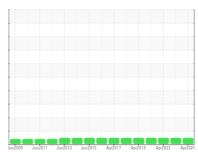


# **OIL ANALYSIS REPORT**

Sample Rating Trend







RK 312
Component

Component Hydraulic System

**AW HYDRAULIC OIL ISO 32 (--- LTR)** 

#### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

#### **Fluid Condition**

The condition of the oil is acceptable for the time in service.

Sample Number	Sample Number Sample Date Machine Age Oil Age Oil Changed Sample Status  CONTAMINATION Water  WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	mls mls	Client Info Client Info Client Info Client Info Client Info Client Info WC Method	limit/base	WC0917754 22 Apr 2024 0 0 Not Changd NORMAL	WC0790393 23 Apr 2023 0 0 Not Changd	0 Not Changd
Sample Date	Sample Date Machine Age Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	Client Info Client Info Client Info Client Info Method WC Method		22 Apr 2024 0 0 Not Changd NORMAL	23 Apr 2023 0 0 Not Changd	28 Apr 2022 0 0 Not Changd
Sample Date   Client Info   22 Apr 2024   23 Apr 2023   28 Apr 20	Sample Date Machine Age Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	Client Info Client Info Client Info Method WC Method		0 0 Not Changd NORMAL	0 0 Not Changd	0 0 Not Changd
Machine Age         mls         Client Info         0         0         0         0           Oil Chage         mls         Client Info         0         0         0         0           Oil Chaged         Client Info         Not Changd	Machine Age Oil Age Oil Changed Sample Status  CONTAMINATION Water  WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	Client Info Client Info method WC Method		0 Not Changd NORMAL	0 Not Changd	0 Not Changd
Oil Age         mls         Client Info         Not Changed         Not C	Oil Age Oil Changed Sample Status  CONTAMINATION Water  WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	Client Info  method  WC Method		Not Changd NORMAL	Not Changd	Not Changd
Oil Changed Sample Status         Client Info         Not Changd NORMAL	Oil Changed Sample Status  CONTAMINATION Water  WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	method WC Method		NORMAL	_	
NORMAL   NORMAL   NORMAL	Sample Status  CONTAMINATION  Water  WEAR METALS  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	WC Method		NORMAL	_	
Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >20         1         1         <1           Chromium         ppm         ASTM D5185m         >10         0         <1         0           Nickel         ppm         ASTM D5185m         >10         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0         <1           Aluminum         ppm         ASTM D5185m         >10         0         0         <1           Aluminum         ppm         ASTM D5185m         >10         0         0         <1           Aluminum         ppm         ASTM D5185m         >10         0         0         0         0           Copper         ppm         ASTM D5185m         >10         0         <1         <1         <1           Antimony         ppm         ASTM D5185m         >10         0         <1         <1           Vanadium         ppm         ASTM D5185m         0         0	Water  WEAR METALS  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm ppm	WC Method		current		NONIVIAL
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >20         1         1            Chromium         ppm         ASTM D5185m         >10         0         <1         0           Nickel         ppm         ASTM D5185m         0         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0         <1           Aluminum         ppm         ASTM D5185m         >10         2         4         1         Lead         ppm         ASTM D5185m         >10         0 </th <th>WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium</th> <th>ppm</th> <th></th> <th>&gt;0.1</th> <th></th> <th></th> <th>history2</th>	WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm		>0.1			history2
Iron	Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm	method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >10         0         <1	Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	ppm		limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >10         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0         0           Silver         ppm         ASTM D5185m         0         0         0         <1	Nickel Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium		ASTM D5185m	>20	1	1	<1
Nickel	Titanium Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium		ASTM D5185m	>10	0	<1	0
Description   Description	Silver Aluminum Lead Copper Tin Antimony Vanadium Cadmium	hhiii	ASTM D5185m	>10	0	0	<1
Silver	Aluminum Lead Copper Tin Antimony Vanadium Cadmium		ASTM D5185m			0	0
Aluminum         ppm         ASTM D5185m         >10         2         4         1           Lead         ppm         ASTM D5185m         >10         0         0         0           Copper         ppm         ASTM D5185m         >75         2         1         2           Tin         ppm         ASTM D5185m               Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         histor           Boron         ppm         ASTM D5185m         5         0         0         2           Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         5         0         0         1         <1	Aluminum Lead Copper Tin Antimony Vanadium Cadmium						<1
Lead	Lead Copper Tin Antimony Vanadium Cadmium			>10			
Copper         ppm         ASTM D5185m         >75         2         1         2           Tin         ppm         ASTM D5185m         >10         0         <1	Copper Tin Antimony Vanadium Cadmium						
Tin	Tin Antimony Vanadium Cadmium						
Antimony         ppm         ASTM D5185m	Antimony Vanadium Cadmium						
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         <1         <1           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         5         0         0         2           Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         5         0         0         0           Manganese         ppm         ASTM D5185m         25         0         <1	Vanadium Cadmium			>10	_		
Cadmium         ppm         ASTM D5185m         0         <1         <1           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         5         0         0         2           Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         5         0         <1	Cadmium						
ADDITIVES         method         limit/base         current         history1         history1         history1           Boron         ppm         ASTM D5185m         5         0         0         2           Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         5         0         <1							
Boron         ppm         ASTM D5185m         5         0         0         2           Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         5         0         <1	ADDITIVES	ррпп	ASTIVI DS TOSIII		U	<1	<1
Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         5         0         <1         <1           Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         25         0         <1         <1           Calcium         ppm         ASTM D5185m         200         21         54         58           Phosphorus         ppm         ASTM D5185m         300         316         357         362           Zinc         ppm         ASTM D5185m         370         436         441         406           Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         >20         1         0         0           VISUAL         method         limit/base         current         histor			method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         5         0         <1         <1           Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         25         0         <1         <1           Calcium         ppm         ASTM D5185m         200         21         54         58           Phosphorus         ppm         ASTM D5185m         300         316         357         362           Zinc         ppm         ASTM D5185m         370         436         441         406           Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1         history1           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         20         1         0         0           VISUAL         method         limit/base         current         history1         history1           White Metal         scalar         *Visual         NONE	Boron	ppm	ASTM D5185m			0	
Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         25         0         <1	Barium	ppm	ASTM D5185m	5	0	0	0
Magnesium         ppm         ASTM D5185m         25         0         <1         <1           Calcium         ppm         ASTM D5185m         200         21         54         58           Phosphorus         ppm         ASTM D5185m         300         316         357         362           Zinc         ppm         ASTM D5185m         370         436         441         406           Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1         history2           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         20         1         0         0           VISUAL         method         limit/base         current         history1         history1         history1           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE	Molybdenum	ppm		5	0	<1	<1
Calcium         ppm         ASTM D5185m         200         21         54         58           Phosphorus         ppm         ASTM D5185m         300         316         357         362           Zinc         ppm         ASTM D5185m         370         436         441         406           Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1         history           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         >20         1         0         0           VISUAL         method         limit/base         current         history1         history           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE	Manganese	ppm	ASTM D5185m		0	<1	0
Phosphorus         ppm         ASTM D5185m         300         316         357         362           Zinc         ppm         ASTM D5185m         370         436         441         406           Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1         history           Silicon         ppm         ASTM D5185m         >20         2         2         2         2           Sodium         ppm         ASTM D5185m         >20         1         0         0           VISUAL         method         limit/base         current         history1         history1         history           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE	Magnesium	ppm	ASTM D5185m	25	0	<1	<1
Zinc         ppm         ASTM D5185m         370         436         441         406           Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         2         <1	Calcium	ppm	ASTM D5185m	200	21	54	58
Sulfur         ppm         ASTM D5185m         2500         749         1140         872           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         2         <1	Phosphorus	ppm	ASTM D5185m	300	316	357	362
CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >20         2         2         2           Sodium         ppm         ASTM D5185m         2         <1	Zinc	ppm	ASTM D5185m	370	436	441	406
Silicon         ppm         ASTM D5185m         >20         2         2         2         2           Sodium         ppm         ASTM D5185m         2         <1         <1           Potassium         ppm         ASTM D5185m         >20         1         0         0           VISUAL         method         limit/base         current         history1         history2         Property         NONE	Sulfur	ppm	ASTM D5185m	2500	749	1140	872
Sodium         ppm         ASTM D5185m         2         <1         <1           Potassium         ppm         ASTM D5185m         >20         1         0         0           VISUAL         method         limit/base         current         history1         history1         history1           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE         NONE	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         1         0         0           VISUAL         method         limit/base         current         history1         history1           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE         NONE	Silicon	ppm	ASTM D5185m	>20	2	2	2
VISUAL method limit/base current history1 history White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Sodium	ppm	ASTM D5185m		2	<1	<1
White Metal       scalar       *Visual       NONE       NONE       NONE       NONE         Yellow Metal       scalar       *Visual       NONE       NONE       NONE       NONE         Precipitate       scalar       *Visual       NONE       NONE       NONE       NONE	Potassium	ppm	ASTM D5185m	>20	1	0	0
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONE	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE NONE	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silt 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	Debris		*Visual	NONE	NONE	NONE	NONE
Sand/Dirt scalar *Visual NONE NONE NONE NONE	Sand/Dirt		*\/;		<del></del>		
		scalar	visual	NONE			NONE
		scalar scalar			NONE	NONE	NONE NORML
	Emulsified Water	scalar scalar scalar	*Visual	NORML	NONE NORML	NONE NORML	

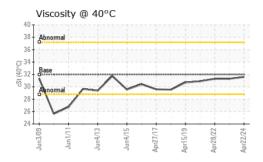
MESIMONTERA - GOLGOLCO

NEG

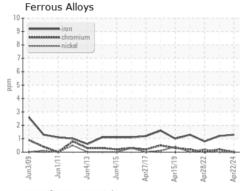
scalar \*Visual

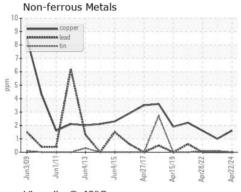


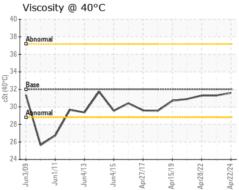
## **OIL ANALYSIS REPORT**



FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	31.6	31.3	31.3
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image











Certificate 12367

Laboratory Sample No.

: WC0917754 Lab Number : 06176363 Unique Number : 11022416 Test Package : FLEET

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 10 May 2024 **Tested** : 13 May 2024

: 13 May 2024 - Wes Davis Diagnosed

**COLORADO SPRINGS FIRE DEPT.** 3667 E. BIJOU ST. COLORADO SPRINGS, CO

US 80911

Contact: JAMES MONTERA jmontera@springsgov.com T: (719)385-7380

\* - 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)

F: (719)385-7382