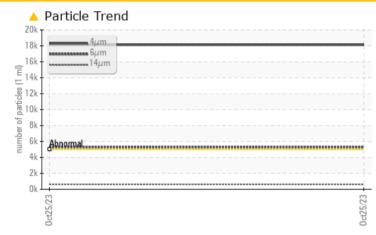


## **PROBLEM SUMMARY**

### PLANT 6 DVT 9 Component

Pump Fluid NOT GIVEN (--- GAL)

#### COMPONENT CONDITION SUMMARY



#### RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please specify the brand and viscosity of the oil on your next sample.

#### PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	 
Particles >4µm	ASTM D7647	>5000	<u> </u>	 
Particles >6µm	ASTM D7647	>1300	<u> </u>	 
Particles >14µm	ASTM D7647	>160	<u> </u>	 
Particles >21µm	ASTM D7647	>40	<u> </u>	 
Particles >38µm	ASTM D7647	>10	<u> </u>	 
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>A</b> 21/20/16	 

Customer Id: HILDAL Sample No.: USP0002962 Lab Number: 05995642 Test Package: IND 2



To manage this report scan the QR code

*To discuss the diagnosis or test data:* Doug Bogart +1 (800)237-1369 x4016 <u>dougb@wearcheckusa.com</u>

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com



RECOMMENDED A	CTIONS			
Action	Status	Date	Done By	Description
Change Filter			?	We recommend you service the filters on this component.
Information Required			?	Please specify the brand, type, and viscosity of the oil on your next sample.

HISTORICAL DIAGNOSIS



## **OIL ANALYSIS REPORT**

Sample Rating Trend

ISO

# PLANT 6 DVT 9

Component Pump Fluid NOT GIVEN (--- GAL)

#### DIAGNOSIS

#### A Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please specify the brand and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is a high amount of particulates 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         Client Info         25 Oct 2023             Machine Age         hrs         Client Info         0             Oil Age         hrs         Client Info         0             Sample Status         Client Info         N/A             WEAR METALS         method         limi/base         current         history1         history2           Iron         ppm         ASTM 05155m         >50         0             Nickel         ppm         ASTM 05155m         >5         0             Innium         ppm         ASTM 05155m         >3         0             Lead         ppm         ASTM 05155m         >12         0             Vanadium         ppm         ASTM 05155m         >12         0             ADDITIVES         method         limi/base         current         history1         history2           Barium         ppm         ASTM 05155m         -11             Adminum         ppm	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         0             Oil Agage         hrs         Client Info         N/A             Sample Status         Client Info         N/A             WEAR METALS         method         limi/base         current         history1         history2           Iron         ppm         ASTM D5165m         >5         0             Nickel         ppm         ASTM D5165m         >3         0             Sliver         ppm         ASTM D5165m         >3         0             Copper         ppm         ASTM D5165m         >3         0             Cadmium         ppm         ASTM D5165m         >3         0             ADDITIVES         method         limi/base         current         history1            ADMI         ppm         ASTM D5165m         >1         0             Cadmium         ppm         ASTM D5165m         0	Sample Number		Client Info		USP0002962		
Oil Age         hrs         Client Info         N/A             Sample Status         Client Info         N/A             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5165m         >50         0             Nickel         ppm         ASTM D5165m         >55         0             Silver         ppm         ASTM D5165m         >57         0             Aluminum         ppm         ASTM D5165m         >7         0             Aluminum         ppm         ASTM D5165m         >7         0             Aluminum         ppm         ASTM D5165m         >7         0             Aluminum         ppm         ASTM D5165m         >9         0             Astm D5165m         9         0              Cadmium         ppm         ASTM D5165m         0             Manaduium	Sample Date		Client Info		25 Oct 2023		
Oil Changed         Client Info         N/A             Sample Status         Image of the status         I	Machine Age	hrs	Client Info		0		
Sample Status         method         imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >90         0             Chromium         ppm         ASTM D5185m         >50         0             Nickel         ppm         ASTM D5185m         >50         0             Silver         ppm         ASTM D5185m         >30         0             Aluminum         ppm         ASTM D5185m         >30         0             Aluminum         ppm         ASTM D5185m         >30         0             Copper         ppm         ASTM D5185m         >30         0             Cadmium         ppm         ASTM D5185m         >30         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0              Magnaese         ppm         ASTM D5185m         0	Oil Age	hrs	Client Info		0		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTN D5185m         >>0             Nickel         ppm         ASTN D5185m         >5         0             Nickel         ppm         ASTN D5185m         >5         0             Silver         ppm         ASTN D5185m         >5         0             Aluminum         ppm         ASTN D5185m         >12         0             Lead         ppm         ASTN D5185m         >12         0             Cadmium         ppm         ASTN D5185m         >10              ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTN D5185m         0             Manganese         ppm         ASTN D5185m         0             Manganese         ppm         ASTN D5185m         0	Oil Changed		Client Info		N/A		
Iron         ppm         ASTM D5185m         >90         0             Nickel         ppm         ASTM D5185m         >5         0             Nickel         ppm         ASTM D5185m         >5         0             Silver         ppm         ASTM D5185m         >3         0             Lead         ppm         ASTM D5185m         >7         0             Lead         ppm         ASTM D5185m         >7         0             Copper         ppm         ASTM D5185m         >12         0             Adamium         ppm         ASTM D5185m         0              ADDITIVES         method         limit/base         current         history1         history2           Barium         ppm         ASTM D5185m         0             Maganese         ppm         ASTM D5185m         0             Maganesium         ppm         ASTM D5185m         38	Sample Status				ABNORMAL		
Chromium         ppm         ASTM D5185m         >5         0             Nickel         ppm         ASTM D5185m         >5         0             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >3         0             Lead         ppm         ASTM D5185m         >12         0             Aluminum         ppm         ASTM D5185m         >12         0             Qandium         ppm         ASTM D5185m         >9         0             Anadium         ppm         ASTM D5185m         0              ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >5         0             Titanium         ppm         ASTM D5185m         >3         0             Sliver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >12         0             Copper         ppm         ASTM D5185m         >12         0             Copper         ppm         ASTM D5185m         >30         0             Cadmium         ppm         ASTM D5185m         0	Iron	ppm	ASTM D5185m	>90	0		
Titanium       ppm       ASTM D5185m       >3       0           Silver       ppm       ASTM D5185m       >3       0           Aluminum       ppm       ASTM D5185m       >7       0           Lead       ppm       ASTM D5185m       >12       0           Copper       ppm       ASTM D5185m       >12       0           Tin       ppm       ASTM D5185m       >12       0           Vanadium       ppm       ASTM D5185m       0            ADDITIVES       method       limit/base       current       history1       history2         Boron       ppm       ASTM D5185m       0            Maganese       ppm       ASTM D5185m       0            Maganese       ppm       ASTM D5185m       <1	Chromium	ppm	ASTM D5185m	>5	0		
Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >7         0             Lead         ppm         ASTM D5185m         >12         0             Copper         ppm         ASTM D5185m         >12         0             Vanadium         ppm         ASTM D5185m         >30         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0              Molybdenum         ppm         ASTM D5185m         0              Magnesium         ppm         ASTM D5185m         0              Sulfur         ppm         ASTM D5185m         <1	Nickel	ppm	ASTM D5185m	>5	0		
Aluminum         ppm         ASTM D5185m         >7         0             Lead         ppm         ASTM D5185m         >12         0             Copper         ppm         ASTM D5185m         >30         0             Vanadium         ppm         ASTM D5185m         >9         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         <1	Titanium	ppm	ASTM D5185m	>3	0		
Lead         ppm         ASTM D5185m         >12         0             Copper         ppm         ASTM D5185m         >30         0             Tin         ppm         ASTM D5185m         >9         0             Vanadium         ppm         ASTM D5185m         9         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         <1	Silver	ppm	ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >30         0             Tin         ppm         ASTM D5185m         >9         0             Vanadium         ppm         ASTM D5185m         >9         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Maganese         ppm         ASTM D5185m         0             Magnesum         ppm         ASTM D5185m         <1	Aluminum	ppm	ASTM D5185m	>7	0		
Copper         ppm         ASTM D5185m         >30         0             Tin         ppm         ASTM D5185m         >9         0             Vanadium         ppm         ASTM D5185m         0              ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         <1	Lead				0		
Tin       ppm       ASTM D5185m       >9       0           Vanadium       ppm       ASTM D5185m       0           ADDITIVES       method       limit/base       current       history1       history2         Boron       ppm       ASTM D5185m       0           ADDITIVES       method       limit/base       current       history1       history2         Boron       ppm       ASTM D5185m       0           Magnases       ppm       ASTM D5185m       0           Magnases       ppm       ASTM D5185m       <1           Calcium       ppm       ASTM D5185m       <1           Magnesium       ppm       ASTM D5185m       <38           Sulfur       ppm       ASTM D5185m       <60       <1           Sulfur       ppm       ASTM D5185m       >60       <1           Sulfur       ppm       ASTM D5185m       >20       <1           Sulfur       ppm <t< td=""><td>Copper</td><td></td><td>ASTM D5185m</td><td>&gt;30</td><td>0</td><td></td><td></td></t<>	Copper		ASTM D5185m	>30	0		
Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Maganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         <1	Tin				-		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         38             Sulfur         ppm         ASTM D5185m         38             Sulfur         ppm         ASTM D5185m         53             Sodium         ppm         ASTM D5185m         >20         <1             Sodium         ppm         ASTM D5185m         >20         <1             Sodium         ppm         ASTM D5185m         >20         <1<	Vanadium				-		
Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         <1	Cadmium		ASTM D5185m				
Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Maganese         ppm         ASTM D5185m         <1	ADDITIVES		method	limit/base	current	history1	history2
Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Maganese         ppm         ASTM D5185m         <1	Boron	ppm	ASTM D5185m		0		
Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         <1	Barium		ASTM D5185m				
Manganese       ppm       ASTM D5185m       0           Magnesium       ppm       ASTM D5185m       <1	Molybdenum		ASTM D5185m		0		
Magnesium       ppm       ASTM D5185m       <1	,		ASTM D5185m		0		
Calcium         ppm         ASTM D5185m         <1             Phosphorus         ppm         ASTM D5185m         38             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         0             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         <1	Magnesium		ASTM D5185m		<1		
Phosphorus         ppm         ASTM D5185m         38             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         53             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >60         <1	Calcium		ASTM D5185m		<1		
ZincppmASTM D5185m0SulfurppmASTM D5185m53CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>60<1					38		
SulfurppmASTM D5185m53CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>60<1	Zinc		ASTM D5185m		0		
Silicon       ppm       ASTM D5185m       >60       <1           Sodium       ppm       ASTM D5185m       0            Potassium       ppm       ASTM D5185m       >20       <1	Sulfur		ASTM D5185m		53		
Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         <1             Water         %         ASTM D6304         >.1         0.003             ppm Water         ppm         ASTM D6304         >.100         34.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         ▲ 18131             Particles >6µm         ASTM D7647         >1300         ▲ 5289             Particles >6µm         ASTM D7647         >160         ▲ 619             Particles >14µm         ASTM D7647         >40         ▲ 246             Particles >38µm         ASTM D7647         >3         2             Particles >71µm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         21/20/16	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         <1             Water         %         ASTM D6304         >.1         0.003             ppm Water         ppm         ASTM D6304         >.1000         34.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         ▲ 18131             Particles >6µm         ASTM D7647         >1300         ▲ 5289             Particles >14µm         ASTM D7647         >160         ▲ 619             Particles >14µm         ASTM D7647         >40         ▲ 246             Particles >38µm         ASTM D7647         >10         ▲ 29             Particles >71µm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         21/20/16             FLUID DEGRADATION         method         limit/base         current         history1	Silicon	ppm	ASTM D5185m	>60	<1		
Water         %         ASTM D6304         >.1         0.003             ppm Water         ppm         ASTM D6304         >1000         34.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         18131             Particles >6µm         ASTM D7647         >1300         5289             Particles >14µm         ASTM D7647         >160         619             Particles >21µm         ASTM D7647         >40         246             Particles >38µm         ASTM D7647         >10         29             Particles >71µm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         21/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2	Sodium	ppm	ASTM D5185m		0		
Water         %         ASTM D6304         >.1         0.003             ppm Water         ppm         ASTM D6304         >1000         34.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         ▲ 18131             Particles >6µm         ASTM D7647         >1300         ▲ 5289             Particles >14µm         ASTM D7647         >160         ▲ 619             Particles >21µm         ASTM D7647         >40         ▲ 246             Particles >38µm         ASTM D7647         >10         ▲ 29             Particles >71µm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         21/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2	Potassium		ASTM D5185m	>20	<1		
FLUID CLEANLINESS       method       limit/base       current       history1       history2         Particles >4µm       ASTM D7647       >5000       ▲ 18131           Particles >6µm       ASTM D7647       >1300       ▲ 5289           Particles >6µm       ASTM D7647       >160       ▲ 619           Particles >14µm       ASTM D7647       >40       ▲ 246           Particles >21µm       ASTM D7647       >10       ▲ 29           Particles >38µm       ASTM D7647       >3       2           Particles >71µm       ASTM D7647       >3       2           Oil Cleanliness       ISO 4406 (c)       >19/17/14       21/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	Water		ASTM D6304	>.1	0.003		
Particles >4µm       ASTM D7647       >5000       ▲ 18131           Particles >6µm       ASTM D7647       >1300       ▲ 5289           Particles >14µm       ASTM D7647       >160       ▲ 619           Particles >14µm       ASTM D7647       >40       ▲ 246           Particles >21µm       ASTM D7647       >10       ▲ 29           Particles >38µm       ASTM D7647       >3       2           Particles >71µm       ASTM D7647       >3       2           Oil Cleanliness       ISO 4406 (c)       >19/17/14       21/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	ppm Water	ppm	ASTM D6304	>1000	34.5		
Particles >6µm       ASTM D7647       >1300       5289           Particles >14µm       ASTM D7647       >160       619           Particles >21µm       ASTM D7647       >40       246           Particles >38µm       ASTM D7647       >10       29           Particles >71µm       ASTM D7647       >3       2           Oil Cleanliness       ISO 4406 (c)       >19/17/14       21/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm       ASTM D7647       >160       ▲ 619           Particles >21μm       ASTM D7647       >40       ▲ 246           Particles >38μm       ASTM D7647       >10       ▲ 29           Particles >71μm       ASTM D7647       >3       2           Oil Cleanliness       ISO 4406 (c)       >19/17/14       ▲ 21/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	Particles >4µm		ASTM D7647	>5000	<b>18131</b>		
Particles >21μm         ASTM D7647         >40         ▲ 246             Particles >38μm         ASTM D7647         >10         ▲ 29             Particles >71μm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         ▲ 21/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >6µm		ASTM D7647	>1300	<u> </u>		
Particles >38μm         ASTM D7647         >10         29             Particles >71μm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         21/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >14µm		ASTM D7647	>160	<u> </u>		
Particles >38μm         ASTM D7647         >10         ▲ 29             Particles >71μm         ASTM D7647         >3         2             Oil Cleanliness         ISO 4406 (c)         >19/17/14         21/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >21µm		ASTM D7647	>40	<u> </u>		
Oil Cleanliness       ISO 4406 (c) >19/17/14 ▲ 21/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	Particles >38µm		ASTM D7647	>10	<u> </u>		
Oil Cleanliness       ISO 4406 (c) >19/17/14 ▲ 21/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	Particles >71µm		ASTM D7647	>3	2		
	Oil Cleanliness						
Acid Number (AN) mg KOH/g ASTM D8045 0.11	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.11		



## **OIL ANALYSIS REPORT**



Contact/Location: Service Manager - HILDAL

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