

# **PROBLEM SUMMARY**

Sample Rating Trend

ISO

# Machine Id SAB1MONTROSEGATEEAST

Gearbox

## ESSO TERESSTIC SHP 460 (--- GAL)

## COMPONENT CONDITION SUMMARY



### RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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 use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you follow the water drain-off procedure for this component. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

Customer Id: ONTQUE Sample No.: WC926117 Lab Number: 02576283 Test Package: IND 2



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*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 <u>gloria.gonzalez@wearcheck.com</u>

## PROBLEMATIC TEST RESULTS

			SEVERE	SEVERE	SEVERE
%	ASTM D6304*	>0.2	<b>A</b> 0.417	<b>0</b> .327	<b>0.746</b>
ppm	ASTM D6304*	>2000	<b>4170.5</b>	<mark>▲</mark> 3273.1	▲ 7464.4
	ASTM D7647	>20000	<b>•</b> 403637	400850	1580322
	ASTM D7647	>5000	9352074	<b>•</b> 131978	613272
	ASTM D7647	>640	<b>e</b> 156568	10395	<b>e</b> 21249
	ASTM D7647	>160	66993	2766	2575
	ASTM D7647	>40	<b>e</b> 2921	<b>1</b> 64	42
	ASTM D7647	>10	<b>e</b> 126	5	2
	ISO 4406 (c)	>21/19/16	<b>e</b> 26/26/24	26/24/21	28/26/22
scalar	Visual*	NONE	A MODER	NONE	VLITE
scalar	Visual*	NORML	🔺 LAYRD	🔺 LAYRD	NORML
scalar	Visual*	>0.2	<u> </u>	<u> </u>	.5%
scalar	Visual*		<u> </u>	▲ >10%	▲ >10%
	% ppm scalar scalar scalar scalar	%ASTM D6304*ppmASTM D6304*ppmASTM D6304*ASTM D7647ASTM D7647ASTM D7647ASTM D7647ISO 4406 (c)ISO 4406 (c)scalarVisual*scalarVisual*scalarVisual*scalarVisual*	%         ASTM D6304*         >0.2           ppm         ASTM D6304*         >20000           ASTM D7647         >20000           ASTM D7647         >5000           ASTM D7647         >640           ASTM D7647         >640           ASTM D7647         >160           ASTM D7647         >40           ASTM D7647         >10           ISO 4406 (c)         >21/19/16           scalar         Visual*         NORML           scalar         Visual*         >0.2           scalar         Visual*         >0.2	SEVERE           %         ASTM D6304*         >0.2         ▲ 0.417           ppm         ASTM D6304*         >2000         ▲ 1470.5           ppm         ASTM D6304*         >20000         ▲ 03637           ASTM D7647         >20000         ▲ 03637           ASTM D7647         >5000         ④ 352074           ASTM D7647         >640         ● 156568           ASTM D7647         >160         ● 66993           ASTM D7647         >10         ● 2921           ASTM D7647         >10         ● 126           ASTM D7647         >10         ● 2626244           Scalar         Visual*         NONE         ▲ MODER           Scalar         Visual*         >0.2         1%           Scalar         Visual*         >0.2         1%	SEVERE         SEVERE           %         ASTM D6304*         >0.2         0.4170         0.327           ppm         ASTM D6304*         >2000         4170.5         3273.1           ppm         ASTM D6304*         >2000         403637         400850           ASTM D7647         >2000         403637         400850           ASTM D7647         >5000         352074         131978           ASTM D7647         >640         156568         10395           ASTM D7647         >160         66993         2766           ASTM D7647         >10         2921         164           ASTM D7647         >10         126         5           ISO 4406 (c)         >21/19/16         26/26/24         26/24/21           scalar         Visual*         NONE         MODER         NONE           scalar         Visual*         NORML         LAYRD         LAYRD           scalar         Visual*         >0.2         1%         1%         1%

RECOMMENDED A	CTIONS			
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.
Water Drain-off			?	We advise that you follow the water drain-off procedure for this component.
Resample			?	Resample in 30-45 days to monitor this situation.
Alert			?	We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.
Information Required			?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with 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.
Check Seals			?	Check seals and/or filters for points of contaminant entry.
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



15 Jun 2022 Diag: Kevin Marson Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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 recommend that you drain the oil from the component if this has not already been done. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample All component wear rates are normal. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Oil Cleanliness are severely high. Particles >4µm are severely high. Particles >4µm are severely high.. ppm Water and water, water and water contamination levels are abnormal. Particles >38µm are abnormally high. There is a moderate concentration of water present in the oil. Excessive free water present. The white residue present in the sample is oil additive precipitate. The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.



