

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

GM Seattle Off Raod Shop [GM Seattle Off Raod Shop] 24-844

Hydraulic System Fluid ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition

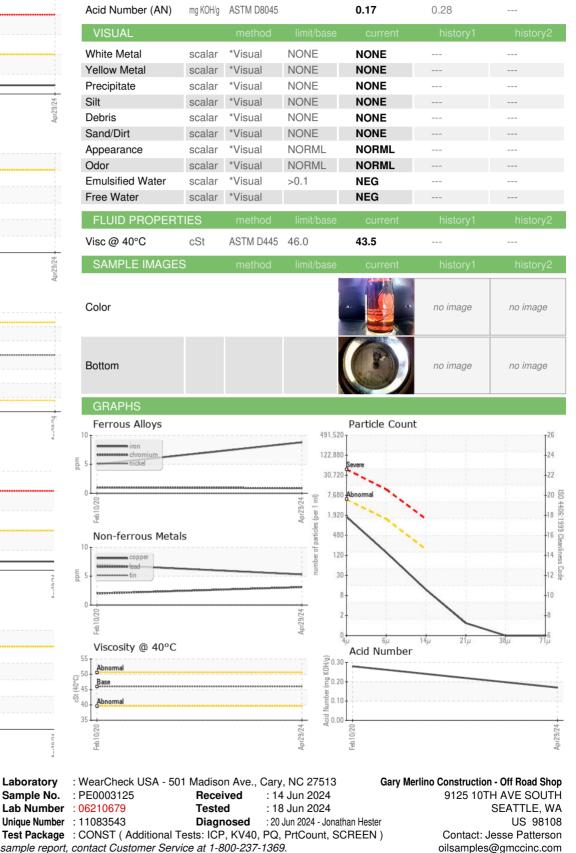
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PE0003125	PE12291681	
Sample Date		Client Info		29 Apr 2024	10 Feb 2020	
Machine Age	hrs	Client Info		3895	1958	
Oil Age	hrs	Client Info		3895	1958	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	1	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		22		
Iron	ppm	ASTM D5185m	>20	9	5	
Chromium	ppm	ASTM D5185m	>10	<1	1	
Nickel	ppm	ASTM D5185m	>10	0	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m		0	<1	
Aluminum	ppm	ASTM D5185m	>10	2	1	
Lead	ppm	ASTM D5185m	>10	3	2	
Copper	ppm	ASTM D5185m	>75	5	7	
Tin	ppm	ASTM D5185m	>10	0	0	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 0	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	<1	0	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	<1 1	0 0	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 1 0	0 0 1	
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 1 0 0	0 0 1 	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 1 0 0 3	0 0 1 6	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 1 0 0 3 51	0 0 1 6 64	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 1 0 0 3 51 305	0 0 1 6 64 294	
Boron 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	limit/base	<1 1 0 3 51 305 203	0 0 1 6 64 294	
Boron 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		<1 1 0 3 51 305 203 801	0 0 1 6 64 294 197 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 1 0 0 3 51 305 203 801 current	0 0 1 6 64 294 197 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	<1 1 0 0 3 51 305 203 801 current 3	0 0 1 6 64 294 197 history1 3	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >20	<1 1 0 0 3 51 305 203 801 Current 3 0	0 0 1 6 64 294 197 history1 3 1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >20 >20 limit/base	<1 1 0 0 3 51 305 203 801 current 3 0 1 current	0 0 1 6 64 294 197 history1 3 1 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >20 >20 limit/base >5000	<1 1 0 0 51 3 51 305 203 801 current 3 0 1 current 1529	0 0 1 6 64 294 197 history1 3 1 0 history1 	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >20 >20 limit/base >5000 >1300	<1 1 0 0 3 51 305 203 801 current 3 0 1 current 1529 130	0 0 1 6 64 294 197 history1 3 1 0 0 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Potassium Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >20 >20 limit/base >20 >20 limit/base >20 limit/base >20 >1300 >1300 >160	<1 1 0 0 3 51 305 203 801 Current 3 0 1 Current 1529 130 10	0 0 1 6 64 294 197 history1 3 1 0 <i>history1</i> 	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >20 >20 >20 >1mit/base >5000 >1300 >160 >40	<1 1 0 0 3 51 305 203 801 Current 3 0 1 Current 1529 130 10 1	0 0 1 6 64 294 197 history1 3 1 0 history1 	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	Imit/base >20 >20 >20 >20 >100 >100 >1300 >160 >40 >10	<1 1 0 0 0 3 51 305 203 801 Current 3 0 1 Current 1529 130 10 1 0 1 0	0 0 1 6 6 64 294 197 <u>history1</u> 3 1 0 <u>history1</u> 	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Potassium Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	Imit/base >20 >20 >20 >20 >100 >100 >1300 >160 >40 >10	<1 1 0 0 3 51 305 203 801 Current 3 0 1 Current 1529 130 10 1	0 0 1 6 64 294 197 history1 3 1 0 history1 	 history2 history2 history2



OIL ANALYSIS REPORT

MORE THAN JUST FUEL.				
PQ		FLUID DEGRADA		metho
250 - Severe		Acid Number (AN)	mg KOH/g	ASTM D80
		VISUAL	3 3	metho
Abnomal		White Metal	scalar	*Visual
50 -		Yellow Metal	scalar	*Visual
		Precipitate	scalar	*Visual
	Apr29/24	Silt	scalar	*Visual
Apr29/24	Apr2	Debris	scalar	*Visual
Particle Trend		Sand/Dirt	scalar	*Visual
^{6k} T		Appearance	scalar	*Visual
5k - 5k- 6µm		Odor	scalar	*Visual
5k - 4k - 2k - 1k - 14μm		Emulsified Water	scalar	*Visual
3k -		Free Water	scalar	*Visual
2k -		FLUID PROPERT	TIES	metho
1k		Visc @ 40°C	cSt	ASTM D4
5 Feb 10/20	Apr29/24 -	SAMPLE IMAGES	S	metho
Feb	Apri			
Viscosity @ 40°C		Color		
Abnormal				
3-				
6 - Base				
		Bottom		
2 - Abnormal				
84.		GRAPHS		
Feb 10/20	\$	Ferrous Alloys		
ш.	~v~	iron		
PQ	200	5- nickel		
Severe				
Severe				
D -		Feb 10/20		
Abnormal		[™] Non-ferrous Metal	s	
		¹⁰ T		
		copper		
Apr29/24	VC/DCV	5		
Api	Ame			
Particle Trend		Feb10/20		
ik μημηρισματικά 4μm		_		
5k - θμη 		Viscosity @ 40°C		
44 +	-	Abnormal		
5k - 4k - 3k - 2k - 2	140°C	Base		
ZK +	5			



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.

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Lab Number : 06210679

Unique Number : 11083543

Laboratory

Sample No.

40 Abnorm

35

Feb 10/20

: PE0003125

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

Report Id: GARSEA [WUSCAR] 06210679 (Generated: 06/22/2024 04:33:42) Rev: 1

Certificate 12367

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