

## **OIL ANALYSIS REPORT**

Sample Rating Trend

ISO

### DICK LAVY Machine Id DICK LAVY 4964

Component Front Differential Fluid GEAR OIL SAE 75W90 (--- GAL)

#### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please note that this is a corrected copy for laboratory elemental data updates.

#### Wear

All component wear rates are normal.

#### Contamination

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

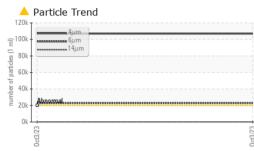
#### Fluid Condition

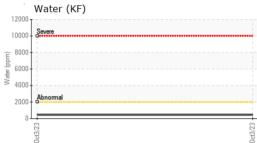
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

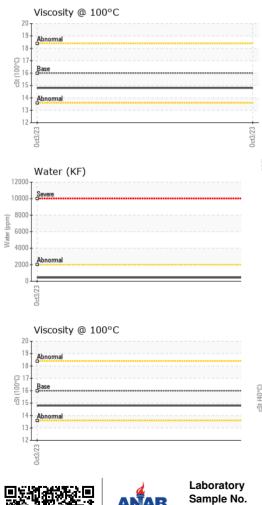
Iron   ppm   ASTM D5185m   >500   18       Chromium   ppm   ASTM D5185m   >10   <1       Nickel   ppm   ASTM D5185m   >10   0       Silver   ppm   ASTM D5185m   >25   0       Aluminum   ppm   ASTM D5185m   >25   0       Aluminum   ppm   ASTM D5185m   >10   <1       Adaminum   ppm   ASTM D5185m   >10   <1       Anadium   ppm   ASTM D5185m   10   <1       Cadmium   ppm   ASTM D5185m   10   <1       ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   12   0       Maganesium   ppm   ASTM D5185m   12	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   mis   Client Info   481       Oil Apage   mis   Client Info   0       Sample Status   Client Info   N/A       WEAR METALS   method   Imit/base   current   history1   history2     Iron   ppm   ASTM D5185m   >500   18       WEAR METALS   method   Imit/base   current   history1   history2     Iron   ppm   ASTM D5185m   >10   -1       Silver   ppm   ASTM D5185m   >10   -1       Aluminum   ppm   ASTM D5185m   >10   -1       Aluminum   ppm   ASTM D5185m   10   -1       Aluminum   ppm   ASTM D5185m   10   -1       Adage   ppm   ASTM D5185m   10   -1	Sample Number		Client Info		WC0843133		
Dil Age   mis   Client Info   0       Dil Changed   Client Info   N/A       Sample Status   Client Info   N/A       WEAR METALS   method   limit/base   current   history1   history2     ron   ppm   ASTM 05185m   >10   <1	Sample Date		Client Info		03 Oct 2023		
Dil Changed   Client Info   N/A       WEAR METALS   method   limit/base   current   history1   history2     ron   ppm   ASTM D5185m   >500   18       UKAR METALS   method   limit/base   current   history2      Kickel   ppm   ASTM D5185m   >10   0       Nickel   ppm   ASTM D5185m   >10   0       Ruminum   ppm   ASTM D5185m   >25   0       Auminum   ppm   ASTM D5185m   >25   0       Copper   ppm   ASTM D5185m   >10   <1	Machine Age	mls	Client Info		481		
Sample Status   method   Imit/base   current   history1   history2     veron   ppm   ASTM D5185m   >500   18       Nickel   ppm   ASTM D5185m   >10   0       Nickel   ppm   ASTM D5185m   >10   0       Silver   ppm   ASTM D5185m   >25   0       Aluminum   ppm   ASTM D5185m   >25   0       Auminum   ppm   ASTM D5185m   >25   0       Auminum   ppm   ASTM D5185m   >100   <1	Oil Age	mls	Client Info		0		
WEAR METALS   method   limit/base   current   history1   history2     ron   ppm   ASTM D5185m   >500   18       Nickel   ppm   ASTM D5185m   >10   0       Nickel   ppm   ASTM D5185m   >10   0       Silver   ppm   ASTM D5185m   >25   0       Auminum   ppm   ASTM D5185m   >25   0       Astm D5185m   >100   <1	Dil Changed		Client Info		N/A		
ron   ppm   ASTM D5185m   >500   18      Nickel   ppm   ASTM D5185m   >10   <1	Sample Status				ABNORMAL		
Ppm   ASTM D5185m   >10   <1       Nickel   ppm   ASTM D5185m   >10   0       Silver   ppm   ASTM D5185m   0        Aluminum   ppm   ASTM D5185m   >25   0       Aduminum   ppm   ASTM D5185m   >25   0       Aduminum   ppm   ASTM D5185m   >25   0       Quadium   ppm   ASTM D5185m   >10   <1	WEAR METALS		method	limit/base	current	history1	history2
Dromium   ppm   ASTM D5185m   >10   <1       Nickel   ppm   ASTM D5185m   >10   0       Silver   ppm   ASTM D5185m   0        Lead   ppm   ASTM D5185m   >25   0       Lead   ppm   ASTM D5185m   >25   0       Astm D5185m   >10   <1	ron	maa	ASTM D5185m	>500	18		
Nickel   ppm   ASTM D5185m   >10   0       Titanium   ppm   ASTM D5185m    0       Silver   ppm   ASTM D5185m   >25   0       Aluminum   ppm   ASTM D5185m   >25   0       Lead   ppm   ASTM D5185m   >25   0       Copper   ppm   ASTM D5185m   >100   <1	Chromium		ASTM D5185m	>10	<1		
Titanium ppm ASTM D5185m <1	Nickel				0		
Silver   ppm   ASTM D5185m   0       Aluminum   ppm   ASTM D5185m   >25   0       Aluminum   ppm   ASTM D5185m   >25   0       Copper   ppm   ASTM D5185m   >100   <1							
Aluminum   ppm   ASTM D5185m   >25   0       Lead   ppm   ASTM D5185m   >25   0       Copper   ppm   ASTM D5185m   >100   <1							
Lead   ppm   ASTM D5185m   >25   0       Copper   ppm   ASTM D5185m   >10   <1				>25			
Copper   ppm   ASTM D5185m   >100   <1      Tin   ppm   ASTM D5185m   >10   <1							
Tin   ppm   ASTM D5185m   >10   <1       Vanadium   ppm   ASTM D5185m   0       ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   400   161       Barium   ppm   ASTM D5185m   200   0       Maganese   ppm   ASTM D5185m   12   0       Maganese   ppm   ASTM D5185m   12   0       Maganese   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   2500   22843       Sulfur   ppm   ASTM D5185m   20   <1							
Vanadium   ppm   ASTM D5185m   <1       Cadmium   ppm   ASTM D5185m   0       ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   200   0       Barium   ppm   ASTM D5185m   200   0       Walyddenum   ppm   ASTM D5185m   12   0       Magnese   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   125   15       Soliton   ppm   ASTM D5185m   22500   22843							
Cadmium   ppm   ASTM D5185m   0       ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   400   161       Barium   ppm   ASTM D5185m   200   0       Maganese   ppm   ASTM D5185m   12   0       Magnese   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   12   0       Sulfur   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   125   15       CONTAMINANTS   method   limit/base   current   history1   history2     Solicon   ppm   ASTM D5185m   >75   8							
Boron   ppm   ASTM D5185m   400   161       Barium   ppm   ASTM D5185m   200   0       Molybdenum   ppm   ASTM D5185m   12   0       Manganese   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   150   54       Calcium   ppm   ASTM D5185m   125   15       Zinc   ppm   ASTM D5185m   22500   22843       Sulfur   ppm   ASTM D5185m   2250   22843       Solicon   ppm   ASTM D5185m   220   21       Potassium   ppm   ASTM D5185m   >20   <1							
Barium   ppm   ASTM D5185m   200   0       Molybdenum   ppm   ASTM D5185m   12   0       Manganese   ppm   ASTM D5185m   12   0       Magnesium   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   150   54       Calcium   ppm   ASTM D5185m   150   1048       Zinc   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   22500   22843       Solium   ppm   ASTM D5185m   >75   8       Solium   ppm   ASTM D5185m   >20   <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum   ppm   ASTM D5185m   12   0       Manganese   ppm   ASTM D5185m   12   0       Magnesium   ppm   ASTM D5185m   12   0       Calcium   ppm   ASTM D5185m   150   54       Calcium   ppm   ASTM D5185m   150   1048       Phosphorus   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   22500   22843       CONTAMINANTS   method   limit/base   current   history1   history2     Solium   ppm   ASTM D5185m   >20   <1	Boron	ppm	ASTM D5185m	400	161		
Marganese ppm ASTM D5185m 6     Magnesium ppm ASTM D5185m 12 0     Calcium ppm ASTM D5185m 150 54     Phosphorus ppm ASTM D5185m 1650 1048     Zinc ppm ASTM D5185m 125 15     Sulfur ppm ASTM D5185m 22500 22843     CONTAMINANTS method limit/base current history1 history2   Silicon ppm ASTM D5185m >75 8     Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	200	0		
Magnesium ppm ASTM D5185m 12 0     Calcium ppm ASTM D5185m 150 54     Phosphorus ppm ASTM D5185m 1650 1048     Zinc ppm ASTM D5185m 125 15     Sulfur ppm ASTM D5185m 22500 22843     CONTAMINANTS method limit/base current history1 history2   Silicon ppm ASTM D5185m >75 8     Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	12	0		
Calcium   ppm   ASTM D5185m   150   54       Phosphorus   ppm   ASTM D5185m   1650   1048       Zinc   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   22500   22843       CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >75   8       Sodium   ppm   ASTM D5185m   >75   8       Sodium   ppm   ASTM D5185m   >20   <1	Manganese	ppm	ASTM D5185m		6		
Phosphorus   ppm   ASTM D5185m   1650   1048       Zinc   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   22500   22843       CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >75   8       Sodium   ppm   ASTM D5185m   >75   8       Sodium   ppm   ASTM D5185m   >20   <1	Magnesium	ppm	ASTM D5185m	12	0		
Zinc   ppm   ASTM D5185m   125   15       Sulfur   ppm   ASTM D5185m   22500   22843       CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >75   8	Calcium	ppm	ASTM D5185m	150	54		
SulfurppmASTM D5185m2250022843CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>758SodiumppmASTM D5185m>758PotassiumppmASTM D5185m>20<1	Phosphorus	ppm	ASTM D5185m	1650	1048		
CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >75   8		ppm	ASTM D5185m	125	15		
Silicon ppm ASTM D5185m >75 8     Sodium ppm ASTM D5185m 5      Potassium ppm ASTM D5185m >20 <1	Sulfur	ppm	ASTM D5185m	22500	22843		
