

PROBLEM SUMMARY

Sample Rating Trend

VISCOSITY

Machine Id

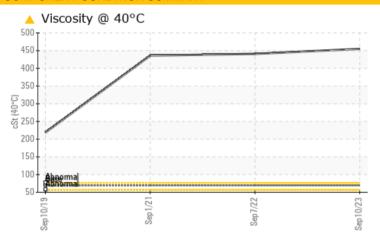
Clearifer scraper 1 radicon gear box (S/N 012-79170-SCRM1)

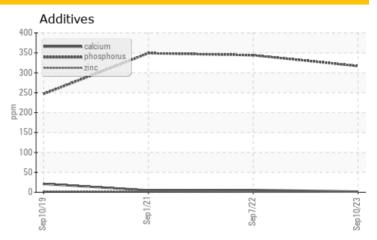
Component

Gearbox

SHELL TELLUS 68 (--- GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as SHELL TELLUS 68, however, a fluid match indicates that this fluid is ISO 460 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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FDUDI		1 - 3 -	D = O(1)	10

Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Visc @ 40°C	cSt	ASTM D7279(m)	69.43	455	<u>441</u>	436

Customer Id: ONTATI Sample No.: WC0851402 Lab Number: 02604209 Test Package: IND 1



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
Alert			?	The fluid was specified as SHELL TELLUS 68, however, a fluid match indicates that this fluid is ISO 460 Gear Oil. Please confirm the oil type and grade on your next sample.
Information Required			?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check Fluid Source			?	Confirm the source of the lubricant being utilized for top-up/fill.

HISTORICAL DIAGNOSIS

07 Sep 2022 Diag: Kevin Marson

VISCOSITY



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as SHELL TELLUS 68, however, a fluid match indicates that this fluid is ISO 220 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.



01 Sep 2021 Diag: Kevin Marson

VISCOSITY



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as SHELL TELLUS 68, however, a fluid match indicates that this fluid is ISO 220 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.



10 Sep 2019 Diag: Kevin Marson

VISCOSITY



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as SHELL TELLUS 68, however, a fluid match indicates that this fluid is ISO 220 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.





OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY

Machine Id

Clearifer scraper 1 radicon gear box (S/N 012-79170-SCRM1)

Jomponent

Gearbox

SHELL TELLUS 68 (--- GAL)

DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as SHELL TELLUS 68, however, a fluid match indicates that this fluid is ISO 460 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

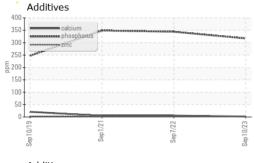
Fluid Condition

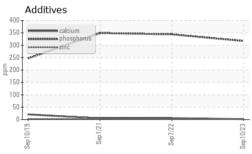
Viscosity of sample indicates oil is within ISO 460 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Sample Number Client Info WC0851402 WC0736551 WC0618427 Sample Date Client Info 10 Sep 2023 07 Sep 2022 01 Sep 2021 01 S			Sep 201	9 Sep2021	Sep 2022 S	pp2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		WC0851402	WC0736551	WC0618427
Dil Age	Sample Date		Client Info		10 Sep 2023	07 Sep 2022	01 Sep 2021
Contamped Cilent Info N/A ABNORMAL	Machine Age	hrs	Client Info		0	0	0
ABNORMAL ABNORMAL	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >200 <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 <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	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >200 <1 <1 <1 Chromium ppm ASTM D5185(m) >15 0 0 0 Nickel ppm ASTM D5185(m) >15 <1 0 <1 Vickel ppm ASTM D5185(m) >15 <1 0 <1 Silver ppm ASTM D5185(m) >25 0 0 0 Aluminum ppm ASTM D5185(m) >25 0 0 0 Lead ppm ASTM D5185(m) >200 2 <1 3 Copper ppm ASTM D5185(m) >20 2 <1 3 Tin ppm ASTM D5185(m) 5 0 <1 0 Vanadium ppm ASTM D5185(m) 0 0 0	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >200 <1	CONTAMINATIO	N	method	limit/base	current	history1	history2
	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium ppm ASTM D5185(m) >15 0 0 0 Nickel ppm ASTM D5185(m) >15 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>200	<1	<1	<1
Titanium	Chromium	ppm	ASTM D5185(m)	>15	0	0	0
Silver	Nickel	ppm	ASTM D5185(m)	>15	<1	0	<1
Aluminum ppm ASTM D5185(m) >25 0 0 0 Lead ppm ASTM D5185(m) >100 <1	Titanium	ppm	ASTM D5185(m)		0	0	0
Lead	Silver	ppm	ASTM D5185(m)		<1	0	<1
Copper ppm ASTM D5185(m) >200 2 <1 3 Tin ppm ASTM D5185(m) >25 0 0 0 Antimony ppm ASTM D5185(m) >5 0 <1	Aluminum	ppm	ASTM D5185(m)	>25	0	0	0
Tin	Lead	ppm	ASTM D5185(m)	>100	<1	0	2
Antimony ppm ASTM D5185(m) >5 0 <1 0 Vanadium ppm ASTM D5185(m) 0 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 32 35 32 Barium ppm ASTM D5185(m) 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 Magnese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 39 2 6 5 Phosphorus ppm ASTM D5185(m) 260 317 344 349 Zinc ppm ASTM D5185(m) 2109 15014 14810 15368 <	Copper	ppm	ASTM D5185(m)	>200	2	<1	3
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) 32 35 32 Barium ppm ASTM D5185(m) 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 11 <1 0 <1 Calcium ppm ASTM D5185(m) 39 2 6 5 Phosphorus ppm ASTM D5185(m) 260 317 344 349 Zinc ppm ASTM D5185(m) 279 2 2 2 Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm	Tin	ppm	ASTM D5185(m)	>25	0	0	0
Description	Antimony	ppm	ASTM D5185(m)	>5	0	<1	0
Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 32 35 32 Barium ppm ASTM D5185(m) 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 11 <1	Vanadium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 32 35 32 Barium ppm ASTM D5185(m) 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 11 <1	Beryllium	ppm	ASTM D5185(m)		0	0	0
Boron ppm ASTM D5185(m) 32 35 32	Cadmium	ppm	ASTM D5185(m)		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 11 <1 0 <1 Calcium ppm ASTM D5185(m) 39 2 6 5 Phosphorus ppm ASTM D5185(m) 260 317 344 349 Zinc ppm ASTM D5185(m) 279 2 2 2 2 Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <50 <1 <1 <1	Boron	ppm	ASTM D5185(m)		32	35	32
Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 11 <1	Barium	ppm	ASTM D5185(m)		<1	0	0
Magnesium ppm ASTM D5185(m) 11 <1 0 <1 Calcium ppm ASTM D5185(m) 39 2 6 5 Phosphorus ppm ASTM D5185(m) 260 317 344 349 Zinc ppm ASTM D5185(m) 279 2 2 2 2 Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <50 <1 <1 <1	Molybdenum	ppm	ASTM D5185(m)		0	0	0
Calcium ppm ASTM D5185(m) 39 2 6 5 Phosphorus ppm ASTM D5185(m) 260 317 344 349 Zinc ppm ASTM D5185(m) 279 2 2 2 Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm ASTM D5185(m) <1	Manganese	ppm	ASTM D5185(m)		0	0	0
Phosphorus ppm ASTM D5185(m) 260 317 344 349 Zinc ppm ASTM D5185(m) 279 2 2 2 Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <50 <1 <1 <0	Magnesium	ppm	ASTM D5185(m)	11	<1	0	<1
Zinc ppm ASTM D5185(m) 279 2 2 2 Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <1 0 0	Calcium	ppm	ASTM D5185(m)	39	2	6	5
Sulfur ppm ASTM D5185(m) 2109 15014 14810 15368 Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <1 0 0	Phosphorus	ppm	ASTM D5185(m)	260	317	344	349
Lithium ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <1 0 0	Zinc	ppm	ASTM D5185(m)	279	2	2	2
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >50 <1	Sulfur	ppm	ASTM D5185(m)	2109	15014	14810	15368
Silicon ppm ASTM D5185(m) >50 <1 <1 <1 Sodium ppm ASTM D5185(m) <1 0 0	Lithium	ppm	ASTM D5185(m)		<1	<1	<1
Sodium ppm ASTM D5185(m) <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) <1 0 0	Silicon	ppm	ASTM D5185(m)	>50	<1	<1	<1
	Sodium		ASTM D5185(m)		<1	0	0
	Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1



OIL ANALYSIS REPORT

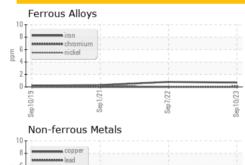


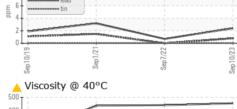


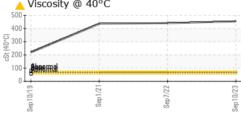
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	69.43	455	441	4 36
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						

GRAPHS

Bottom









CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number **Unique Number** Test Package : IND 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0851402 : 02604209

: 5697294

Recieved Diagnosed

: 19 Dec 2023 : 20 Dec 2023

Diagnostician : Kevin Marson

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.

Ontario Power Generation ATIKOKAN T.G.S., BOX 1900 ATIKOKAN, ON CA POT 1C0

Contact: Dale Anthony dale.anthony@opg.com

F: (807)597-1198

Submitted By: ?