

## **PROBLEM SUMMARY**

# NO UNIT PC0069560

Hydraulic System Fluid NOT GIVEN (32 GAL)

#### COMPONENT CONDITION SUMMARY



#### RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. Please specify the brand, type, and viscosity of the oil on your next sample.

### PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	 	
Particles >4µm	ASTM D7647	>5000	<b>6</b> 54348	 	
Particles >6µm	ASTM D7647	>1300	🛑 16813	 	
Particles >14µm	ASTM D7647	>160	<u> </u>	 	
Particles >21µm	ASTM D7647	>40	<mark>/</mark> 93	 	
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>e</b> 23/21/17	 	

Customer Id: IND288CHA Sample No.: PC0069560 Lab Number: 02596839 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Gloria Gonzalez +1 (289)291-4643 x4643 gloria.gonzalez@wearcheck.com



RECOMMENDED	ACTIONS			
Action	Status	Date	Done By	Description
Change Filter			?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample			?	Resample in 30-45 days to monitor this situation.
Information Required			?	Please specify the brand, type, and viscosity of the oil on your next sample.
Check Breathers			?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access			?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid			?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

### HISTORICAL DIAGNOSIS



### **OIL ANALYSIS REPORT**

Sample Rating Trend

ISO

#### Machine Id **NO UNIT PC0069560** Component

**Hydraulic System** NOT GIVEN (32 GAL)

#### DIAGNOSIS

#### Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORM	<b>/</b> ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0069560		
Sample Date		Client Info		14 Nov 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				SEVERE		
WEAR METALS	3	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	1		
Chromium	ppm	ASTM D5185(m)	>20	1		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)	>20	<1		
Lead	ppm	ASTM D5185(m)	>20	<1		
Copper	ppm	ASTM D5185(m)	>20	3		
Tin	ppm	ASTM D5185(m)	>20	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1		
Barium	ppm	ASTM D5185(m)		<1		
Molybdenum	ppm	ASTM D5185(m)		0		
Manganese	ppm	ASTM D5185(m)		0		
Magnesium	ppm	ASTM D5185(m)		0		
Calcium	ppm	ASTM D5185(m)		<1		
Phosphorus	ppm	ASTM D5185(m)		5		
Zinc	ppm	ASTM D5185(m)		6		
Sulfur	ppm	ASTM D5185(m)		41		
Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<1		
Sodium	ppm	ASTM D5185(m)		<1		
Potassium	ppm	ASTM D5185(m)	>20	0		
FLUID CLEANL	INESS.	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	<b>•</b> 54348		
Particles >6µm		ASTM D7647	>1300	🛑 16813		
Particles >14µm		ASTM D7647	>160	<u> </u>		
Particles >21µm		ASTM D7647	>40	<mark>/</mark> 93		
Particles >38µm		ASTM D7647	>10	4		
Particles >71µm		ASTM D7647	>3	0		
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>0</b> 23/21/17		
FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Acid Number (AN)	ma KOH/a	ASTM D974*		0.03		

Acid Number (AN) mg KOH/g ASTM D974\*

Report Id: IND288CHA [WCAMIS] 02596839 (Generated: 11/17/2023 08:55:33) Rev: 1

Contact/Location: Service Manager - IND288CHA



# **OIL ANALYSIS REPORT**







VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
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*	>0.05	NEG		
Free Water	scalar	visuai"		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
/isc @ 40°C	cSt	ASTM D7279(m)		43.0		
/isc @ 100°C	cSt	ASTM D7279(m)		6.5		
Viscosity Index (VI)	Scale	ASTM D2270*		100		
SAMPLE IMAG	iES	method	limit/base	current	history1	history2
Color					no imogo	no imago
50101					no image	no image
				Max, BOLG		
Bottom					no image	no image
				<u> </u>		
GRAPHS						
Ferrous Alloys				Particle Count		
			491,52	Ī		1 <sup>26</sup>
LILU I						
non chromium			122,880			-24
nickel			30,72	Severe		+24 +22
rron chromium nickel			30,720	Severe		-24 -22
chromium nickel			122,881 30,721 E E E E E E	Abnormal		-24 -22 -20 88 -4
ron nickel			122,880 30,724 (E 7,681 (E 1,924) (E	Abnormal	5	-24 -22 -20 [S] -18
CZ24F100 Non-ferrous Metals	s		122.880 30,724 EE File E2 Flag spj te 480	Abnomal		-24 -22 -20 [50 -18 [5] -18 [5] -16 [0] -16 [0]
EZCHION Non-ferrous Metal:	s		122.880 30.724 (7.681 (27) 1.000 (27) 1.000 (27) 1.000 (27) 1.020 (27) (27) (27) (27) (27) (27) (27) (27)	Abnormal		-24 -22 -20 [0] 406:1999 -16 Cleanline -16 Light Cleanline -14
Non-ferrous Metal	s		122.880 30.724 12.80 30.724 10.102 10	Severe Abnormal		-24 -22 -20 ISO 4406:1999 Clean Insert -16 Clean Insert -14 Clean Insert -14 Lean
Non-ferrous Metal:	s		122.880 30.724 TE 7.680 ECVF 10 Sopping 480 to age 122 age 123 age 122 age 122 age 122 age 122 age 123 age 123	Abnormal		-24 -22 -20 [50 4406:1999 -16 Ceanliness -16 Ceanliness -12 Cede
Non-ferrous Metals	s		122.880 30.720 ECCF (E 7.680 30,720 (E 1 30, 30,720) (E 1 30, 30, 30,720) (E 1 30, 30, 30,720) (E 1 30, 30, 30, 30, 30, 30, 30, 30, 30, 30,	Abnomal		-24 -22 -20 ISO 4406, 1999 Cleantinese Code -16 6 1999 Cleantinese Code -14 rese Code -12 de -10
Non-ferrous Metals	s		122.880 30.720 FCU FL 190 1.920 State of the state of the	Abnomal		-24 -22 -20 ISO 4466.1999 Cleaniness -16 Cole -14 ress Code -12 Code -10 -10 -8
Non-ferrous Metal	5		122.880 30.720 (m 7.680 (c2/b 1/00) (c2/b	Abnormal		-24 -22 -20 ISO 4406:1999 Clean Insection -16 Clean Insec Code -14 -112 Cde -10 -8 -8 -6
Non-ferrous Metal:	s		122.884 30.724 (in f ad) solution (in f ad) solutio	Acid Number	14μ 21μ	-24 -22 -20 [50 4406:1999 -16 Genfiness Code -14 -12 ce -10 -8 -38μ 71μ
Non-ferrous Metals	S		122.884 30.724 (ECUF) 100 (ECUF)	Abnomal Abnomal Advised to the second	14μ 21μ	-24 -22 -20 ISO 4406.1999 Cleanliness Code -16 6
Non-ferrous Metal:	s		122.880 30.720 FCC/FL/NON CC/FL/NON	Abnomal Abnomal Abnomal Abnomal Abnomal Acid Number	14μ 21μ	-24 -22 -20 ISO 4406.1999 Cleaning to 16 -16 Control 16 -14 ress Code -12 Code -12 Code -10 -8 
Non-ferrous Metal	S		122.884 30.724 (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Abnormal Abnormal Abnormal Abnormal Acid Number	14μ 21μ	-24 -22 -20 ISO 4406:1999 Cleaninness Code -16 -17 - 12 - 16 -14 -12 - 10 -12 - 10 -10 
Non-ferrous Metal	5		122.884 30.724 (m 1	Abnormal Abnormal Abnormal Advised States of the second se	14μ 21μ	-24 -22 -20 [50] 4406; 1999 Cleanfiness Code -14 -14 -12 de -10 
Non-ferrous Metal:	s		122.880 30.720 ([u [ 1a] 1.920 ([u [ 1a] 1.920	Abnomal Abnomal Acid Number	14μ 21μ	-24 -22 20 ISO 4406.1999 Cleaniness Code -16 English Cleaniness Code -14 English Cleaniness Code -12 English Cleaniness Code -12 English Cleaniness Code -14 English Cleaniness Code -14 English Cleaniness Code -15 English Cleaniness Code -16 English Cleaniness Code -17 English Cleaniness Code -18 English Cleaniness Code -19 English Cleaniness Code -19 English Cleaniness Code -10 English Cleanines -10 English Cleaniness
Non-ferrous Metals	s		1222.884 30.724 (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Abnomal Abnomal Acid Number	14μ 21μ	24 22 20 190 406: 1999 Ceanliness Gode 14 14 38μ 71μ 22 10 8 6 71μ 22 10 8 71μ
Non-ferrous Metal	S		1222.884 30.724 (0.1473) 1.924 (0.1473) 1.924 (0.044) 1.924 1.9444 1.9444 1.9444 1.9444 1.9444 1.9444 1.9444 1.944	Abnomal 4μ 6μ Acid Number	14μ 21μ	-24 -22 20 (\$0 4406,1999 Geanfiness Code -18 604 -14 for the set of the set
Non-ferrous Metal:	s 75 Apple	by Line, Burl	122.884 30.724 (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Acid Number	14μ 21μ RIAL METAL F	-24 -22 20 ISO 4406 :199 CleanIntess Code 16 -14 sess Code -14 sess Cod
Non-ferrous Metal	5 75 Apple Received	by Line, Burl	122.888 30.724 (m 1.49 (m 1.49 (m 1.49 (m 1.49) (m 1.49)	Acid Number	14μ 21μ <b>TRIAL METAL F</b> 288 Inshes	24 22 20 50 4406: 1999 Cleanfiness Code 14 14 38μ 71μ 5 <b>ABRICATORS</b> 5 Ave, BOX 834 CHATHAM CON

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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Contact: Service Manager