Sodium   ppm   ASTM D5185m   5       Potassium   ppm   ASTM D5185m   >20   <1	CONTAMINANTS	6	method	limit/base	current	history1	history2
Potassium   ppm   ASTM D5185m   >20   <1       Water   %   ASTM D6304   >.2   0.043       opm Water   ppm   ASTM D6304   >.20   436.4       FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   >20000   ▲ 106897       Particles >6µm   ASTM D7647   >5000   ▲ 22828       Particles >1µm   ASTM D7647   >640   131       Particles >1µm   ASTM D7647   >160   12       Particles >38µm   ASTM D7647   >10   0       Particles >71µm   ASTM D7647   >10   0       Di Cleanliness   ISO 4406 (c)   >21/19/16   24/22/14       FLUID DEGRADATION   method   limit/base   current   history1 <t< td=""><td>Silicon</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;75</td><td>8</td><td></td><td></td></t<>	Silicon	ppm	ASTM D5185m	>75	8		
Water % ASTM D6304 >.2 0.043     opm Water ppm ASTM D6304 >2000 436.4     FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >20000 ▲ 106897     Particles >6µm ASTM D7647 >5000 ▲ 22828     Particles >14µm ASTM D7647 >640 131     Particles >14µm ASTM D7647 >160 12     Particles >21µm ASTM D7647 >40 1     Particles >38µm ASTM D7647 >10 0     Particles >71µm ASTM D7647 >10 0     Oil Cleanliness ISO 4406 (c) >21/19/16 24/22/14     FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		5		
ppm Water   ppm   ASTM D6304   >2000   436.4       FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   >20000   106897       Particles >6µm   ASTM D7647   >5000   22828       Particles >14µm   ASTM D7647   >640   131       Particles >14µm   ASTM D7647   >160   12       Particles >21µm   ASTM D7647   >40   1       Particles >38µm   ASTM D7647   >10   0       Particles >71µm   ASTM D7647   >10   0       Oil Cleanliness   ISO 4406 (c)   >21/19/16   24/22/14       FLUID DEGRADATION   method   limit/base   current   history1   history2	Potassium	ppm	ASTM D5185m	>20	<1		
FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >20000 ▲ 106897     Particles >6µm ASTM D7647 >5000 ▲ 22828     Particles >6µm ASTM D7647 >640 131     Particles >14µm ASTM D7647 >640 131     Particles >21µm ASTM D7647 >160 12     Particles >21µm ASTM D7647 >40 1     Particles >38µm ASTM D7647 >40 1     Particles >71µm ASTM D7647 >10 0     Oil Cleanliness ISO 4406 (c) >21/19/16 24/22/14     FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>.2	0.043		
Particles >4μm ASTM D7647 >20000 ▲ 106897     Particles >6μm ASTM D7647 >5000 ▲ 22828     Particles >14μm ASTM D7647 >640 131     Particles >14μm ASTM D7647 >640 131     Particles >21μm ASTM D7647 >160 12     Particles >38μm ASTM D7647 >40 1     Particles >38μm ASTM D7647 >10 0     Particles >71μm ASTM D7647 >10 0     Oil Cleanliness ISO 4406 (c) >21/19/16 24/22/14     FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>2000	436.4		
Particles >6µm ASTM D7647 >5000 22828     Particles >14µm ASTM D7647 >640 131     Particles >14µm ASTM D7647 >640 131     Particles >21µm ASTM D7647 >160 12     Particles >38µm ASTM D7647 >40 1     Particles >38µm ASTM D7647 >40 1     Particles >71µm ASTM D7647 >10 0     Oil Cleanliness ISO 4406 (c) >21/19/16 24/22/14     FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >640 131     Particles >21μm ASTM D7647 >160 12      Particles >38μm ASTM D7647 >40 1      Particles >38μm ASTM D7647 >40 1      Particles >71μm ASTM D7647 >10 0      Dil Cleanliness ISO 4406 (c) >21/19/16 24/22/14     FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>20000	<b>106897</b>		
Particles >21μm   ASTM D7647   >160   12       Particles >38μm   ASTM D7647   >40   1        Particles >38μm   ASTM D7647   >40   1        Particles >71μm   ASTM D7647   >10   0        Oil Cleanliness   ISO 4406 (c)   >21/19/16   24/22/14       FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >6µm		ASTM D7647	>5000	<u> </u>		
Particles >38μm   ASTM D7647   >40   1       Particles >71μm   ASTM D7647   >10   0       Oil Cleanliness   ISO 4406 (c)   >21/19/16   24/22/14       FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >14µm		ASTM D7647	>640	131		
Particles >71μm   ASTM D7647   >10   0       Oil Cleanliness   ISO 4406 (c)   >21/19/16   24/22/14       FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >21µm		ASTM D7647	>160	12		
Oil Cleanliness ISO 4406 (c) >21/19/16 ▲ 24/22/14     FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>40	1		
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>10	0		
	Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>A</b> 24/22/14		
Acid Number (AN) mg KOH/g ASTM D8045 2.00 2.89	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	2.00	2.89		



