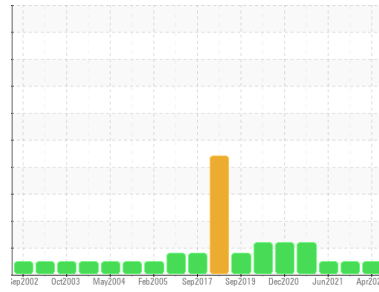




# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**CAT MARTA PERRY 2 (S/N 3WR00484)**  
 Component  
**Natural Gas Engine**  
 Fluid  
**HPN GEO 40 PLUS (45 GAL)**

### DIAGNOSIS

**Recommendation**  
 Resample at the next service interval to monitor. ( Customer Sample Comment: HPNGEO40 PLUS )

**Wear**  
 All component wear rates are normal.

**Contamination**  
 There is no indication of any contamination in the oil.

**Fluid Condition**  
 The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>WC0923568</b>	RP195106	HPL008925
Sample Date	Client Info			<b>30 Apr 2024</b>	30 Nov 2021	26 Jun 2021
Machine Age	hrs	Client Info		<b>0</b>	29463	28537
Oil Age	hrs	Client Info		<b>3191</b>	1517	591
Oil Changed	Client Info			<b>Changed</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.1	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<b>8</b>	7	4
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m	>9	<b>3</b>	3	2
Lead	ppm	ASTM D5185m	>30	<b>1</b>	<1	<1
Copper	ppm	ASTM D5185m	>35	<b>75</b>	65	72
Tin	ppm	ASTM D5185m	>4	<b>1</b>	<1	<1
Antimony	ppm	ASTM D5185m		<b>---</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	2	2
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>4</b>	1	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>17</b>	11	9
Calcium	ppm	ASTM D5185m		<b>4295</b>	4248	3461
Phosphorus	ppm	ASTM D5185m		<b>341</b>	311	269
Zinc	ppm	ASTM D5185m		<b>426</b>	390	371
Sulfur	ppm	ASTM D5185m		<b>14896</b>	12253	12998

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	<b>5</b>	4	2
Sodium	ppm	ASTM D5185m		<b>0</b>	0	<1
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	<1

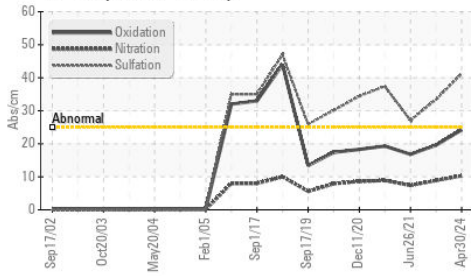
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.3</b>	8.9	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>41.2</b>	33.4	27.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>24.2</b>	19.6	16.8
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.11</b>	0.739	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>4.59</b>	6.46	8.21

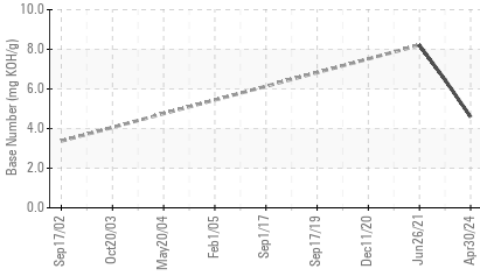


# OIL ANALYSIS REPORT

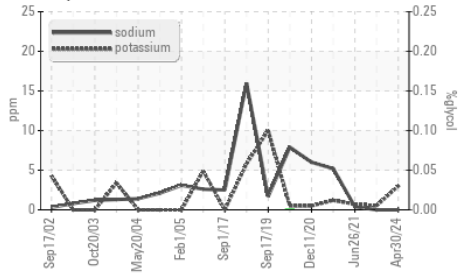
FT-IR (Direct Trend)



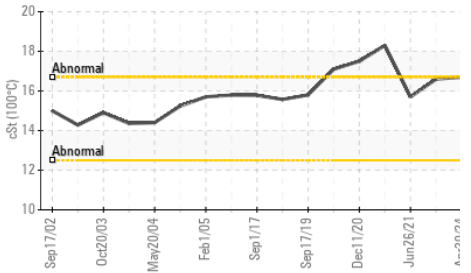
Base Number



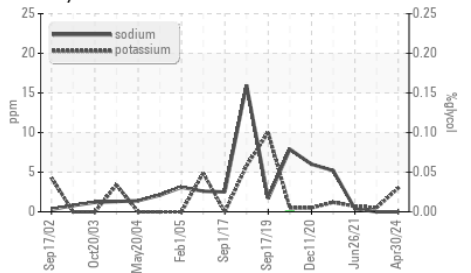
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

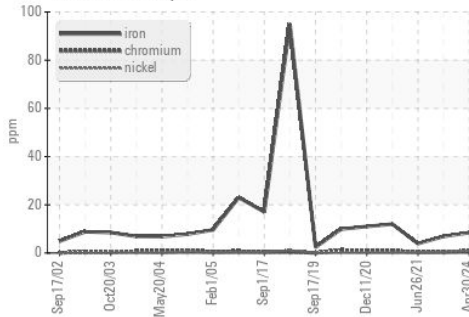


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

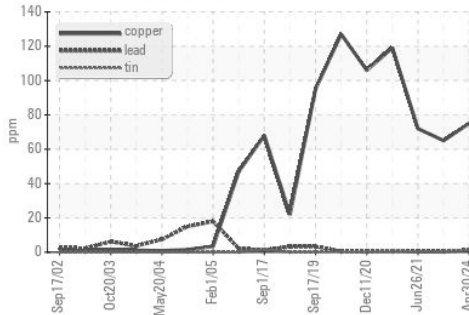
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	16.7	16.6	15.7

## GRAPHS

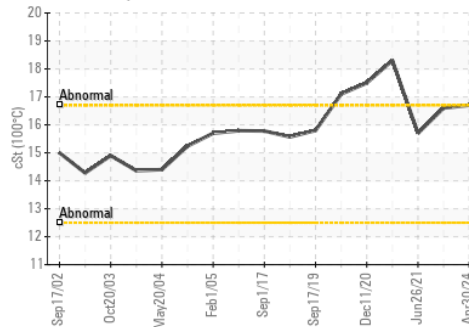
Ferrous Alloys



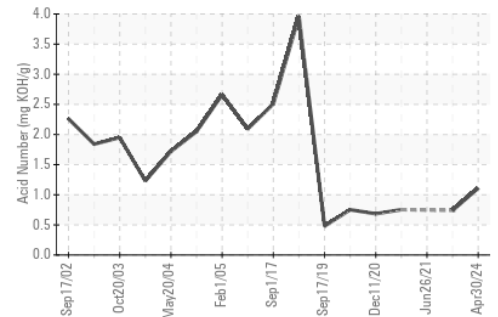
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0923568  
**Lab Number** : 06174037  
**Unique Number** : 11020090  
**Test Package** : IND 2 ( Additional Tests: Glycol )

**ATLANTA GAS LIGHT CO.**  
 550 GEORGIA HWY 138 DEPT 1580  
 RIVERDALE, GA  
 US 30274  
 Contact: PATRICK GAREIS  
 PGGAREIS@SOUTHERNCO.COM

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T:  
F: