

OIL ANALYSIS REPORT

Sample Rating Trend

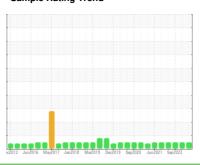
NORMAL

Southcentral Power Plant 10FGS-CMP482-B Gas (S/N ES-427-B)

Component

Compressor Fluid

R&O OIL ISO 68 (440 GAL)





Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

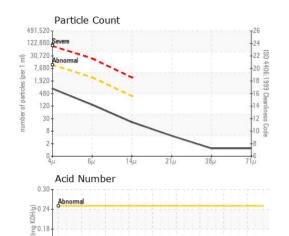
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service. Color 0.0.

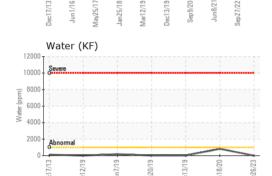
SAMPLE INFORMATION method imit/base current history2 Mc0651017 Sample Number Client Info 26 Apr 2023 29 Dec 2022 27 Sep 2022 Apr 2023 29 Dec 2022 27 Sep 2022 Apr 2023 Apr 2024 Apr 2023 Apr 2023 Apr 2023 Apr 2023 Apr 2023 Apr 2024 Apr 2023 Apr 2023				6 May2017 Jan2018 Mar			
Sample Date Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 39498 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info Not Changed Not Changed<	Sample Number		Client Info		WC0784111	WC0567440	WC0631017
Oil Age	Sample Date		Client Info		26 Apr 2023	29 Dec 2022	27 Sep 2022
Oil Changed Sample Status	Machine Age	hrs	Client Info		0	0	39498
NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		0	0	0
WEAR METALS	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m 0 <1	Iron	ppm	ASTM D5185m	>50	0	0	0
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m <1 0 0 Aluminum ppm ASTM D5185m >25 <1 0 0 Lead ppm ASTM D5185m >50 0 0 0 Copper ppm ASTM D5185m >50 0 0 0 Tin ppm ASTM D5185m >15 <1 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 ADDITIVES method limit/base current history1 history2 Boron<	Chromium	ppm	ASTM D5185m	>10	<1	0	0
Stilver	Nickel	ppm	ASTM D5185m		0	<1	0
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0
Lead	Silver	ppm	ASTM D5185m		<1	0	0
Copper ppm ASTM D5185m >50 0 0 0 Tin ppm ASTM D5185m >15 <1 0 0 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Manganese ppm ASTM D5185m 5 <1 0 0 Magnesium ppm ASTM D5185m 5 10 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 25 4 0 0 Sulfur	Aluminum	ppm	ASTM D5185m	>25	<1	0	0
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>25	<1	0	<1
Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 <1 0 0 Magnese ppm ASTM D5185m 5 <1 0 0 Magnesium ppm ASTM D5185m 5 10 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 25 4 0 0	Copper	ppm	ASTM D5185m	>50	0	0	0
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 0 0 0 Magnesium ppm ASTM D5185m 5 10 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m >25 2 1 1 Sod	Tin	ppm	ASTM D5185m	>15	<1	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 5 10 0 0 Magnesium ppm ASTM D5185m 5 10 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2	Antimony	ppm	ASTM D5185m				
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 5 10 0 0 Magnesium ppm ASTM D5185m 5 10 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 0	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 5 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 5 10 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >0.1 0.00	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 5 <1						· · · · · · · · · · · · · · · · · · ·	
Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m	5	0		0
Magnesium ppm ASTM D5185m 5 10 0 0 Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 25 4 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >20 <1		• •				0	
Calcium ppm ASTM D5185m 5 0 0 0 Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >20 <1 0 0 Potassium ppm ASTM D6304 >0.1 0.00 Water % ASTM D6304 >1000 0.00 ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current <th>Barium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>5</th> <th>0</th> <th>0</th> <th>0</th>	Barium	ppm	ASTM D5185m	5	0	0	0
Phosphorus ppm ASTM D5185m 100 188 55 5 Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >20 <1 0 0 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >0.1 0.00 ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	5	0 <1	0 0 0	0
Zinc ppm ASTM D5185m 25 4 0 0 Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >25 2 1 0 0 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >0.1 0.00 ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5	0 <1 <1	0 0 0	0 0
Sulfur ppm ASTM D5185m 1500 0 0 268 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m >20 <1 0 0 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >0.1 0.00 ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5	0 <1 <1 10	0 0 0 0	0 0 0 0
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m <1 0 0 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >0.1 0.00 ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 5	0 <1 <1 10 0	0 0 0 0 0	0 0 0 0
Silicon ppm ASTM D5185m >25 2 1 1 Sodium ppm ASTM D5185m <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 5 100	0 <1 <1 10 0 188	0 0 0 0 0 0 0 0 55	0 0 0 0 0
Sodium ppm ASTM D5185m <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 5 100 25	0 <1 <1 10 0 188 4	0 0 0 0 0 0 0 55	0 0 0 0 0 0 5
Potassium ppm ASTM D5185m >20 <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 5 100 25 1500	0 <1 <1 10 0 188 4	0 0 0 0 0 0 0 55	0 0 0 0 0 0 5 0 268
Water % ASTM D6304 >0.1 0.00 ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 5 100 25 1500 limit/base	0 <1 <1 10 0 188 4 0 current	0 0 0 0 0 0 55 0 0	0 0 0 0 0 0 5 0 268
ppm Water ppm ASTM D6304 >1000 0.00 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 5 100 25 1500 limit/base	0 <1 <1 10 0 188 4 0 current 2	0 0 0 0 0 0 0 55 0 0 history1	0 0 0 0 0 5 0 268 history2
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 5 100 25 1500 limit/base	0 <1 <1 10 0 188 4 0 current 2 <1	0 0 0 0 0 0 0 55 0 0 history1	0 0 0 0 0 5 0 268 history2
Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 100 25 1500 limit/base >25 >20	0 <1 <1 10 0 188 4 0 current 2 <1 <1	0 0 0 0 0 0 0 55 0 0 history1	0 0 0 0 0 5 0 268 history2
Nitration Abs/cm *ASTM D7624 1.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 5 100 25 1500 limit/base >25 >20 >0.1	0 <1 <1 10 0 188 4 0 current 2 <1 <1 0.00	0 0 0 0 0 0 55 0 0 history1 1 0	0 0 0 0 0 0 5 0 268 history2 1 0 <1
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304	5 5 5 100 25 1500 limit/base >25 >20 >0.1 >1000	0 <1 <1 10 0 188 4 0 current 2 <1 <1 0.00 0.00	0 0 0 0 0 0 55 0 0 history1 1 0 0	0 0 0 0 0 5 0 268 history2 1 0 <1
Sulfation Abs/.1mm *ASTM D7415 8.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304	5 5 5 100 25 1500 limit/base >25 >20 >0.1 >1000	0 <1 <1 <1 10 0 188 4 0 current 2 <1 <1 0.00 0.00 current	0 0 0 0 0 0 55 0 0 history1 1 0 0	0 0 0 0 0 5 0 268 history2 1 0 <1
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 method *ASTM D7844	5 5 5 100 25 1500 limit/base >25 >20 >0.1 >1000	0 <1 <1 10 0 188 4 0 current 2 <1 <1 0.00 0.00 current 0	0 0 0 0 0 0 55 0 0 history1 1 0 0	0 0 0 0 0 5 0 268 history2 1 0 <1 history2

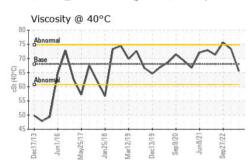


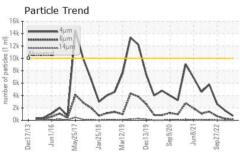
0.00

OIL ANALYSIS REPORT









FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	731	1571	2625
Particles >6µm		ASTM D7647	>2500	122	263	640
Particles >14µm		ASTM D7647	>320	18	2	40
Particles >21µm		ASTM D7647	>80	4	0	8
Particles >38μm		ASTM D7647	>20	1	0	0
Particles >71µm		ASTM D7647	>4	1	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	17/14/11	18/15/9	19/16/12
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414		2.0		
Acid Number (AN)	mg KOH/g	ASTM D8045	0.08	0.106	0.043	0.064
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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	68	65.5	73.3	75.6
ASTM Color	scalar	*ASTM D1500		0	L0.5	L0.5
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						
Bottom						





Laboratory

Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Lab Number : 05858547 Unique Number : 10493012

: WC0784111 Received : 26 May 2023 **Tested** Diagnosed

: 31 May 2023 : 31 May 2023 - Jonathan Hester

Test Package: PLANT (Additional Tests: Color-ASTM, FT-IR) To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: AARON LOVE aaron_love@chugachelectric.com T:

* - 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)

Submitted By: AARON LOVE

CHUGACH ELECTRIC

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ANCHORAGE, AK

US 99519

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