# **OIL ANALYSIS REPORT**







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ed3/23	VISUAL White Metal Yellow Metal Precipitate Silt	scalar scalar scalar	method *Visual *Visual	limit/base NONE NONE	NONE	history1	history2
ed3/23	Yellow Metal Precipitate	scalar			-		
CZ/EP9	Precipitate		*Visual	NONE	NONE		
(cd)/23		scalar			NONE		
(cg)/23	Silt		*Visual	NONE	NONE		
cd3/23		scalar	*Visual	NONE	LIGHT		
lot3/23 -	Debris	scalar	*Visual	NONE	NONE		
0ct3/23	Sand/Dirt	scalar	*Visual	NONE	NONE		
Ő	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	IES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445	109	100		
	Visc @ 100°C	cSt		16.0	14.8		
	Viscosity Index (VI)	Scale	ASTM D2270	157	154		
0ct3/23	SAMPLE IMAGES	5	method	limit/base	current	history1	history2
	Color				nus FAAR Date Lev	no image	no image
	Bottom					no image	no image
	GRAPHS						
	Ferrous Alloys				🔺 Particle Count		
2 0ct3/23	iron			491,5	Severe		T <sup>21</sup>
1	5 - chromium			122,0	180		-2
톱 1				30,1	20 Abnormal		-2
	5-						
	0ct3/23			0ct3/23 per 1 ml)	100	•	-11
	Octi			ber Oct	120-		-1
	Non-ferrous Metals	5		rticles	80	<b>`</b>	-11
1	<sup>10</sup> T			of ba		$\backslash$	
	8 - copper			0ct3/23 number of particles (per 1 ml)	20 -		1
u dd	4				30-		-1
	2				8-		-1
	 ∑		****	23	2+		
	0ct3/23			0ct3/2	-		
				_	0. 4μ 6μ	14µ 21µ	38µ 71µ
14	Viscosity @ 40°C				Acid Number		
	Abnormal			6/HOX	4.0 Abnormal		
() 12 0 0 0 0	Base			Bu J	Base		
र्ड 10	00			mber	4.0 3.0 + Abnormal 2.0 + Base 1.0 - Abnormal 0.0	******	
8	Abnormal			id Nu			
0	0ct3/23			3/23	0ct3/23 + 0.0		
	0			0ct3/23	Octé		
Sample No. : Lab Number : Unique Number :	: 06013263 E : 10752407 E : MOB 2 ( Additional T	Received Diagnose Diagnost Tests: KF	l : 20 M ed : 30 M ician : Dou , KV100, Prt	Nov 2023 Nov 2023 Ig Bogart Count, VI )			TE PLAINS F RYTOWN, N US 105 A CREDARC