

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

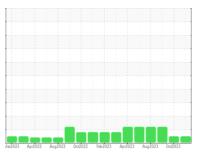
# **NORMAL**

## {UNASSIGNED} P-5220-E (S/N GP 37001)

Component

Pump Fluid

**ROYAL PURPLE SYNDRAULIC 68 (1 GAL)** 





#### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the

#### Fluid Condition

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

Machine Age         hrs         Client Info         17614         17614         17585           Oil Age         hrs         Client Info         1236         1236         1205           Oil Changed         Client Info         N/A         Not Changd         Not Changd           Sample Status         NORMAL         NORMAL         ATTENTION           WEAR METALS         method         limit/base         current         history1         history2           Iron         ASTM D5185m         >90         0         0         6           Chromium         ppm         ASTM D5185m         >5         0         0         0           Nickel         ppm         ASTM D5185m         >3         0         0         0         0           Nilver         ppm         ASTM D5185m         >3         0         0         0         0         0           Aluminum         ppm         ASTM D5185m         >3         0			Aar2022 Apri	2022 Aug2022 Oct2022	Feb2023 Apr2023 Aug2023	Oct2023	
Sample Date   Client Info   01 Nov 2023   02 Oct 2023   22 Aug 2023   Machine Age   hrs   Client Info   17614   17614   17885   17618   1761	SAMPLE INFORM	MATION	method				history2
Machine Age   hrs   Client Info   17614   17614   17585   1296	Sample Number		Client Info		RP0039350	RP0038900	RP0038758
Oil Age         hrs         Client Info         1236         1236         1205         Not Changd         ATTENTION         120         0         0         6         Chromium         ppm ASTM D5185m         >5         0	Sample Date		Client Info		01 Nov 2023	02 Oct 2023	22 Aug 2023
Oil Changed Sample Status         Client Info         N/A         Not Changd NORMAL         Not Changd ATTENTION           WEAR METALS         method         Imit base         current         history1         history2           Iron         ppm         ASTM D5185m         >90         0         0         6           Chromium         ppm         ASTM D5185m         >5         0         0         0           Nickel         ppm         ASTM D5185m         >5         0         0         0           Nickel         ppm         ASTM D5185m         >3         0         0         0           Alluminum         ppm         ASTM D5185m         >3         0         0         0           Lead         ppm         ASTM D5185m         >12         0         0         0           Aluminum         ppm         ASTM D5185m         >9         0         0         0           Copper         ppm         ASTM D5185m         >9         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0	Machine Age	hrs	Client Info		17614	17614	17585
NORMAL   NORMAL   NORMAL   ATTENTION	Oil Age	hrs	Client Info		1236	1236	1205
NORMAL   NORMAL   NORMAL   ATTENTION	Oil Changed		Client Info		N/A	Not Changd	Not Changd
WEAR METALS	•				NORMAL		ATTENTION
Iron	·		method	limit/base	current	historv1	history2
Chromium         ppm         ASTM D5185m         >5         0         0         0           Nickel         ppm         ASTM D5185m         >5         0         0         0           Titanium         ppm         ASTM D5185m         >3         0         0         0           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >7         0         0         0           Lead         ppm         ASTM D5185m         >12         0         0         0           Copper         ppm         ASTM D5185m         >9         0         0         0           Tin         ppm         ASTM D5185m         >9         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0		nnm				•	
Nickel         ppm         ASTM D5185m         >5         0         0         0           Titanium         ppm         ASTM D5185m         >3         0         0         0           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >7         0         0         <1							
Titanium							
Silver							
Aluminum         ppm         ASTM D5185m         >7         0         0         <1           Lead         ppm         ASTM D5185m         >12         0         0         0           Copper         ppm         ASTM D5185m         >30         3         1         ▲ 80           Tin         ppm         ASTM D5185m         9         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Malogesium         ppm         ASTM D5185m         0         0         1         1         1         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4							
Lead         ppm         ASTM D5185m         >12         0         0         0           Copper         ppm         ASTM D5185m         >30         3         1         ▲ 80           Tin         ppm         ASTM D5185m         >9         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Mangaese         ppm         ASTM D5185m         0         0         0         1           Magnesium         ppm         ASTM D5185m         0         0         1         4           Calcium         ppm         ASTM D5185m         0         0         1         4           Phosphorus         ppm         ASTM D5185m         661         669         788							
Copper         ppm         ASTM D5185m         >30         3         1         ▲ 80           Tin         ppm         ASTM D5185m         >9         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         0         0         -1         -1           Calcium         ppm         ASTM D5185m         0         -1         -1         -1           Calcium         ppm         ASTM D5185m         0         -1         -1         -1           Visicon         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549 <td< td=""><th></th><td></td><td></td><td></td><th>-</th><td></td><td></td></td<>					-		
Tin         ppm         ASTM D5185m         >9         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0         1           Magnesium         ppm         ASTM D5185m         0         170         167         44           Phosphorus         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1         <1							
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         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         0         0         <1         <1           Calcium         ppm         ASTM D5185m         0         <1         <1            Phosphorus         ppm         ASTM D5185m         661         669         788            Zinc         ppm         ASTM D5185m         869         897         549            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         0         <1         <1							
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         0         0         -1         -1           Calcium         ppm         ASTM D5185m         0         -1         -1         -1           Phosphorus         ppm         ASTM D5185m         661         669         788         -1 <td< td=""><th></th><td></td><td></td><td>&gt;9</td><th></th><td></td><td></td></td<>				>9			
ADDITIVES					-		
Boron   ppm   ASTM D5185m   0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         0         <1         <1           Calcium         ppm         ASTM D5185m         0         <1         <1           Phosphorus         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1         <1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1         <1           CONTAMINANTS         method         limit/base         current         history1         history2 <td< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         <1           Magnesium         ppm         ASTM D5185m         0         <1         <1           Calcium         ppm         ASTM D5185m         170         167         44           Phosphorus         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1         <1         <1           Sodium         ppm         ASTM D5185m         >20         0         <1         0         <1         <1         <0         <1         <1         <0         <1         <0         <1         <0         <1         <0         <1         <0         <1         <0         <1         <0         <0         <1         <0	Boron	ppm	ASTM D5185m		0	0	0
Manganese         ppm         ASTM D5185m         0         0         <1           Magnesium         ppm         ASTM D5185m         0         <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium         ppm         ASTM D5185m         0         <1         <1           Calcium         ppm         ASTM D5185m         170         167         44           Phosphorus         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium         ppm         ASTM D5185m         170         167         44           Phosphorus         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus         ppm         ASTM D5185m         661         669         788           Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1	Magnesium	ppm	ASTM D5185m		0	<1	<1
Zinc         ppm         ASTM D5185m         869         897         549           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1	Calcium	ppm	ASTM D5185m		170	167	44
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         0         <1	Phosphorus	ppm	ASTM D5185m		661	669	788
Silicon         ppm         ASTM D5185m         >60         0         <1         <1           Sodium         ppm         ASTM D5185m         <1         0         <1         0           Potassium         ppm         ASTM D5185m         >20         0         <1         0           Water         %         ASTM D6304         >.1         0.010         0.012         0.007           ppm Water         ppm         ASTM D6304         >.1         0.010         0.012         0.007           ppm Water         ppm         ASTM D6304         >.1         0.010         0.012         0.007           ppm Water         ppm         ASTM D6304         >.1         0.010         0.012         0.007           ppm Water         ppm         ASTM D6304         >.1         0.010         0.012         0.007           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg K0H/g         ASTM D8045         0.65         0.65         0.66         0.55           VISUAL         method         limit/base         current         history1         history2 <t< td=""><th>Zinc</th><td>ppm</td><td>ASTM D5185m</td><td></td><th>869</th><td>897</td><td>549</td></t<>	Zinc	ppm	ASTM D5185m		869	897	549
Sodium         ppm         ASTM D5185m         <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20	Silicon	ppm	ASTM D5185m	>60	0	<1	<1
Water % ASTM D6304 >.1 0.010 0.012 0.007 ppm Water ppm ASTM D6304 >1000 103.3 127.2 75.1  FLUID DEGRADATION method limit/base current history1 history2  Acid Number (AN) mg KOH/g ASTM D8045 0.65 0.66 0.55  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE NONE NONE NONE NONE  Yellow Metal scalar *Visual NONE NONE NONE NONE NONE  Precipitate scalar *Visual NONE NONE NONE NONE NONE  Silt scalar *Visual NONE NONE NONE NONE NONE  Silt scalar *Visual NONE NONE NONE NONE NONE  Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE  Appearance scalar *Visual NONE NONE NONE NONE NONE  Appearance scalar *Visual NORML NORML NORML NORML  NORML NORML	Sodium	ppm	ASTM D5185m		<1	0	<1
ppm Water ppm ASTM D6304 >1000 103.3 127.2 75.1  FLUID DEGRADATION method limit/base current history1 history2  Acid Number (AN) mg KOH/g ASTM D8045 0.65 0.66 0.55  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE NONE NONE NONE NONE  Yellow Metal scalar *Visual NONE NONE NONE NONE NONE  Precipitate scalar *Visual NONE NONE NONE NONE NONE  Silt scalar *Visual NONE NONE NONE NONE NONE  Silt scalar *Visual NONE NONE NONE NONE NONE  Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE  Appearance scalar *Visual NONE NONE NONE NONE NONE  Appearance scalar *Visual NORML NORML NORML NORML NORML	Potassium	ppm	ASTM D5185m	>20	0	<1	0
FLUID DEGRADATION method limit/base current history1 history2  Acid Number (AN) mg KOH/g ASTM D8045 0.65 0.66 0.55  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE NONE NONE NONE  Yellow Metal scalar *Visual NONE NONE NONE NONE NONE  Precipitate scalar *Visual NONE NONE NONE NONE NONE  Silt scalar *Visual NONE NONE NONE NONE NONE  Debris scalar *Visual NONE 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	Water	%	ASTM D6304	>.1	0.010	0.012	0.007
Acid Number (AN) mg KOH/g ASTM D8045 0.65 0.66 0.55  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE NONE NONE NONE  Yellow Metal scalar *Visual NONE NONE NONE NONE NONE  Precipitate scalar *Visual NONE NONE NONE NONE NONE  Silt scalar *Visual NONE NONE NONE NONE NONE  Debris scalar *Visual NONE NONE NONE NONE NONE  Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE  Appearance scalar *Visual NORML NORML NORML NORML  Odor scalar *Visual NORML NORML NORML NORML	ppm Water	ppm	ASTM D6304	>1000	103.3	127.2	75.1
VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE 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	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
White Metal scalar *Visual NONE NONE 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	Acid Number (AN)	mg KOH/g	ASTM D8045		0.65	0.66	0.55
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	VISUAL		method	limit/base	current	history1	history2
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	White Metal	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	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML	Appearance	scalar		NORML		NORML	NORML
	• •	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water			>.1	NEG	NEG	NEG

**NEG** 

scalar \*Visual

NESubmitted ByNE€am Sur



### **OIL ANALYSIS REPORT**







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

: RP0039350 : 06006417 : 10740179

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 Nov 2023 Diagnosed : 15 Nov 2023 Diagnostician : Don Baldridge

Test Package : IND 2

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)

**TEAM SUR S.A.S.** 

BOGOTA. CO Contact: Team Sur jconde@teamsur.com T: (300)740-0654