

OIL ANALYSIS REPORT

Area RAW MATS Machine Id 2 BALL MILL Component

Gearbox Fluid MOBIL SHC 630 (29 GAL)

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

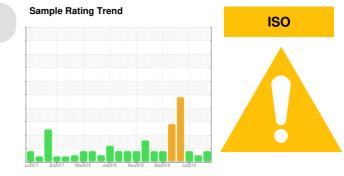
All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

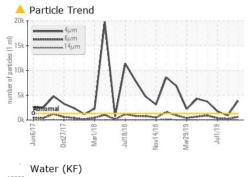
Fluid Condition

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

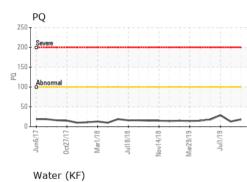


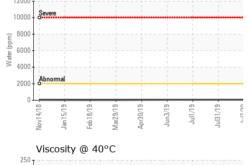
Sample Date(Iient Info07 Jul 202031 Jul 201901 Jul 2019Machine AgedaysClient Info000Oil AgeClient InfoN/AN/AN/ASample StatusImageClient InfoN/AN/AWEAR METALSmethodlimil/basecurrenthistory1history2PQASTM D5184181329IronppmASTM D5185>15000ChromiumppmASTM D5185>15000NickelppmASTM D5185>15000NickelppmASTM D5185>200<100AluminumppmASTM D5185>200<100AduminumppmASTM D5185>200<100CopperppmASTM D5185>200<100Astm D5185>200<10000AdminumppmASTM D5185>0000Astm D5185>20<10000Astm D5185>20<10000Astm D5185>20<10000Astm D5185>20<10000Astm D5185<0<0<1000Astm D5185<0<0<0<000Astm D5185<0<0<0 <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 AgedaysClient Info0000Oil AgeClient InfoN/AN/AN/ASample StatusIImit/DasRBNORMALNORMALATTENTIONWEAR METALSmethodImit/Dascurrenthistory1history2PQASTM D8184181329IronppmASTM D818550<	Sample Number		Client Info		WC0482823	WC0351513	WC0351507
Oil Age days Client Info N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A WEAR METALS method limit/base current history1 history2 PQ ASTM D5185m >200 <1	Sample Date		Client Info		07 Jul 2020	31 Jul 2019	01 Jul 2019
Oli ChangedClient InfoN/AN/AN/AN/ASample StatusImage: Client InfoABNORMALNORMALATTENTIONWEAR METALSmethodlimil/basecurrenthistory1history2PQASTM D8184181329IronppmASTM D51855>200<1	Machine Age	days	Client Info		0	0	0
Sample StatusmethodImit/basecurrentNORMALATTENTIONWEAR METALSmethodImit/basecurrenthistory1history2PQASTM D8184181329IronppmASTM D5185m>200<1	Oil Age	days	Client Info		0	0	0
WEAR METALS method limil/base current history1 history2 PQ ASTM D8184 18 13 29 Iron ppm ASTM D8185 >200 <1	Oil Changed		Client Info		N/A	N/A	N/A
PQ ASTM D8184 18 13 29 Iron ppm ASTM D5185m >200 <1	Sample Status				ABNORMAL	NORMAL	ATTENTION
Iron ppm ASTM D5185m >200 <1	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >15 0 0 . Nickel ppm ASTM D5185m >15 0 0 . . Titanium ppm ASTM D5185m S0 0 0 . . Aluminum ppm ASTM D5185m >200 <1	PQ		ASTM D8184		18	13	29
Nickel ppm ASTM D5185m >15 0 0 <1 Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 25 0 0 0 Aluminum ppm ASTM D5185m >200 <1	Iron	ppm	ASTM D5185m	>200	<1	<1	<1
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Silver ppm ASTM D5185m 0 0 <1 Aluminum ppm ASTM D5185m >25 0 0 0 Lead ppm ASTM D5185m >200 <1	Nickel	ppm	ASTM D5185m	>15	0	0	<1
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Leadpm pmASTM D5185m>100<100CopperppmASTM D5185m>200<1	Silver	ppm	ASTM D5185m		0	0	<1
Copper ppm ASTM D5185m >200 <1 0 0 Tin ppm ASTM D5185m >25 0 <1	Aluminum	ppm	ASTM D5185m	>25	0	0	0
TinppmASTM D5185m>250<10AntimonyppmASTM D5185m0000VanadiumppmASTM D5185m0000CadmiumppmASTM D5185m0000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m<1		ppm	ASTM D5185m	>100	<1	0	0
Antimony ppm ASTM D5185m 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 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 374 365 414 Zinc ppm ASTM D5185m 2433 811 77 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 32 34 34 Potassium ppm	Copper	ppm	ASTM D5185m	>200	<1	0	0
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ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m <1	Vanadium	ppm	ASTM D5185m		0	0	0
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Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 1 0 0 Phosphorus ppm ASTM D5185m 374 365 414 Zinc ppm ASTM D5185m 374 365 414 Zinc ppm ASTM D5185m 0 3 0 Sulfur ppm ASTM D5185m 243 81 77 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 32 34 34 Sodium ppm ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0.005 0.005 ppm Water ppm ASTM D5044 >2000 53.7 57.2 50 FLUID CLEANLINESS method limit/b	Barium	ppm	ASTM D5185m		0	0	0
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Phosphorus pm ASTM D5185m 374 365 414 Zinc ppm ASTM D5185m 0 3 0 Sulfur ppm ASTM D5185m 243 81 77 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 32 34 34 Sodium ppm ASTM D5185m >50 32 34 34 Sodium ppm ASTM D5185m >50 32 34 34 Potassium ppm ASTM D5185m >20 0 0 0 0 Water % ASTM D6304 >0.2 0.005 0.005 0.005 ppm Water ppm ASTM D6304 >2000 53.7 57.2 50 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 3300 3859 924 <	Magnesium	ppm	ASTM D5185m		0	0	0
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Sulfur ppm ASTM D5185m 243 81 77 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 32 34 34 Sodium ppm ASTM D5185m >50 32 34 34 Potassium ppm ASTM D5185m >50 32 34 34 Potassium ppm ASTM D5185m >50 0 4 Potassium ppm ASTM D5185m >20 0 0 0 0 Water % ASTM D6304 >0.2 0.005 0.005 0.005 0.005 ppm Water ppm ASTM D6304 >2000 53.7 57.2 50 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 3859 924 1733 Particles >14µm ASTM D7647 </td <td>Phosphorus</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>374</th> <td></td> <td>414</td>	Phosphorus	ppm	ASTM D5185m		374		414
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 32 34 34 Sodium ppm ASTM D5185m >50 32 34 34 Potassium ppm ASTM D5185m >20 0 <1	Zinc	ppm	ASTM D5185m		0	3	0
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Sodium ppm ASTM D5185m 0 <1	CONTAMINANTS		method	limit/base	current	history1	history2
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Water % ASTM D6304 >0.2 0.005 0.005 0.005 ppm Water ppm ASTM D6304 >2000 53.7 57.2 50 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 ▲ 3859 924 ▲ 1733 Particles >6µm ASTM D7647 >320 ▲ 614 203 ▲ 371 Particles >14µm ASTM D7647 >40 28 10 15 Particles >21µm ASTM D7647 >10 5 3 2 Particles >38µm ASTM D7647 >3 1 2 0 Particles >71µm ASTM D7647 >3 0 0 0	Sodium	ppm	ASTM D5185m		0	<1	4
ppm Water ppm ASTM D6304 >2000 53.7 57.2 50 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 ▲ 3859 924 ▲ 1733 Particles >6µm ASTM D7647 >320 ▲ 614 203 ▲ 371 Particles >14µm ASTM D7647 >40 28 10 15 Particles >21µm ASTM D7647 >10 5 3 2 Particles >38µm ASTM D7647 >3 1 2 0 Particles >71µm ASTM D7647 >3 0 0 0	Potassium	ppm	ASTM D5185m	>20	0	0	0
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 ▲ 3859 924 ▲ 1733 Particles >6µm ASTM D7647 >320 ▲ 614 203 ▲ 371 Particles >14µm ASTM D7647 >40 28 10 15 Particles >21µm ASTM D7647 >10 5 3 2 Particles >38µm ASTM D7647 >3 1 2 0 Particles >71µm ASTM D7647 >3 0 0 0	Water	%	ASTM D6304	>0.2	0.005	0.005	0.005
Particles >4μm ASTM D7647 >1300 ▲ 3859 924 1733 Particles >6μm ASTM D7647 >320 ▲ 614 203 ▲ 371 Particles >14μm ASTM D7647 >40 28 10 15 Particles >14μm ASTM D7647 >10 5 3 2 Particles >21μm ASTM D7647 >3 1 2 0 Particles >38μm ASTM D7647 >3 0 0 0	ppm Water	ppm	ASTM D6304	>2000	53.7	57.2	50
Particles >6µm ASTM D7647 >320 ▲ 614 203 371 Particles >14µm ASTM D7647 >40 28 10 15 Particles >21µm ASTM D7647 >10 5 3 2 Particles >38µm ASTM D7647 >3 1 2 0 Particles >71µm ASTM D7647 >3 0 0 0	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
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Particles >38μm ASTM D7647 >3 1 2 0 Particles >71μm ASTM D7647 >3 0 0 0	Particles >14µm		ASTM D7647	>40	28	10	15
Particles >71μm ASTM D7647 >3 0 0 0	Particles >21µm		ASTM D7647	>10	5	3	2
	Particles >38um		ASTM D7647	>3	4	2	0
Oil Cleanliness ISO 4406 (c) >17/15/12 🔺 19/16/12 17/15/10 🔺 18/16/11			10111101011	20		~	0
	Particles >71µm						

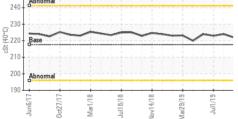








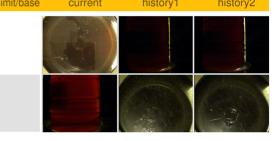




OIL ANALYSIS REPORT

FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.351	0.380	0.264
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	VLITE	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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	217.7	222	224	223
SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Color				175h		

Bottom





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

Certificate L2367