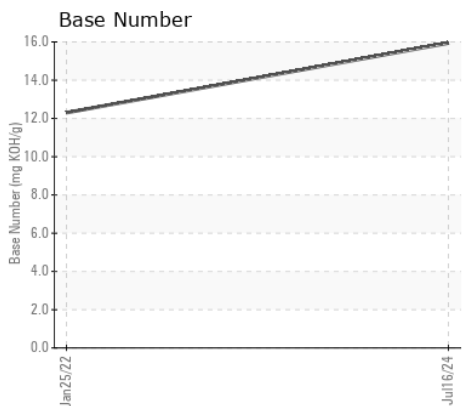
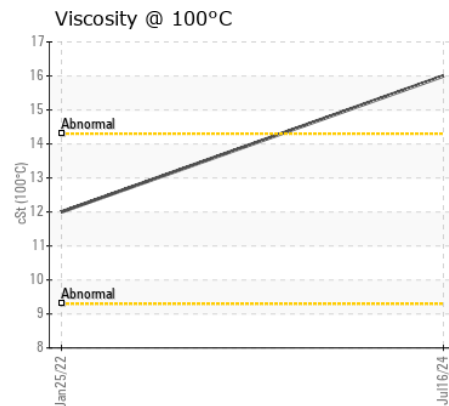
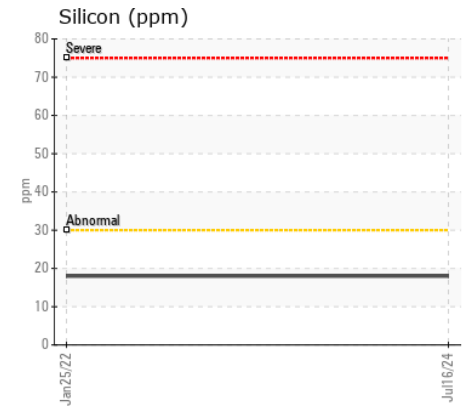
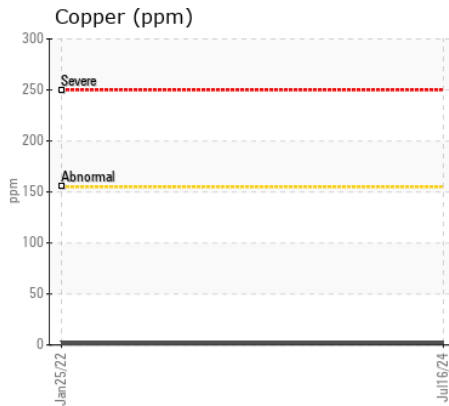
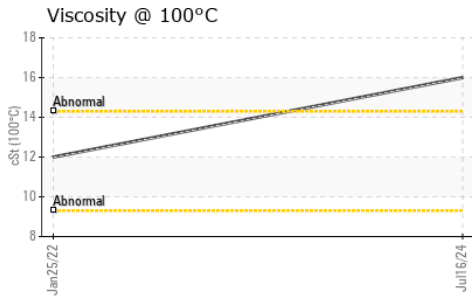
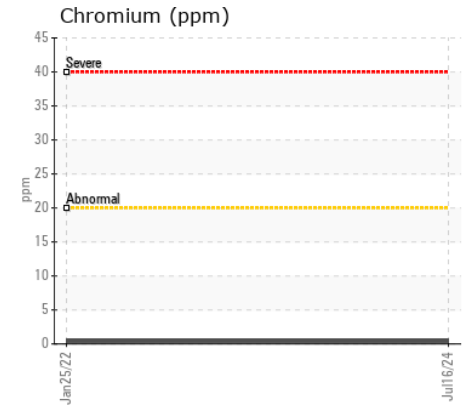
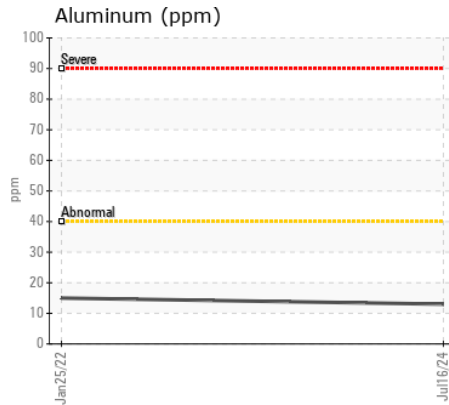
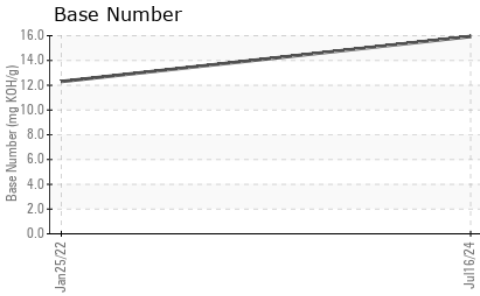
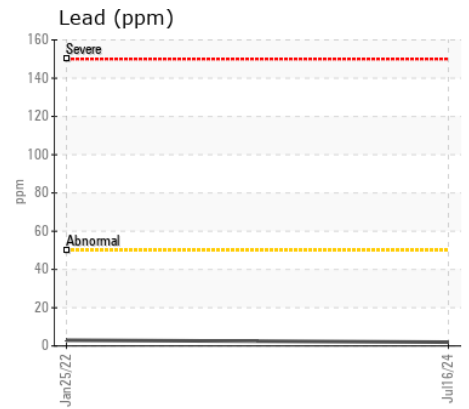
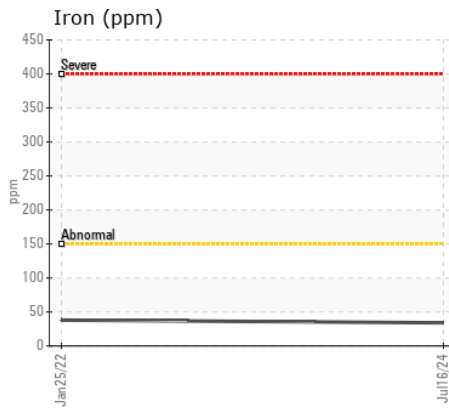
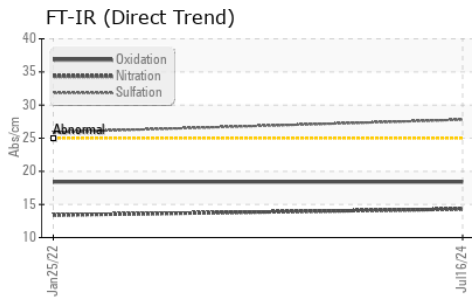
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	<b>18</b>	18	---
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	4	---
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.3</b>	13.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>27.8</b>	25.9	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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	>400	<b>19</b>	19	---
Boron	ppm	ASTM D5185m		<b>0</b>	7	---
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>2</b>	2	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>22</b>	25	---
Calcium	ppm	ASTM D5185m		<b>5289</b>	4803	---
Phosphorus	ppm	ASTM D5185m		<b>949</b>	888	---
Zinc	ppm	ASTM D5185m		<b>1317</b>	1154	---
Sulfur	ppm	ASTM D5185m		<b>4487</b>	3879	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.4</b>	18.4	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>15.94</b>	12.3	---
Visc @ 100°C	cSt	ASTM D445		<b>16.0</b>	12.0	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06239331  
**Lab Number** : 06239331  
**Unique Number** : 11128165  
**Test Package** : MOB 2  
**Received** : 17 Jul 2024  
**Tested** : 19 Jul 2024  
**Diagnosed** : 19 Jul 2024 - Jonathan Hester

**OVERLAND PARK GC CCD**  
 1801 S HURON ST  
 DENVER, CO  
 US 80223  
 Contact: JAMES WEST

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)

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F: