



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id  
**MARGARET ANN (S/N 37224461)**

Component  
**Port Diesel Engine**

Fluid  
**AMERICAN LUBRICANTS MOLY SELECT 15W40 (19 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06049141</b>	TR05721529	TR03484881
Sample Date		Client Info		<b>18 Dec 2023</b>	14 Dec 2022	10 Apr 2014
Machine Age	hrs	Client Info		<b>1907</b>	36028	0
Oil Age	hrs	Client Info		<b>678</b>	1209	0
Filter Age	hrs	Client Info		<b>329</b>	500	0
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>65</b>	67	19
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	2	2
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>7</b>	13	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>13</b>	19	34
Copper	ppm	ASTM D5185m	>330	<b>40</b>	50	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	4	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

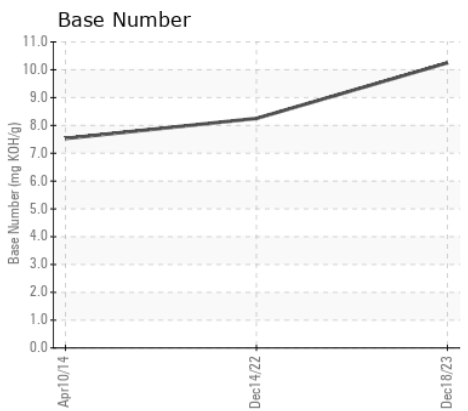
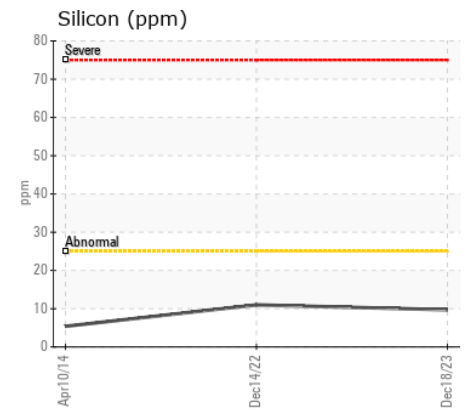
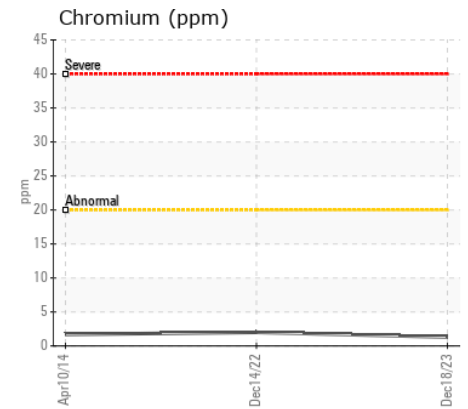
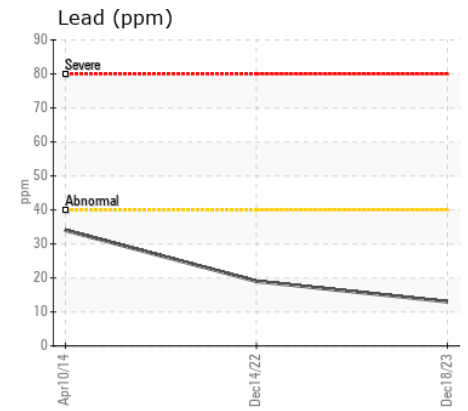
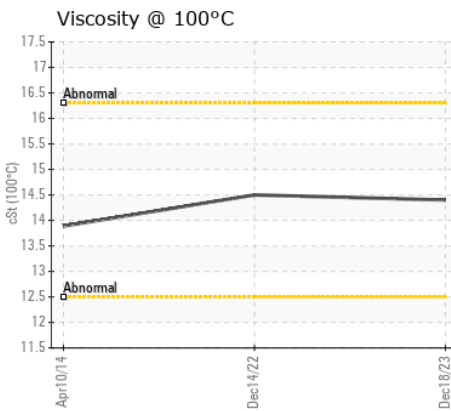
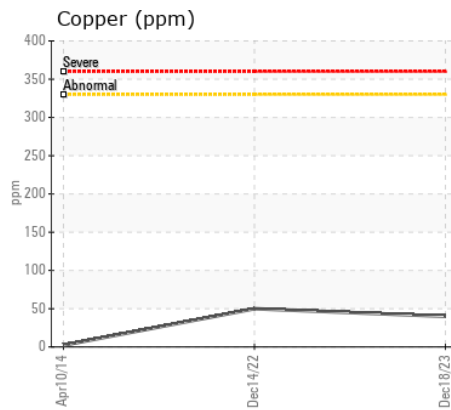
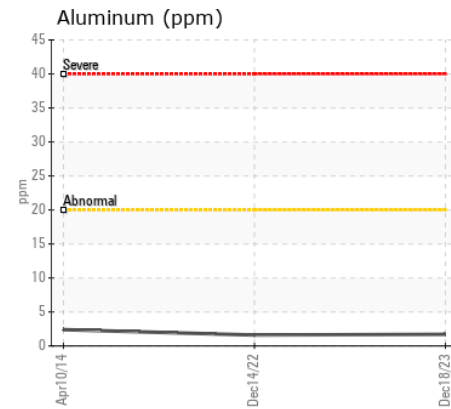
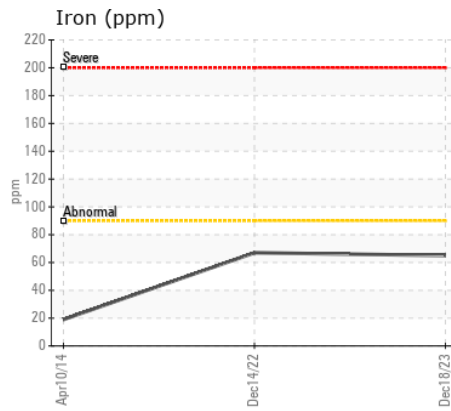
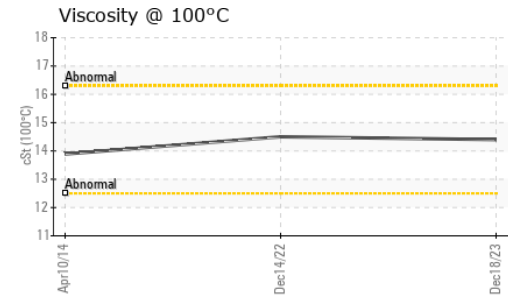
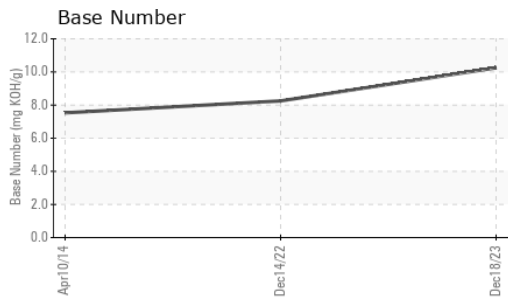
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>10</b>	11	5
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.5</b>	4.9	0
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.3</b>	9.5	6.
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.7</b>	25.4	16.
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>0</b>	5	4
Boron	ppm	ASTM D5185m		<b>0</b>	19	<1
Barium	ppm	ASTM D5185m		<b>6</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>448</b>	301	188
Manganese	ppm	ASTM D5185m		<b>0</b>	2	<1
Magnesium	ppm	ASTM D5185m		<b>543</b>	765	721
Calcium	ppm	ASTM D5185m		<b>2835</b>	2329	1604
Phosphorus	ppm	ASTM D5185m		<b>1088</b>	1071	1080
Zinc	ppm	ASTM D5185m		<b>1273</b>	1286	1326
Sulfur	ppm	ASTM D5185m		<b>4800</b>	4617	3477
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.8</b>	11.6	10.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>10.25</b>	8.25	7.53
Visc @ 100°C	cSt	ASTM D445		<b>14.4</b>	14.5	13.89



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06049141 **Received** : 02 Jan 2024  
**Lab Number** : 06049141 **Diagnosed** : 06 Jan 2024  
**Unique Number** : 10809749 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2

**SHAWNEETOWN HARBOR SERVICES**  
 256 N LINCOLN BLVD EAST  
 SHAWNEETOWN, IL  
 US 62984  
 Contact: SHARON HEERNE

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: