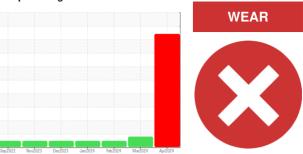


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

Smith Ridge 1

Natural Gas Engine

CITGO PACEMAKER GAS ENGIN 1700 SERIES 40W (--- GAL)

DIAGNOSIS

Recommendation

We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

A Wear

Bearing and/or bushing wear is indicated.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

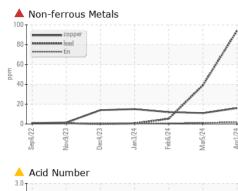
Fluid Condition

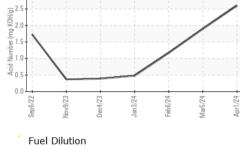
The BN level is low. The AN level is at the top-end of the recommended limit. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

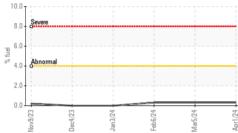
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117146	PCA0117144	PCA0117139
Sample Date		Client Info		01 Apr 2024	05 Mar 2024	06 Feb 2024
Machine Age	hrs	Client Info		185876	185258	184598
Oil Age	hrs	Client Info		185876	185258	184598
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	ABNORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	10	5	5
Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		2	1	1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	2	2
Lead	ppm	ASTM D5185m	>30	4 94	A 39	5
Copper	ppm	ASTM D5185m	>35	16	11	12
Tin	ppm	ASTM D5185m	>4	2	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		3	1	<1
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		19	22	21
Calcium	ppm	ASTM D5185m		1620	1517	1404
Phosphorus	nnm					
	ppm	ASTM D5185m		351	318	314
Zinc	ppm	ASTM D5185m ASTM D5185m		351 430	318 419	314 382
Zinc Sulfur						
	ppm ppm	ASTM D5185m	limit/base	430	419	382
Sulfur	ppm ppm	ASTM D5185m ASTM D5185m		430 2916	419 2489	382 2469
Sulfur CONTAMINAN	ppm ppm TS	ASTM D5185m ASTM D5185m method		430 2916 current	419 2489 history1	382 2469 history2
Sulfur CONTAMINAN [®] Silicon	ppm ppm TS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m		430 2916 current 3	419 2489 history1 2	382 2469 history2 2
Sulfur CONTAMINAN Silicon Sodium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	>+100	430 2916 current 3 8	419 2489 history1 2 10	382 2469 history2 2
Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	>+100 >20	430 2916 current 3 8 3	419 2489 history1 2 10 2	382 2469 history2 2 10 2
Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>+100 >20 >4.0	430 2916 current 3 8 3 0.3	419 2489 history1 2 10 2 0.3 history1 0	382 2469 history2 2 10 2 0.3 history2 0
Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	>+100 >20 >4.0 limit/base	430 2916 current 3 8 3 0.3 current	419 2489 history1 2 10 2 0.3 history1	382 2469 history2 2 10 2 0.3 history2
Sulfur CONTAMINAN ^T Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844	>+100 >20 >4.0 limit/base	430 2916 current 3 8 3 0.3 0.3 current 0.1	419 2489 history1 2 10 2 0.3 history1 0	382 2469 history2 2 10 2 0.3 history2 0
Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm TS ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7844	>+100 >20 >4.0 limit/base	430 2916 current 3 8 3 0.3 0.3 current 0.1 8.6	419 2489 history1 2 10 2 0.3 history1 0 7.0	382 2469 history2 2 10 2 0.3 history2 0 5.5
Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm TS ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7844	>+100 >20 >4.0 limit/base >20 >30 limit/base	430 2916 current 3 8 3 0.3 0.3 current 0.1 8.6 22.5	419 2489 history1 2 10 2 0.3 history1 0 7.0 20.3	382 2469 history2 2 10 2 0.3 history2 0 5.5 18.0
Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm TS ppm ppm ppm % Abs/cm Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 ASTM D3524 *ASTM D7844 *ASTM D7624 *ASTM D7415	>+100 >20 >4.0 limit/base >20 >30 limit/base	430 2916 current 3 8 3 0.3 current 0.1 8.6 22.5 current	419 2489 history1 2 10 2 0.3 history1 0 7.0 20.3 history1	382 2469 history2 2 10 2 0.3 history2 0 5.5 18.0 history2

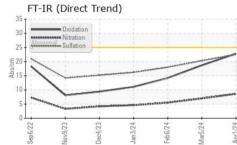


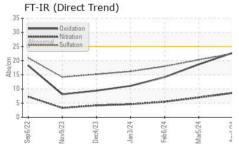
OIL ANALYSIS REPORT











VISUAL		method	limit/bas	se current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	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 Emulsified Water	scalar	*Visual *Visual	NORML	NORML NEG	NORML NEG	NORML NEG
Free Water	scalar scalar	*Visual	>0.1	NEG	NEG	NEG
FLUID PROPE		method	limit/bas		history1	history2
Visc @ 100°C	cSt	ASTM D445		14.8	14.2	13.8
GRAPHS						
Iron (ppm)				Lead (ppm)		
80 Severe				80		
60 Abnormal				CO Severe		
40				40 Abnormal		
20-				20 -		
	24 -	24 +	24	53 53	23	24
Sep6/22 - Nov9/23 - Dec4/23	Jan 3/24 .	Feb 6/24 -	Apr1/24	Sep6/22 Nov9/23	Dec4/23 Jan3/24	Feb6/24 -
Aluminum (ppm)				Chromium (p	opm)	
20				8 1		
15 - Severe	I	-	1	6 - Severe		
10 - Abnormal				E 4 Abnormal		
5-				2 -		
				0		
Sep 6/22 Nov9/23 Dec4/23	Jan 3/24	Feb 6/24 -	Apr1/24	Sep 6/22 Nov9/23	Dec4/23	Feb6/24 Mar5/24
	Ja	Fe Mi	Aı			Ma Ma
Copper (ppm)				Silicon (ppm))	
Severe 60 -				150		***********
			E			
40 - Abnormal	1					
20-				50 -		
0 1 1 1 1 1 1 1 1 1 1 1 1 1	/24	124	/24	123	/23	/24
Sep 6/22 Nov9/23 Dec4/23	Jan3/24.	Feb6/24. Mar5/24	Apr1/24	Sep 6/22 Nov9/23	Dec4/23 Jan3/24	Feb 6/24 Mar5/24
Viscosity @ 100°0	C			🔺 Base Numbe	r	
18 Abnormal			177	6.0 -		
16 -				9.0 9.4.0		
16 Abnormal		_		3.0		
Abnormal				6 5.0 6 4.0 10 30 3.0 10 4.0 10 4.		
10				8 1.0		
3 3 3	4	4 4	4	3 5	m +	4 4

Sep6/22 -

Nov9/23 -

Dec4/23 -

Jan3/24 -

Feb6/24 -



		Laboratorv	: WearCheck USA - 5	501 Madison Ave	Carv. NC 27513	ENERVEST OPERATING - SMITH RIDGE
			: PCA0117146	Received	: 11 Apr 2024	2305 SMITH RIDGE
59	ACCREDITED	Lab Number	: 06146067	Tested	: 16 Apr 2024	MCCLURE, VA
R	TESTING LABORATORY	Unique Number	: 10976145	Diagnosed	: 16 Apr 2024 - Jonathan Heste	r US 24269
	Certificate L2367	Test Package	: MOB 2 (Additional	Tests: FuelDilution	, PercentFuel)	Contact: Service Manager
¥a ∣	To discuss this	s sample report,	contact Customer Se	rvice at 1-800-237-	-1369.	
	* - Denotes tes	st methods that	are outside of the ISO	17025 scope of a	ccreditation.	T:
	Statements of	conformity to sp	ecifications are based	d on the simple acc	eptance decision rule (JC	<i>CGM 106:2012)</i> F:

Jan3/24 -

Feb6/24-

Mar5/24 -

Apr1/24 -

Sep6/22 -

Nov9/23 -

Dec4/23 -

Report Id: ENEMCCSR [WUSCAR] 06146067 (Generated: 04/16/2024 09:01:14) Rev: 1

Submitted By: Adam Kimberlin Page 2 of 2

Apr1/24 -

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Apr1/24 -

Apr1/24 -

Mar5/24