

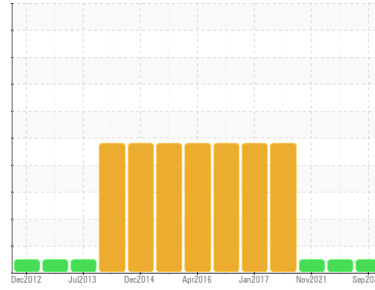
# OIL ANALYSIS REPORT

## Sample Rating Trend

**NORMAL**



Area  
**KEMP QUARRIES / MUSKOGEE SAND [64005]**  
 Machine Id  
**WL001**  
 Component  
**Front Left Final Drive**  
 Fluid  
**PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)**



### DIAGNOSIS

**Recommendation**  
 Resample at the next service interval to monitor. ( Customer Sample Comment: PM-1 sampled fluid )

**Wear**  
 All component wear rates are normal.

**Contamination**  
 There is no indication of any contamination in the oil.

**Fluid Condition**  
 The condition of the oil is acceptable for the time in service.

### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PCA0048604</b>	PCA0070490	PCA0034549
Sample Date	Client Info		<b>06 Sep 2023</b>	08 Jul 2022	06 Nov 2021
Machine Age	hrs	Client Info	<b>9513</b>	2975	2835
Oil Age	hrs	Client Info	<b>3441</b>	613	473
Oil Changed	Client Info		<b>N/A</b>	Changed	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >800	<b>29</b>	265	252
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m >15	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >75	<b>2</b>	12	10
Lead	ppm	ASTM D5185m >10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >75	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m >8	<b>&lt;1</b>	0	<1
Antimony	ppm	ASTM D5185m >50	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	<b>&lt;1</b>	1	2
Barium	ppm	ASTM D5185m 0	<b>1</b>	25	0
Molybdenum	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	7	6
Magnesium	ppm	ASTM D5185m 9	<b>22</b>	11	0
Calcium	ppm	ASTM D5185m 3114	<b>3605</b>	3062	3340
Phosphorus	ppm	ASTM D5185m 1099	<b>913</b>	1020	997
Zinc	ppm	ASTM D5185m 1245	<b>1119</b>	1222	1279
Sulfur	ppm	ASTM D5185m 7086	<b>10118</b>	10281	9920

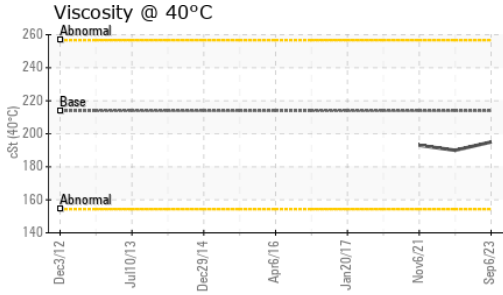
### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >400	<b>21</b>	43	41
Sodium	ppm	ASTM D5185m	<b>2</b>	4	3
Potassium	ppm	ASTM D5185m >20	<b>0</b>	5	<1

### VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual NONE	<b>NONE</b>	NONE	NONE
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
Free Water	scalar	*Visual	<b>NEG</b>	NEG	NEG

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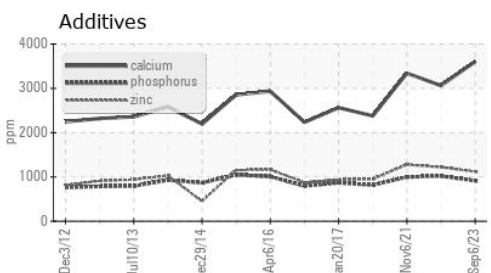
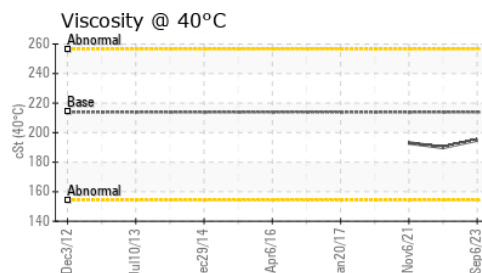
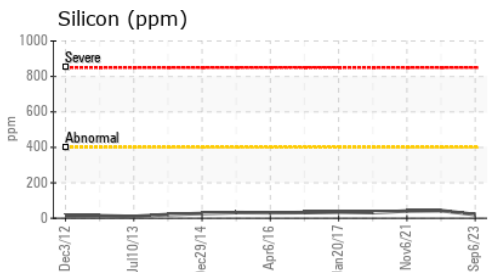
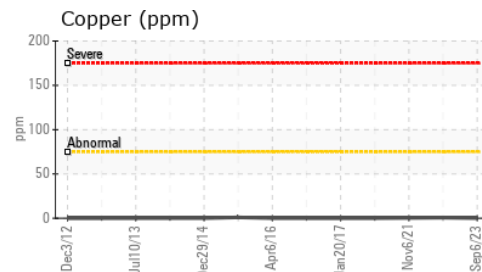
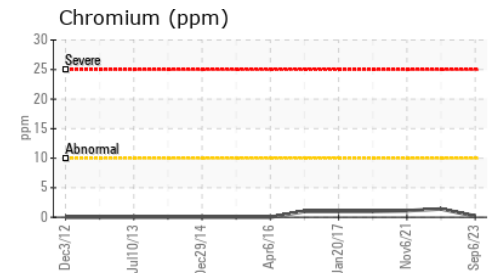
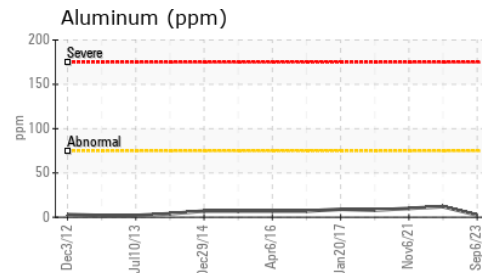
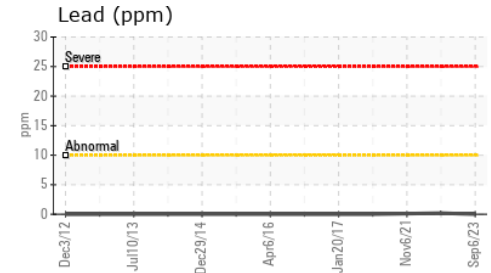
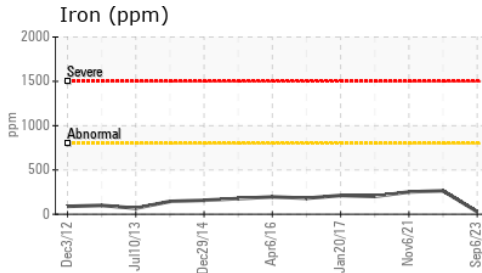


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	<b>195</b>	190	193

SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color				no image	no image	no image
Bottom				no image	no image	no image

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0048604 **Received** : 14 Sep 2023  
**Lab Number** : 05952297 **Diagnosed** : 18 Sep 2023  
**Unique Number** : 10648256 **Diagnostician** : Doug Bogart  
**Test Package** : MOB 1

**Kemp Quarries - Muskogee Sand**  
 3395 W 50th St N  
 Porter, OK  
 US 74454  
 Contact:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)

muskogee@muskogeessand.com

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F: