

# **PROBLEM SUMMARY**

# BOF/OG SYSTEM D - O.G. Motor Lube System # 8

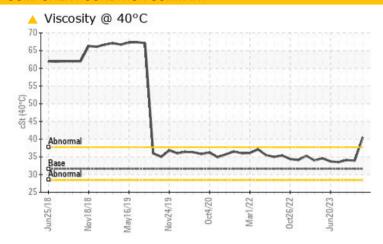
Tank Hydraulic System

PETRO CANADA HARMONY AW 32 (45 GAL)

# Sample Rating Trend



### **COMPONENT CONDITION SUMMARY**



### RECOMMENDATION

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. 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. We advise that you follow the water drainoff procedure for this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	NORMAL	ABNORMAL		
Appearance	scalar	Visual*	NORML	▲ WGOIL	NORML	▲ WGOIL		
Free Water	scalar	Visual*		<u> </u>	NEG	<u>1</u> %		
Visc @ 40°C	cSt	ASTM D7279(m)	31.61	<b>40.5</b>	33.9	34.1		

Customer Id: LEWBOSC **Sample No.:** WC0890393 Lab Number: 02603481 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Kevin Marson +1 (289)291-4644 x4644 Kevin.Marson@wearcheck.com

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
Water Drain-off			?	We advise that you follow the water drain-off procedure for this component.
Resample			?	We recommend an early resample to monitor this condition.
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 Water Access			?	We advise that you check for the source of water entry.
Check Seals			?	Check seals and/or filters for points of contaminant entry.

### HISTORICAL DIAGNOSIS

### 16 Oct 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



### ....



### 16 Aug 2023 Diag: Kevin Marson

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. 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. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. All component wear rates are normal. Free water present. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.



### 13 Jul 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



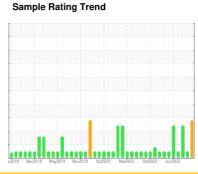


# **OIL ANALYSIS REPORT**

# BOF/OG SYSTEM D - O.G. Motor Lube System # 8

**Tank Hydraulic System** 

PETRO CANADA HARMONY AW 32 (45 GAL)





### **DIAGNOSIS**

### Recommendation

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. 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. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Free water present. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

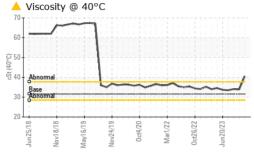
### ▲ Fluid Condition

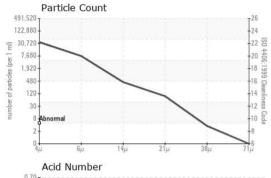
Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

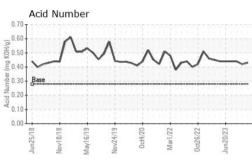
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0890393	WC0871210	WC0850094
Sample Date		Client Info		15 Dec 2023	16 Oct 2023	16 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>5	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>DFLT	0	0	0
Iron	ppm	ASTM D5185(m)	>20	<1	<1	<1
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	0	0	<1
Lead	ppm	ASTM D5185(m)	>20	2	2	2
Copper	ppm	ASTM D5185(m)	>20	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		<1	<1	0
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	110	<1	<1	1
Calcium	ppm	ASTM D5185(m)	60	49	49	48
Phosphorus	ppm	ASTM D5185(m)	330	340	336	365
Zinc	ppm	ASTM D5185(m)	390	434	434	438
Sulfur	ppm	ASTM D5185(m)	660	4059	4337	4394
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	2	1	1
Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1

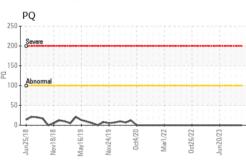


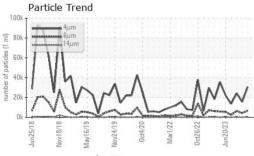
# **OIL ANALYSIS REPORT**



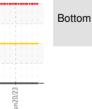


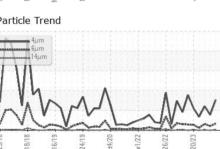






FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		30620	15630	24382
Particles >6µm		ASTM D7647	>10240000	6680	4239	6442
Particles >14µm		ASTM D7647	>10240000	379	205	344
Particles >21µm		ASTM D7647	>2560000	80	35	71
Particles >38μm		ASTM D7647	>640000	3	1	1
Particles >71µm		ASTM D7647	>160000	0	0	0
Oil Cleanliness		ISO 4406 (c)	>/30/30	22/20/16	21/19/15	22/20/16
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.28	0.43	0.42	0.44
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	WGOIL	NORML	▲ WGOIL
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	Visual*	>5	.2%	.2%	.2%
Free Water	scalar	Visual*		<b>1</b> %	NEG	<b>1</b> %
FLUID PROPERT	TES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	31.61	<b>40.5</b>	33.9	34.1
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
						20
Color						







Laboratory Sample No. Lab Number **Unique Number** Accredited

: 5696566

: WC0890393

Recieved : 02603481 Diagnosed

: 15 Dec 2023 : 19 Dec 2023 Diagnostician : Kevin Marson

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 STELCO - BOSC - Basic Oxygen Slab Caster 2330 Regional Road #3, Door: BOSC8

NANTICOKE, ON CA NOA 1L0 Contact: Tom Walden

Test Package : IND 2 (Additional Tests: PQ) 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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