

OIL ANALYSIS REPORT



Machine Id MARLEY 1 TOWER FAN

Component Gearbox

Fluid TULCO LUBSOIL IND MP R&O 220 (19 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 component.

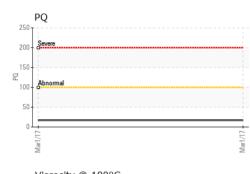
Fluid Condition

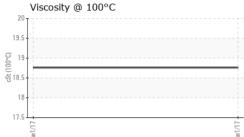
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

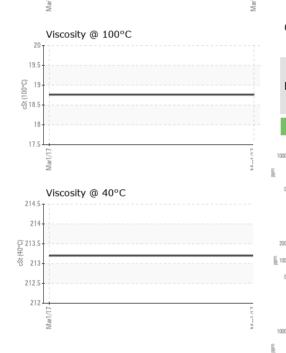
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		TO2007272		
Sample Date		Client Info		01 Mar 2017		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATION	٧	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG		
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		17		
Iron	ppm	ASTM D5185m	>200	57		
Chromium	ppm	ASTM D5185m	>15	<1		
Nickel	ppm	ASTM D5185m	>15	<1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>25	1		
Lead	ppm	ASTM D5185m	>100	2		
Copper	ppm	ASTM D5185m	>200	<1		
Tin	ppm	ASTM D5185m	>25	3		
Antimony	ppm	ASTM D5185m		0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		2		
Barium	ppm	ASTM D5185m		0		
Molybdenum	ppm	ASTM D5185m		7		
Manganese	ppm	ASTM D5185m		1		
Magnesium	ppm	ASTM D5185m		<1		
Calcium	ppm	ASTM D5185m		3		
Phosphorus	ppm	ASTM D5185m		264		
Zinc	ppm	ASTM D5185m		15		
Sulfur	ppm	ASTM D5185m		4028		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	2		
Sodium	ppm	ASTM D5185m		3		
Potassium	ppm	ASTM D5185m	>20	0		



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White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	cSt cSt Scale	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual method ASTM D445 ASTM D445 ASTM D2270 method	NONE NORML >0.2 limit/base limit/base	NONE NONE NONE NONE NOR NOR NOR NOR NEG NEG 213.2 18.76 98 current		 history2 history2 history2
Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Free Water Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual method ASTM D445 ASTM D445	NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NORML NORML NEG NEG 213.2 18.76 98	history1 history1 no image	 history2 history2
Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Free Water Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar scalar scalar scalar tES cSt scale	*Visual *Visual *Visual *Visual *Visual *Visual method ASTM D445 ASTM D445	NONE NONE NORML NORML >0.2	NONE NONE NORML NORML NEG NEG 213.2 18.76 98	history1 history1 no image	 history2 history2 no image
Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar scalar scalar tES cSt scale	*Visual *Visual *Visual *Visual *Visual method ASTM D445 ASTM D445 ASTM D2270	NONE NORML NORML >0.2	NONE NORML NORML NEG NEG Current 213.2 18.76 98	history1 history1 no image	 history2 history2 no image
Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual method ASTM D445 ASTM D445 ASTM D2270	NONE NORML NORML >0.2	NONE NORML NORML NEG NEG Current 213.2 18.76 98	history1 history1 no image	 history2 history2 no image
Appearance Odor Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar scalar scalar tES cSt cSt cSt Scale	*Visual *Visual *Visual *Visual method ASTM D445 ASTM D445 ASTM D2270	NORML NORML >0.2	NORML NORML NEG NEG 213.2 18.76 98	history1 history1 no image	 history2 history2 no image
Odor Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar scalar IES cSt cSt Scale	*Visual *Visual *Visual Method ASTM D445 ASTM D445 ASTM D2270	NORML >0.2 limit/base	NORML NEG NEG 213.2 18.76 98	history1 history1 no image	 history2 history2 no image
Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar scalar IES cSt cSt Scale	*Visual *Visual Method ASTM D445 ASTM D445 ASTM D2270	>0.2 limit/base	NEG NEG current 213.2 18.76 98	 history1 history1 no image	 history2 history2 no image
Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	scalar IES cSt cSt Scale	*Visual method ASTM D445 ASTM D445 ASTM D2270	limit/base	NEG current 213.2 18.76 98	 history1 history1 no image	history2 history2 no image
FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	IES cSt cSt Scale	method ASTM D445 ASTM D445 ASTM D2270		Current 213.2 18.76 98	history1 history1 no image	history2 history2 no image
Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	cSt cSt Scale	ASTM D445 ASTM D445 ASTM D2270		213.2 18.76 98	 history1 no image	 history2 no image
Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	cSt Scale	ASTM D445 ASTM D2270	limit/base	18.76 98	history1 no image	history2 no image
Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	Scale	ASTM D2270	limit/base	98	history1 no image	history2 no image
SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)			limit/base		history1 no image	history2 no image
Color Bottom GRAPHS Iron (ppm)	3	method	limit/base	current	no image	no image
Bottom GRAPHS Iron (ppm)						
GRAPHS Iron (ppm)				1 Q.111	no image	no image
Iron (ppm)						
1000						
				Lead (ppm)		
Severe Abnormal			400	Severe		
			<u></u> 200	Abnormal		
5			5	5		
Mar1/17			Mar1/17	Mar1/		
Aluminum (ppm)			100	Chromium (pp	om)	
E 100 - Severe			Ē. 50	Severe		
Abnormal			8.3	Abnormal		
Mar 1/17			Mart/17	Mar 1/17		
			~			
Copper (ppm)			200	Silicon (ppm)		
Severe			<u></u> 100	Severe		
0			0			
Mar 1/17			Mar 1/17	Mar 1/17		
Viscosity @ 40°C			6	Acid Number		
216			Но 1.00	T:		
9 214 			in a c.00	1		
212						
Mart/			Mar1/	Mar1/		
	Recei	ved : 18	8 Apr 2017 Apr 2017			VEOL E K GAYLOI OMA CITY, (US 731
100-01	Viscosity @ 40°C	Viscosity @ 40°C	Viscosity @ 40°C	Viscosity @ 40°C Viscosity @ 40°C WearCheck USA - 501 Madison Ave., Cary, NC 27513 TO2007272 Received : 18 Apr 2017	Viscosity @ 40°C	Viscosity @ 40°C Viscosity @ 40°C Viscosity @ 40°C WearCheck USA - 501 Madison Ave., Cary, NC 27513 TO2007272 Received : 18 Apr 2017 1 N 04204479 Tested : 21 Apr 2017 OKLAHO

To discuss this sample report, con * - 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)

Certificate L2367

Contact/Location: ROBERT TESTERMAN - VEOOKL

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