18 Jul 2021 Diag: Kevin Marson Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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 use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend either performing an oil change or oil filtration. We cannot recommend specific action as we have limited information with regards to reservoir capacity and/or lubricant type. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Particles >4µm are severely high.. ppm Water and water contamination levels are abnormal. There is a moderate concentration of water present in the oil. Free water present. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.





22 Sep 2020 Diag: Kevin Marson Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. We advise that you follow the water drain-off procedure for this component, 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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. NOTE: Test values may be askew due high concentration of free water present in sample. All component wear rates are normal. Particles >14µm are severely high. Particles >21µm are severely high. Particles >38µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Particles >4µm are severely high.. Particles >4µm are severely high... ppm Water and water and water contamination levels are abnormal. Particles >71µm are abnormally high. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid.





# **OIL ANALYSIS REPORT**

Sample Rating Trend

ISO

Component Gearbox Fluid ESSO TERESSTIC SHP 460 (--- GAL)

### DIAGNOSIS

### Recommendation

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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 use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you follow the water drain-off procedure for this component. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

### 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. There is a moderate concentration of water present in the oil. Excessive free water present. Moderate concentration of visible dirt/debris present in the oil.

### **Fluid Condition**

The AN level is acceptable for this fluid.

		0692020	3012021		092023	
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC926117	WC	WC0320640
Sample Date		Client Info		14 Aug 2023	15 Jun 2022	18 Jul 2021
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				SEVERE	SEVERE	SEVERE
WEAR METALS		method	limit/base	current	historv1	history2
PO		ASTM D8184*	innebabb	15		
Iron	nnm	ASTM D5185(m)	>200	30	7	28
Chromium	nom	ASTM D5185(m)	>15	0	0	0
Nickel	ppm	ASTM D5185(m)	>15	-1	<1	<1
Titanium	ppm	ASTM D5185(m)	215	0	0	0
Silvor	ppin	AGTM D5105(III)		0	0	-1
Aluminum	ppin	ACTM DE105(III)	. 05	1	0	<1
Aluminum	ррп	ACTM DE105(III)	100	1	0	< 1
Common	ppm		>100	31	6	41
Copper	ppm	ASTM D5185(III)	>200	19	2	25
	ppm	ASTM D5185(m)	>25	2	<	2
Antimony	ppm	ASTM D5185(m)	>5	0	0	<1
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)	0	<1	2	2
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	<1
Manganese	ppm	ASTM D5185(m)		<1	0	<1
Magnesium			0	4		
	ppm	ASTM D5185(m)	0		0	<1
Calcium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	0	1	0 <1	<1
Calcium Phosphorus	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 600	1 433	0 <1 430	<1 <1 448
Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 600 0	1 433 11	0 <1 430 3	<1 <1 448 15
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 600 0 0	1 433 11 259	0 <1 430 3 151	<1 <1 448 15 703
Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 600 0 0	1 433 11 259 <1	0 <1 430 3 151 0	<1 <1 448 15 703 <1
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method	0 600 0 0 limit/base	1 433 11 259 <1 current	0 <1 430 3 151 0 history1	<1 <1 448 15 703 <1 history2
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m)	0 0 600 0 0 limit/base >50	1 1 433 11 259 <1 current 18	0 <1 430 3 151 0 history1 10	<1 <1 448 15 703 <1 history2 17
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m) ASTM D5185(m)	0 0 600 0 0 limit/base >50	1 1 433 11 259 <1 current 18 <1	0 <1 430 3 151 0 <u>history1</u> 10 0	<1 <1 448 15 703 <1 <u>history2</u> 17 0
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 600 0 0 limit/base >50 >20	1 1 433 11 259 <1 <u>current</u> 18 <1 <1	0 <1 430 3 151 0 <u>history1</u> 10 0 0	<1 <1 448 15 703 <1 <u>history2</u> 17 0 <1
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 600 0 0 1 imit/base >50 >20 >0.2	1 433 11 259 <1 <u>current</u> 18 <1 <1 <1 ▲1 ▲1 ▲1 ▲1 ▲1 ▲1	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0.327	<1 <1 448 15 703 <1 <u>history2</u> 17 0 <1 ▲ 0.746
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185(m) ASTM D6304*	0 0 600 0 0 1 1 1 1 5 0 - 20 - 20 - 2000	I         1         433         11         259         <1         Current         18         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.         <1.	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <1 448 15 703 <1 <u>history2</u> 17 0 <1 0.746 ▲ 7464.4
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D6304* ASTM D6304* Method	0 0 600 0 0 1 1 1 1 1 1 2 5 0 2 2 0 2 2 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 433 11 259 <1 <u>current</u> 18 <1 <1 <1 0.417 ▲ 0.417 ▲ 4170.5	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <p>&lt;1</p> <1 448 15 703 <1 history2 17 0 <1 <1 <0.746 7464.4 history2
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4um	ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASIM D5185(m) ASTM D6304* ASTM D6304*	0 0 600 0 0 1 1 1 1 5 0 2 2 0 2 2 0 2 2 0 0 1 1 1 1 2 1 2 0 2 2 0 2 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2	I         1         433         11         259         <1         Current         18         <1         <1         <0.417         ▲ 0.417         ▲ 4170.5         current	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 3273.1 history1 400850	<1 <p>&lt;1</p> <1 448 15 703 <1 17 0 <1 <1 <0.746 7464.4 history2 1580322
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASIM D5185(m) ASTM D6304* ASTM D6304* ASTM D63047	0 0 600 0 0 1 1 1 1 5 5 0 2 2 0 2 2 0 0 2 2 0 0 2 2 0 2 2 0 0 2 2 0 2 2 0 2 2 0 0 2 2 2 0 0 2 2 2 2 0 0 2 2 2 2 0 0 2 2 2 2 0 0 2 2 2 2 0 0 2 2 2 2 0 2 2 2 0 0 2 2 2 0 2 2 2 0 0 2 2 2 2 0 0 2 2 2 2 0 0 0 1 2 2 2 0 0 1 2 2 2 0 0 1 2 2 2 0 0 1 2 2 2 0 0 0 1 2 2 2 0 0 0 0 0 1 2 2 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	I         1         433         11         259         <1         Current         18         <1         <1         <1         <1         <1         <10.417         ▲ 0.417         ▲ 4170.5         Current         ● 403637         ● 352074	0 <1 430 3 151 0 <b>history1</b> 10 0 0 0 0 0 0 0 0 0 3273.1 <b>history1</b> • 400850 • 131978	<1 <p>&lt;1</p> <1 448 15 703 <1 history2 17 0 <1 <1 <0.746 7464.4 history2 1580322 613272
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm % ppm %	ASIM D5185(m) ASTM D6304* ASTM D6304* ASTM D63047 ASTM D7647 ASTM D7647	0 0 600 0 0 1 1 1 5 0 2 20 2 20 0 2 2000 2 2000 2 2000 2 2000 2 2000 2 2000 2 2000 2 2000 2 2 2 2 2 2 2 2 2 2 2 2 2	I         1         433         11         259         <1         current         18         <1         <1         <1         <1         <1         <1         <1         <1         <1         <10.417         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5         <17.5<	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <1 448 15 703 <1 <b>history2</b> 17 0 <1 0 <1 0.746 A 0.746 A 7464.4 <b>history2</b> 1580322 6 613272 21249
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASIM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D6304* ASTM D6304* ASTM D6304* ASTM D63047 ASTM D7647 ASTM D7647 ASTM D7647	0 0 600 0 0 1 1 1 1 5 0 2 2 0 2 2 0 2 2 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 0 2 2 0 2 2 0 0 2 2 0 2 2 0 0 2 2 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	I         1         433         11         259         <1         current         18         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <10.417         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5         <170.5	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 4 0.327 3273.1 history1 0 131978 10395 2766	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>448</li> <li>15</li> <li>703</li> <li>&lt;1</li> </ul> history2 <ul> <li>17</li> <li>0</li> <li>&lt;1</li> </ul> • 0.746 <ul> <li>7464.4</li> </ul> history2 <ul> <li>1580322</li> <li>613272</li> <li>21249</li> <li>2575</li> </ul>
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASIM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D6304* ASTM D6304* ASTM D6304* ASTM D6304* ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 600 0 0 1 1 1 1 1 2 20 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 0 2 2 0 2 2 0 2 2 0 2 2 0 0 2 2 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 2 2 0 0 0 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	I         1         433         11         259         <1         current         18         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <156568         66993         2921	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <1 448 15 703 <1 history2 17 0 <1 0.746 ▲ 7464.4 history2 ● 1580322 ● 613272 ● 21249 ● 2575 42
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASTM D5185(m) ASTM D5047 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 600 0 0 1 1 1 1 1 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 2 0 0 2 2 2 0 0 2 2 2 0 0 2 2 2 0 0 2 2 2 0 0 2 2 2 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 0 0 0 2 2 2 0 0 0 2 2 1 6 0 1 2 1 6 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 2 5 0 0 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	I         1         433         11         259         <1         current         18         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <156568         66993         2921         126	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <1 448 15 703 <1 <b>history2</b> 17 0 <1 0.746 0.746 0.746 7464.4 <b>history2</b> 1580322 613272 613272 21249 22575 42 2
Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness	ppm ppm ppm ppm ppm ppm ppm ppm % ppm	ASIM D5185(m) ASTM D5047 ASTM D7647 ASTM D7647	0 0 600 0 0 1 1 1 1 1 2 20 20 20 20 20 20 20 20 20	I         433         11         259         <1         current         18         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <156568         66993         2921         126         26/26/24	0 <1 430 3 151 0 history1 10 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <1 448 15 703 <1 history2 17 0 <1 0.746 0.746 0.746 4.4 1580322 613272 21249 21249 2575 42 2575 42 22 28/26/22



