

OIL ANALYSIS REPORT

Sample Rating Trend

WATER

Machine Id

ATLAS COPCO CAI718690 - XCEL ENERGY Component Compressor

Fluid

{not provided} (1 GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear

All component wear rates are normal.

Contamination

There is a light concentration of water present in the oil. Moderate concentration of visible dirt/debris present in the oil.

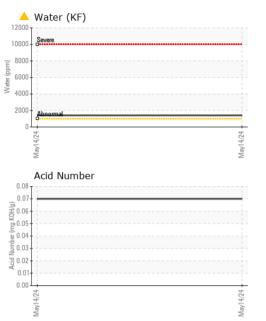
Fluid Condition

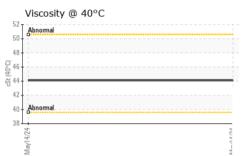
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	/IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		DFP0000032		
Sample Date		Client Info		14 May 2024		
Machine Age	hrs	Client Info		4863		
Oil Age	hrs	Client Info		1239		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<1		
Chromium	ppm	ASTM D5185m	>5	<1		
Nickel	ppm	ASTM D5185m		0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m		<1		
Aluminum	ppm	ASTM D5185m	>15	0		
Lead	ppm	ASTM D5185m	>65	<1		
Copper	ppm	ASTM D5185m	>65	1		
Tin	ppm	ASTM D5185m	>10	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	0 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 0		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 0 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 0 <1 0		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 0 0	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 0 0 0 105	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 2 3 4 0 0 105 10	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 <1 0 0 105 10 216		
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 ASTM D5185m	limit/base	0 0 2 3 3 4 1 0 0 105 10 216 216	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	0 0 2 3 3 4 1 0 0 0 105 10 216 216 2	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base >35	0 0 0 <1 0 0 105 10 216 216 2 2 3	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >35 >20	0 0 0 <1 0 0 105 10 216 current 2 3 0	 history1	 history2
Boron 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 ASTM D5185m	limit/base >35 >20 >0.1	0 0 0 <1 0 0 105 10 216 current 2 3 0 0 ▲ 0.140	history1	 history2



OIL ANALYSIS REPORT





	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE			
	Sand/Dirt	scalar	*Visual	NONE	NONE		
May14/24	Appearance	scalar	*Visual	NORML	NORML		
May ¹	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.1	0.2%		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPER	TIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445		44.1		
	SAMPLE IMAGE	S	method	limit/base	current	history1	history2
May14/24	Color					no image	no image
	Bottom					no image	no image
	GRAPHS						
	Ferrous Alloys						
	10 iron						
	o - chromium						
C 7 1	E 6						
- U 4	2						
				_			
	4/24			4/24			
	May1			May14/24			
	Non-ferrous Meta	ls					
	10 copper						
	8 management lead						
	2						
	0						
	4/24	****		14/24			
	0 May14/24			May14/24			
	Viscosity @ 40°C			May14,24	Acid Number		
	Viscosity @ 40°C						
	Viscosity @ 40°C						
	Viscosity @ 40°C						
	Viscosity @ 40°C						
	Viscosity @ 40°C			0.0 0.0 KOH/(4) 0.0 Jumper 0.0 Virunger	18		
	Viscosity @ 40°C			0.0 0.0 (mg K0H(0) 0.0 (mg K0H(0) 0.0 Vertex 0.0 Vertex	18 14 12 10		2
	Viscosity @ 40°C			0.0 0.0 KOH/(4) 0.0 Jumper 0.0 Virunger	18		
Laboratory Sample No. Lab Number Unique Number Test Package	Viscosity @ 40°C	Recei Teste Diagr	ived : 17 ed : 29 nosed : 29	May14/24 0.0 Acid Number (mag KX	18 16 14 12 10 10 15 15 16 16 16 16 16 16 17 17 18 16 16 16 16 16 16 16 16 16 16 16 16 16		ir Technolog th Street Nort Sioux Falls US 5710 :RIC MAUREF

* - 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)

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