WEAR CONTAMINATION FLUID CONDITION **SEVERE SEVERE SEVERE**

Tractors UTL004

Front Left Wheel Hub

PETRO CANADA TRAXON 80W90 (--- LTR)

В	$\hat{}$	\frown	T.V.	LV	JE	VI		AΤ		M
П	J	U	W	IW		ы	U	$\mathbf{A}\mathbf{I}$	IU	INI

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before refilling with oil. Confirm the source of the lubricant being utilized for topup/fill. We recommend an early resample to monitor this condition.

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0074911		
Sample Date		Client Info		21 Dec 2023		
Machine Age	hrs	Client Info		8363		
Oil Age	hrs	Client Info		0		
Filter Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Filter Changed		Client Info		N/A		
Sample Status				SEVERE		
PQ		ASTM D8184*		2311		
Iron	ppm	ASTM D5185(m)	>500	3347		

WEAR

Chromium and copper and iron, nickel and lead ppm levels are severe. PQ levels are severe. Aluminum ppm levels are noted. Tin and titanium ppm levels are marginal. Gear wear is indicated. Bearing and/or bushing wear is indicated. The very high ferrous density (PQ) index indicates that severe wear is occurring.

PQ		ASTM D8184*		2311	
Iron	ppm	ASTM D5185(m)	>500	3347	
Chromium	ppm	ASTM D5185(m)	>8	42	
Nickel	ppm	ASTM D5185(m)	>5	24	
Titanium	ppm	ASTM D5185(m)		34	
Silver	ppm	ASTM D5185(m)		0	
Aluminum	ppm	ASTM D5185(m)	>5	350	
Lead	ppm	ASTM D5185(m)	>5	15	
Copper	ppm	ASTM D5185(m)	>50	164	
Tin	ppm	ASTM D5185(m)		18	
Vanadium	ppm	ASTM D5185(m)		<1	
White Metal	scalar	Visual*	NONE	VLITE	
Yellow Metal	scalar	Visual*	NONE	NONE	

CONTAMINATION

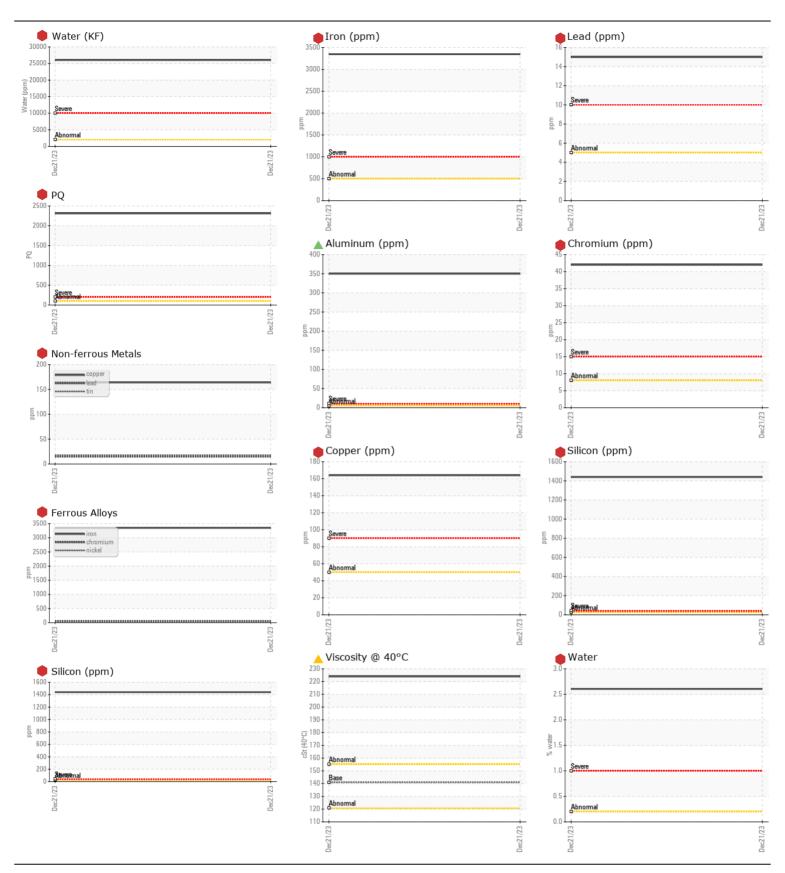
Lithium (Li) level severe at 96ppm., indicates possible grease contamination. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

Yellow Metal	scalar	Visual*	NONE	NONE	
Silicon	ppm	ASTM D5185(m)	>25	1440	
Potassium	ppm	ASTM D5185(m)	>20	124	
Water	%	ASTM D6304*	>0.2	2.605	
ppm Water	ppm	ASTM D6304*	>2000	26053	
Silt	scalar	Visual*	NONE	NONE	
Debris	scalar	Visual*	NONE	NONE	
Sand/Dirt	scalar	Visual*	NONE	NONE	
Appearance	scalar	Visual*	NORML	NORML	
Odor	scalar	Visual*	NORML	NORML	
Emulsified Water	scalar	Visual*	>0.2	.2 %	

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 80W140 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Odor	scalar	Visual*	NORML	NO	RML	
Emulsified Water	scalar	Visual*	>0.2	<u>^</u> .2%	6	
Sodium	ppm	ASTM D5185(m)		148	В	
Boron	ppm	ASTM D5185(m)	243	4 6		
Barium	ppm	ASTM D5185(m)	1	4		
Molybdenum	ppm	ASTM D5185(m)		4		
Manganese	ppm	ASTM D5185(m)		▲ 36		
Magnesium	ppm	ASTM D5185(m)	2	▲ 18 ⁻	1	
Calcium	ppm	ASTM D5185(m)	6	A 844	4	
Phosphorus	ppm	ASTM D5185(m)	987	4 657	7	
Zinc	ppm	ASTM D5185(m)	1	▲ 56		
Sulfur	ppm	ASTM D5185(m)	21530	213	302	
Visc @ 40°C	cSt	ASTM D7279(m)	141.0	<u>^</u> 224	4	
Visc @ 100°C	cSt	ASTM D7279(m)	15.06	8.6		





CALA ISO 17025:2017 Accredited

Laboratory

Report Id: LAKTIM [WCAMIS] 02608264 (Generated: 01/15/2024 09:43:08) Rev: 1

Laboratory Sample No. Lab Number

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : PC0074911

: 02608264 : 5709350 **Unique Number**

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Recieved Diagnosed

: 15 Jan 2024 Diagnostician : Kevin Marson

: 11 Jan 2024

Test Package : MOB 1 (Additional Tests: KF, KV100, PQ, VI) To discuss this sample report, contact Customer Service at 1-800-268-2131.

Lakeshore Gold Timmins West

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T: (705)269-4344

Timmins, ON