# **OIL ANALYSIS REPORT**

1,600k	Particle Trend		FLU	JID DEGRAD	ATION	meth
1,400k	4μm 6μm 14μm	$\backslash$	Acid	Number (AN)	mg KOH/g	ASTM D
응 1,000k			VIS	UAL		meth
5 600k			White	e Metal	scalar	Visual'
400k	And a state of the		Yello	w Metal	scalar	Visual
200k 0k	Abnormal		Preci	pitate	scalar	Visual
	22/20	5/22	Silt		scalar	Visual
	SepJ	Jun	Debr	is	scalar	Visual
1	Water		Sanc	l/Dirt	scalar	Visual
1.2	T2		Appe	arance	scalar	Visual
1.0	Severe		Odor		scalar	Visual
k 0.7			Emu	Sified Water	scalar	Visual
% o 5			Free	water	scalar	VISUAI
0.2	Abnormal		FLU	JID PROPER	TIES	meth
0.2	¢		Visc	@ 40°C	cSt	ASTM D72
0.0	. 02/20	15/22 -	SA	MPLE IMAGE	S	meth
	Ser	Jur	Aug			
250	PQ		Color	r		
200	Severe					
150						
P 100	Abnormal		Botto	m		
100	- 0					
50						
0	//23		/23			
	Aug 14		GR GR	APHS		
	Acid Number		Fer	rous Alloys		
1.40			60 T	iron		
(B/H	Severe			nickel		
j 1.00	Abnormal		20-			
2 0.60 Pe 0.60			2/20	8/21.		5/22
JN 0.40			Sep 2	lin		Junl
9 0.20	Base		Nor	n-ferrous Meta	s	
0.00	20		60 T	copper		
	bep 22/ Jul18,	un15/		annease lead	No. of Concession, Name	
	05	~	201			
520	Viscosity @ 40°C		2/20	8/21+		5/22 -
500			Sep 2.	thut		Junl
480	Base		Vis	cosity @ 40°C		
() 000 000 000 000			550 Abn	ormal		1
정 440			0 450			
420			<sup>ਲ</sup> ੇ 400 <b>- Abn</b>	ormal		
400	Abnormal		350			

FLUID DEGRADA	TION	method	limit/base	current	history1	history2
cid Number (AN)	mg KOH/g	ASTM D974*	0.2	0.73	0.55	0.38
VISUAL		method	limit/base	current	history1	history2
Vhite Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
ellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
recipitate	scalar	Visual*	NONE	NONE	🔺 MODER	NONE
ilt	scalar	Visual*	NONE	NONE	NONE	NONE
ebris	scalar	Visual*	NONE	A MODER	NONE	VLITE
and/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
ppearance	scalar	Visual*	NORML	🔺 LAYRD	🔺 LAYRD	NORML
dor	scalar	Visual*	NORML	NORML	NORML	NORML
mulsified Water	scalar	Visual*	>0.2	<u> </u>	<b>1</b> %	.5%
ree Water	scalar	Visual*		<u>/</u> >10%	▲ >10%	▲ >10%
FLUID PROPERT	IES	method	limit/base	current	history1	history2
′isc @ 40°C	cSt	ASTM D7279(m)	466	507	501	475
SAMPLE IMAGES		method	limit/base	current	history1	history2





Validity of results and interpretation are based on the sample and information as supplied.

Contact/Location: Michael Brochu - ONTQUE

F: (905)374-5466

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