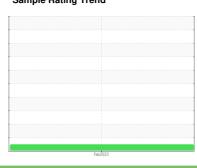


OIL ANALYSIS REPORT

Sample Rating Trend







GEA M-700

Component Gearbox

CHEVRON MEROPA 220 (3 GAL)

D	IA	G	N	O	SI	S	

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

The water content is negligible. There is no indication of any contamination in the oil.

Fluid Condition

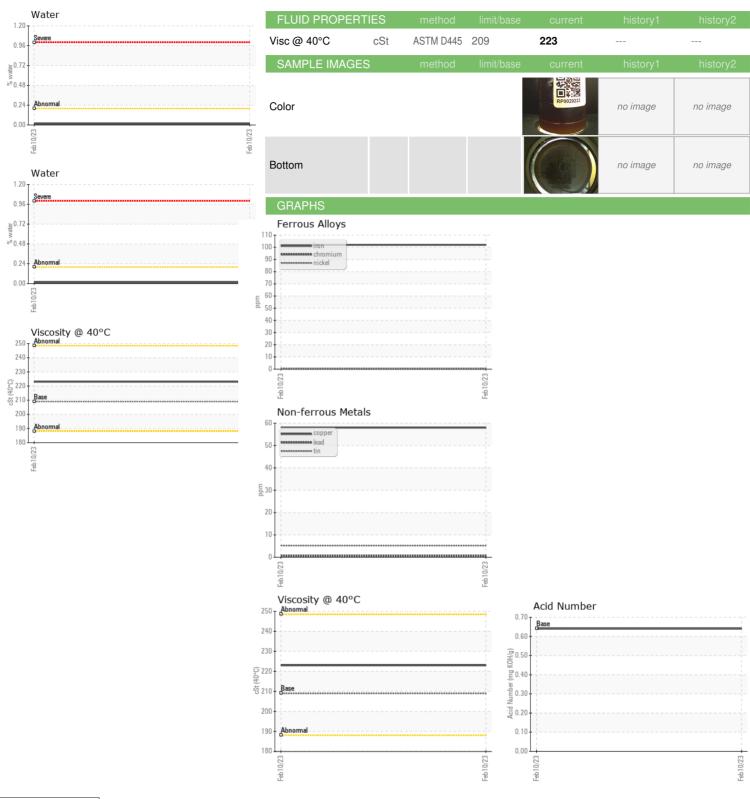
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number							
Sample Number Client Info RP0020223 Rample Date Client Info 10 Feb 2023 Rample Date Client Info 0 Rample Date Client Info 0 Rample Date Client Info 0 Rample Date Rample D		AATION					
Sample Date Client Info 10 Feb 2023 Machine Age hrs Client Info 0 0		MATION		limit/base		history1	history2
Machine Age hrs Client Info 0							
Oil Age hrs Client Info 400 Oil Changed Sample Status Client Info Not Changd WEAR METALS method limit/base current history1 hist Iron ppm ASTM D5185m >200 102 Chromium ppm ASTM D5185m >10 <1	•				10 Feb 2023		
Cili Changed Cilient Info Not Changed NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMA	•	hrs	Client Info		-		
WEAR METALS		hrs					
WEAR METALS method limit/base current history1 hist Iron ppm ASTM D5185m >200 102 Chromium ppm ASTM D5185m >10 <1	-		Client Info				
Control Cont	Sample Status				NORMAL		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	102		
Titanium	Chromium	ppm	ASTM D5185m	>10	<1		
ASTM D5185m D	Nickel	ppm	ASTM D5185m	>10	<1		
ASTM D5185m >25	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m		0		
Copper ppm ASTM D5185m >200 58 Tin ppm ASTM D5185m >10 5 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 270 26	Aluminum	ppm	ASTM D5185m	>25	<1		
Tin	Lead	ppm	ASTM D5185m	>50	<1		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 7 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 270 260 Phosphorus ppm ASTM D5185m 39 Zinc ppm ASTM D5185m 39 Soliticon ppm ASTM D5185m >50 5 Soliticon ppm ASTM D5185m >20	Copper		ASTM D5185m	>200	58		
ADDITIVES	Tin	ppm	ASTM D5185m	>10	5		
ADDITIVES	Vanadium	ppm	ASTM D5185m		0		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Barium	Boron	nom	ASTM D5185m	40	5		
Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 7 Magnesium ppm ASTM D5185m 7 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 39 Zinc ppm ASTM D5185m >50 5 Zinc ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6		• •					
Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 7 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 39 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 Popm Water ppm ASTM D6304 >2000 154.9					-		
Magnesium ppm ASTM D5185m 7 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 39 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 Popm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64							
Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 39 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 ppm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64 <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-						
Phosphorus ppm ASTM D5185m 270 260 Zinc ppm ASTM D5185m 39 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 ppm Water ppm ASTM D6304 >0.0 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg K0H/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist White Metal scalar *Visual NONE	•				-		
