

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

KAESER SFC 110S 8484688 (S/N 1035)

Component Compressor Fluid

KAESER SIGMA (OEM) M-460 (--- GAL)

Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. 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

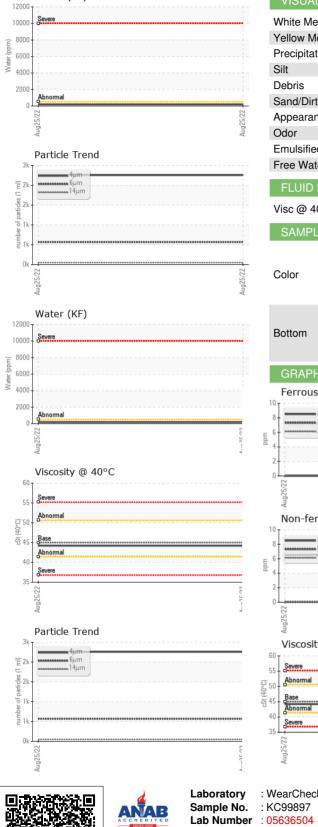
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

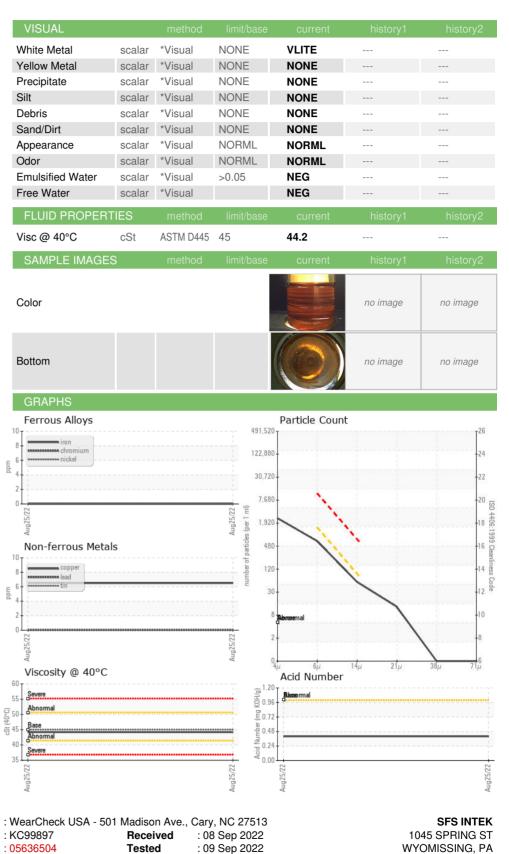
Sample Number Client Info KC99897 Sample Date Client Info 25 Aug 202 Machine Age hrs Client Info 2428 Oil Age hrs Client Info 2428 Sample Status - Client Info 2428 WEAR METALS Client Info Changed North Promo Ppm ASTM 05155m -50 0 Nickel ppm ASTM 05155m >30 0 Aluminum ppm ASTM 05155m >30 0 Aluminum ppm ASTM 05155m >10 0 Adminum ppm ASTM 05155m >10 0 Adminum ppm ASTM 05155m 10 0 Cadmium ppm ASTM 05155m <th>SAMPLE INFORM</th> <th>IATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 2428 Oil Age hrs Client Info 2428 Sample Status Client Info Changed WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >33 0 Aluminum ppm ASTM D5185m >33 0 Aluminum ppm ASTM D5185m >10 4 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m 0 0 ASTM D5185m 0 0 A	Sample Number		Client Info		KC99897		
Oil Age hrs Client Info 2428 Sample Status Client Info Changed WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >30 0 Nickel ppm ASTM D5185m >30 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Aged ppm ASTM D5185m >10 0 Aged ppm ASTM D5185m 0 0 Aged ppm ASTM D5185m 0 0 Agenacium ppm ASTM D5185m 0 0	Sample Date		Client Info		25 Aug 2022		
Oil Changed Client Info NoRMAL Sample Status Image current Nistory1 Nistory2 WEAR METALS method limil/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >30 0 Nickel ppm ASTM D5185m >33 0 Silver ppm ASTM D5185m >20 Copper ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 ASTM D5185m 0 0 ASTM D5185m 0 0 Manadanese p	Machine Age	hrs	Client Info		2428		
Sample Status Instance NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Chromium ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >10 4 Aluminum ppm ASTM D5185m >10 0 Aduminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0	Oil Age	hrs	Client Info		2428		
WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Ohromium ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Auminum ppm ASTM D5185m >10 4 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 ADDTTVES method imit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0	Oil Changed		Client Info		Changed		
Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >10 4 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 10 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method Imit/base current History1 History2 Boron ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 <th>Sample Status</th> <th></th> <th></th> <th></th> <th>NORMAL</th> <th></th> <th></th>	Sample Status				NORMAL		
Chromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >2 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 ADDITIVES method Imit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Galoium ppm ASTM D5185m 0 0 <th>WEAR METALS</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >3 0 Tittanium ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 6 Cadmium ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m 0 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Solicon ppm ASTM D5185m <t< td=""><td>Iron</td><td>ppm</td><td>ASTM D5185m</td><td>>50</td><th>0</th><td></td><td></td></t<>	Iron	ppm	ASTM D5185m	>50	0		
Nickel ppm ASTM D5185m >3 0 Tittanium ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 6 Cadmium ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m 0 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Solicon ppm ASTM D5185m <t< td=""><td>Chromium</td><td>ppm</td><td>ASTM D5185m</td><td>>10</td><th>0</th><td></td><td></td></t<>	Chromium	ppm	ASTM D5185m	>10	0		
Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 4 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 6 Vanadium ppm ASTM D5185m >0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Malganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 0 Silicon ppm ASTM D5185m 20	Nickel	ppm		>3	0		
Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 4 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 20 11 <td>Titanium</td> <td></td> <td>ASTM D5185m</td> <td>>3</td> <th>0</th> <td></td> <td></td>	Titanium		ASTM D5185m	>3	0		
Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 6 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Malybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Silicon ppm ASTM D5185m >25 <1 <td>Silver</td> <td></td> <td>ASTM D5185m</td> <td>>2</td> <th>0</th> <td></td> <td></td>	Silver		ASTM D5185m	>2	0		
Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 6 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Marganese ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Silicon ppm ASTM D5185m 20 <td>Aluminum</td> <td></td> <td>ASTM D5185m</td> <td>>10</td> <th>4</th> <td></td> <td></td>	Aluminum		ASTM D5185m	>10	4		
Copper ppm ASTM D5185m >50 6 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Malybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Agresium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 0 Silicon ppm ASTM D5185m >20 11 Sodium ppm ASTM D5185m 20					0		
Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Maganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 0 Silicon ppm ASTM D5185m 0 58 Sodium ppm ASTM D5185m >20 11 Vater % ASTM D6304 >0.05 0.019					-		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Malybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Contraktina ppm ASTM D5185m 0 0 Silicon ppm ASTM D5185m 0 58 Sodium ppm ASTM D5185m >20 11 Vater % ASTM D5185m >20 11 -					-		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 58 Solium ppm ASTM D5185m >25 <1 Solium ppm ASTM D5185m >20 11 Solium ppm ASTM D5185m >20 191.2					-		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 100 17 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 0 Solium ppm ASTM D5185m >25 <1					-		
Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 100 17 Calcium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 0 58 Zinc ppm ASTM D5185m 0 58 Zinc ppm ASTM D5185m 20 11 Solium ppm ASTM D5185m >20 11 Vater % ASTM D5804 >500 191.2 Particles >4µm ASTM D7647	ADDITIVES			limit/base	current	historv1	historv2
Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 100 17 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 58 Sodium ppm ASTM D5185m >25 <1		nom				,	
Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 100 17 Magnesium ppm ASTM D5185m 100 17 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 58 Silicon ppm ASTM D5185m >25 <1							
Marganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100 17 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 58 Zinc ppm ASTM D5185m 0 58 Silicon ppm ASTM D5185m >25 <1					-		
Magnesium ppm ASTM D5185n 100 17 Calcium ppm ASTM D5185n 0 0 Phosphorus ppm ASTM D5185n 0 0 Zinc ppm ASTM D5185n 0 58 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185n >25 <1	-			0			
Calcum ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 58 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	-			100	-		
Phosphorus ppm ASTM D5185m 0 0 58 Zinc ppm ASTM D5185m 0 58 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 Sodium ppm ASTM D5185m >25 <1 Sodium ppm ASTM D5185m >20 11 Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.019 ppm Water ppm ASTM D7647 2255 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 568 Particles >5µm ASTM D7647 20 <td>•</td> <td></td> <td></td> <td></td> <th></th> <td></td> <td></td>	•						
Zinc ppm ASTM D5185m 0 58 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1					-		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1					-		
Silicon ppm ASTM D5185m<>25 <1 Sodium ppm ASTM D5185m <6 Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.019 water pm ASTM D6304 >500 191.2 ppm Water ppm ASTM D7647 2255 Particles >4µm ASTM D7647 >1300 568 Particles >6µm ASTM D7647 >80 49 Particles >14µm ASTM D7647 >20 11 Particles >21µm ASTM D7647 >80 49 Particles >38µm ASTM D7647 >20 11 Particles >71µm ASTM D7647 >3 0 Qil Cleanliness ISO 4406 (c) >/17/13 18/16/13			ASTM D5185m		58		
Sodium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.019 ppm Water ppm ASTM D6304 >500 191.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2255 Particles >6µm ASTM D7647 >1300 568 Particles >14µm ASTM D7647 >80 49 Particles >21µm ASTM D7647 >20 11 Particles >38µm ASTM D7647 >4 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.019 ppm Water ppm ASTM D6304 >500 191.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2255 Particles >6µm ASTM D7647 >1300 568 Particles >14µm ASTM D7647 >20 11 Particles >14µm ASTM D7647 >20 11 Particles >21µm ASTM D7647 >20 11 Particles >38µm ASTM D7647 >4 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID	Silicon	ppm	ASTM D5185m	>25	<1		
Water % ASTM D6304 >0.05 0.019 ppm Water ppm ASTM D6304 >500 191.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2255 Particles >6µm ASTM D7647 >1300 568 Particles >6µm ASTM D7647 >80 49 Particles >14µm ASTM D7647 >20 11 Particles >21µm ASTM D7647 >4 0 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2 <td>Sodium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>6</th> <td></td> <td></td>	Sodium	ppm	ASTM D5185m		6		
ppm Water ppm ASTM D6304 >500 191.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2255 Particles >6µm ASTM D7647 >1300 568 Particles >6µm ASTM D7647 >80 49 Particles >14µm ASTM D7647 >20 11 Particles >21µm ASTM D7647 >20 11 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) /17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm		>20	11		
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 2255 Particles >6μm ASTM D7647 >1300 568 Particles >6μm ASTM D7647 >80 49 Particles >14μm ASTM D7647 >20 11 Particles >21μm ASTM D7647 >20 11 Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2		%	ASTM D6304	>0.05	0.019		
Particles >4μm ASTM D7647 2255 Particles >6μm ASTM D7647 >1300 568 Particles >14μm ASTM D7647 >80 49 Particles >14μm ASTM D7647 >20 11 Particles >21μm ASTM D7647 >20 11 Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>500	191.2		
Particles >6µm ASTM D7647 >1300 568 Particles >14µm ASTM D7647 >80 49 Particles >21µm ASTM D7647 >20 11 Particles >21µm ASTM D7647 >20 11 Particles >38µm ASTM D7647 >4 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 49 Particles >21μm ASTM D7647 >20 11 Particles >28μm ASTM D7647 >4 0 Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647		2255		
Particles >21μm ASTM D7647 >20 11 Particles >38μm ASTM D7647 >4 0 Particles >371μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	568		
Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>80	49		
Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>20	11		
Oil CleanlinessISO 4406 (c) >/17/13 18/16/13 FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Particles >38µm		ASTM D7647	>4	0		
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0		
			ISO 4406 (c)	>/17/13	18/16/13		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.40		



Water (KF)

OIL ANALYSIS REPORT





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

Unique Number : 10126034

Test Package : IND 2

* - 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)

Diagnosed

: 09 Sep 2022 - Doug Bogart

Certificate 12367

Contact/Location: Service Manager - SFSWYO Page 2 of 2

US 19610

T:

F:

Contact: Service Manager