Zinc ppm ASTM D5185m 39 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m 4 Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 ppm Water ppm ASTM D6304 >2000 154.9 ppm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg K0H/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist White Metal scalar *Visual NONE NONE </td <td></td> <td></td> <td></td> <td>270</td> <td>-</td> <td></td> <td></td>				270	-		
CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >50 5 Sodium ppm ASTM D5185m 4 Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 ppm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist White Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE <	· .			210			
Silicon ppm ASTM D5185m >50 5	-			limit/base	ourront	hiotorya	history2
Sodium						•	
Potassium ppm ASTM D5185m >20 6 Water % ASTM D6304 >0.2 0.015 ppm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist White Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE				>50			
Water % ASTM D6304 >0.2 0.015 ppm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist White Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE					-		
ppm Water ppm ASTM D6304 >2000 154.9 FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Debris scalar *Visual NONE LIGHT Sand/Dirt scalar *Visual NONE NONE					-		
FLUID DEGRADATION method limit/base current history1 hist Acid Number (AN) mg KOH/g ASTM D8045 0.64 0.64 VISUAL method limit/base current history1 hist 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 LIGHT Sand/Dirt scalar *Visual NONE NONE							
VISUAL method limit/base current history1 hist 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 LIGHT Sand/Dirt scalar *Visual NONE NONE					154.9		
VISUAL method limit/base current history1 hist 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 LIGHT Sand/Dirt scalar *Visual NONE NONE	FLUID DEGRADA	TION	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 NONE Sand/Dirt scalar *Visual NONE NONE	Acid Number (AN)	mg KOH/g	ASTM D8045	0.64	0.64		
Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Debris scalar *Visual NONE LIGHT Sand/Dirt scalar *Visual NONE NONE	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Debris scalar *Visual NONE LIGHT Sand/Dirt scalar *Visual NONE NONE	White Metal	scalar	*Visual	NONE	NONE		
Silt scalar *Visual NONE NONE Debris scalar *Visual NONE LIGHT Sand/Dirt scalar *Visual NONE NONE	Yellow Metal	scalar	*Visual	NONE	NONE		
Debrisscalar*VisualNONELIGHTSand/Dirtscalar*VisualNONENONE	Precipitate	scalar	*Visual	NONE	NONE		
Sand/Dirt scalar *Visual NONE NONE	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	LIGHT		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance scalar *Visual NORML NORML	Appearance	scalar	*Visual	NORML	NORML		
Odor scalar *Visual NORML NORML	Odor	scalar	*Visual	NORML	NORML		
Emulsified Water scalar *Visual >0.2 NEG	Emulsified Water	scalar	*Visual	>0.2	NEG		

NEG : James Holliday - PERMARRP



OIL ANALYSIS REPORT







Laboratory Sample No. Lab Number **Unique Number**

: RP0020223 : 05789169 : 10373840 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 10 Mar 2023 Diagnosed

: 13 Mar 2023 Diagnostician : Wes Davis

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

PERGAN 710 BUSSEY RD MARSHALL, TX US 75670

Contact: James Holliday

j.holliday@pergan-na.com

T: F: