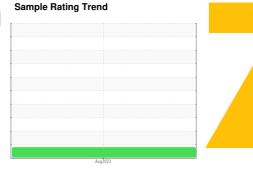


# **FUEL REPORT**

NO UNIT WC0827604

Component **Diesel Fuel** 

No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)



# ISO

## **DIAGNOSIS**

#### Recommendation

Laboratory test indicate that this fuel is suitable for use and meets all test requirements. We advise that you filter this fluid before use. We recommend you service the filters on this component. Resample at the next service interval to monitor.

#### Corrosion

{not applicable}

### Contaminants

There is a light amount of silt (particulates < 14 microns in size) present in the fuel. The water content is negligible.

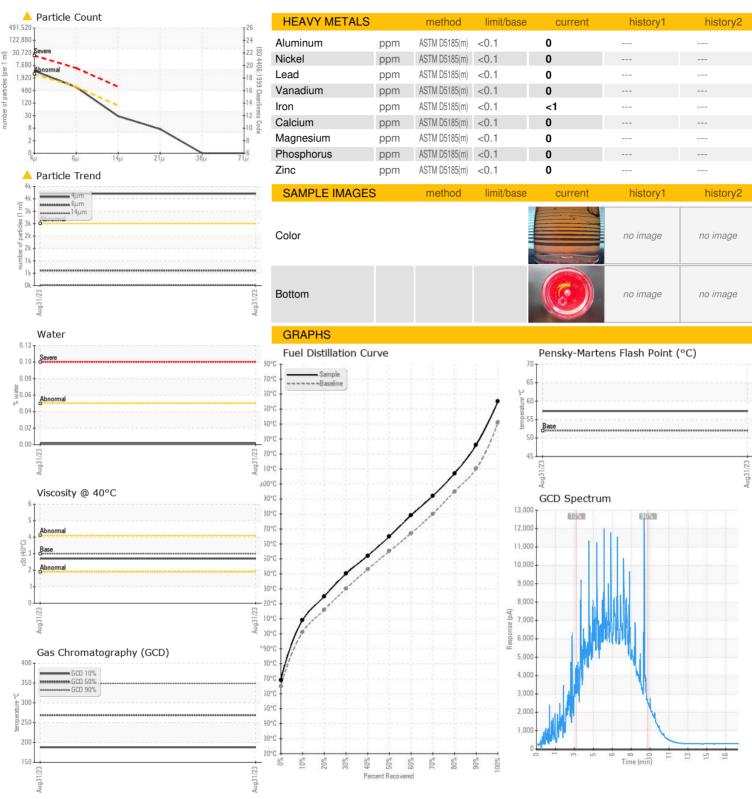
### **Fuel Condition**

All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type B).

SAMPLE INFORMATION         method         limit/base         current         history1         history2           Sample Number         Client Info         31 Aug 2023             Sample Date         Client Info         0             Machine Age         hrs         Client Info         0            Sample Status         Client Info         0             PHYSICAL PROPERTIES         method         limilubase         current         history1         history2           Specific Gravity         ASTM 072190         3.0         2.7             Visc @ 40°C         cst         ASTM 072190         3.0         2.7             Visc @ 40°C         cst         ASTM 072190         3.0         2.7             Sulfur         ppm         ASTM 072810         3.0         2.7             Sulfur         ppm         ASTM 072810         3.0         2.7             Sulfur         ppm         ASTM 072810         3.0         2.7             Sulfur         pp	R) ( GAL)				Aug2023		
Sample Date         Client Info         31 Aug 2023	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Date Machine Age         hrs         Client Info         0             ATTENTION             PHYSICAL PROPERTIES         method         limilubase         current         history1         history2           Specific Gravity         ASTM D1289°         0.339         0.844             Fuel Color         text         Visual Screen*         Yillow         Pink             Fuel Color         text         ASTM D2887         252         57.3             SULFUR CONTENT         method         limitubase         current         history1         history2           Distill Foint         °C         ASTM D2887*         165         169             Distill Point         °C         ASTM D2887*         20	Sample Number		Client Info		WC0827604		
Machine Age Sample Status         hrs         Client Info         Q <t< th=""><th></th><th></th><th>Client Info</th><th></th><th>31 Aug 2023</th><th></th><th></th></t<>			Client Info		31 Aug 2023		
PHYSICAL PROPERTIES   method   limit/base   current   history1   history2		hrs			_		
Specific Gravity   ASTM D1298'   0.839   0.844	Sample Status				ATTENTION		
Fuel Color	PHYSICAL PROP	ERTIES	method	limit/base	current	history1	history2
Fuel Color         text         Visual Screen*         Yillow         Pink             Visc @ 40°C         cSt         ASTM D7215**         52         57.3             Pensky-Martens Flash Point         °C         ASTM D7215**         52         57.3             SUlfur         ppm         ASTM D5185(m)         10         9             DISTILLATION         method         limit/base         current         history1         history2           Initial Boiling Point         °C         ASTM D2887*         165         169             5% Distillation Point         °C         ASTM D2887*         201         299             15% Distill Point         °C         ASTM D2887*         217             20% Distill Point         °C         ASTM D2887*         216         225             30% Distill Point         °C         ASTM D2887*         243         252             50% Distill Point         °C         ASTM D2887*         267         279	Specific Gravity		ASTM D1298*	0.839	0.844		
Pensky-Martens Flash Point         °C         ASTM D7215*         52         57.3             SULFUR CONTENT         method         limit/base         current         history1         history2           Sulfur         ppm         ASTM D2887*         10         9             DISTILLATION         method         limit/base         current         history1         history2           Initial Boiling Point         °C         ASTM D2887*         198             5% Distillation Point         °C         ASTM D2887*         201         209             15% Distillation Point         °C         ASTM D2887*         216         225             20% Distill Point         °C         ASTM D2887*         216         225             30% Distill Point         °C         ASTM D2887*         267         279             60% Distill Point         °C         ASTM D2887*         280         292             70% Distill Point         °C         ASTM D2887*         295         307	•	text	Visual Screen*	Yllow	Pink		
SULFUR CONTENT         method         limit/base         current         history1         history2           Sulfur         ppm         ASTM D5185(m)         10         9             DISTILLATION         method         limit/base         current         history1         history2           Initial Boiling Point         °C         ASTM D2887*         165         169             10% Distill Point         °C         ASTM D2887*         201         209             15% Distillation Point         °C         ASTM D2887*         217             20% Distill Point         °C         ASTM D2887*         216         225             30% Distill Point         °C         ASTM D2887*         230         240             40% Distill Point         °C         ASTM D2887*         243         252             50% Distill Point         °C         ASTM D2887*         280         292             80% Distill Point         °C         ASTM D2887*         280         292             80%	Visc @ 40°C	cSt	ASTM D7279(m)	3.0	2.7		
DISTILLATION	Pensky-Martens Flash Point	°C	ASTM D7215*	52	57.3		
DISTILLATION	SULFUR CONTE	NT	method	limit/base	current	history1	history2
Initial Boiling Point   °C   ASTM D2887'   165   169	Sulfur	ppm	ASTM D5185(m)	10	9		
5% Distill Point °C ASTM D2887' 201 209 ··· 1 15% Distill Point °C ASTM D2887' 201 209 ··· 1 15% Distill Point °C ASTM D2887' 216 225 ··· 1 20% Distill Point °C ASTM D2887' 216 225 ··· 1 20% Distill Point °C ASTM D2887' 216 225 ··· 1 30% Distill Point °C ASTM D2887' 243 252 ··· 1 50% Distill Point °C ASTM D2887' 255 265 ··· 1 50% Distill Point °C ASTM D2887' 267 279 ··· 1 50% Distill Point °C ASTM D2887' 280 292 ··· 1 50% Distill Point °C ASTM D2887' 280 292 ··· 1 50% Distill Point °C ASTM D2887' 280 292 ··· 1 55% Distill Point °C ASTM D2887' 316 ··· 1 55% Distill Point °C ASTM D2887' 310 326 ··· 1 55% Distill Point °C ASTM D2887' 310 326 ··· 1 55% Distill Point °C ASTM D2887' 310 326 ··· 1 55% Distill Point °C ASTM D2887' 341 355 ··· 1 57% Distill Point °C ASTM D2887' 341 355 ··· 1 57% Distill Point °C ASTM D2887' 341 355 ··· 1 57% Distill Point °C ASTM D2887' 341 355 ··· 1 57% Distill Point °C ASTM D2887' 341 355 ··· 1 57% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 341 355 ··· 1 58% Distill Point °C ASTM D2887' 301 326 ··· 1 59% Distill Point °C ASTM D2887' 301 326 ··· 1 59% Distill Point °C ASTM D2887' 301 326 ··· 1 59% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2887' 301 326 ··· 1 50% Distill Point °C ASTM D2	DISTILLATION		method	limit/base	current	history1	history2
5% Distillation Point	Initial Boiling Point	°C	ASTM D2887*	165	169		
15% Distillation Point °C ASTM D2887' 216 225		°C	ASTM D2887*		198		
20% Distill Point	10% Distill Point	°C	ASTM D2887*	201	209		
30% Distill Point	15% Distillation Point	°C	ASTM D2887*		217		
40% Distill Point  °C  ASTM D2887' 243 252	20% Distill Point	°C	ASTM D2887*	216	225		
50% Distill Point °C ASTM D2887* 255 265	30% Distill Point	°C	ASTM D2887*	230	240		
60% Distill Point	40% Distill Point	°C	ASTM D2887*	243	252		
70% Distill Point   °C   ASTM D2887'   280   292       80% Distill Point   °C   ASTM D2887'   295   307       85% Distillation Point   °C   ASTM D2887'   316       90% Distill Point   °C   ASTM D2887'   310   326       95% Distillation Point   °C   ASTM D2887'   340       95% Distillation Point   °C   ASTM D2887'   341   355       95% Distillation Point   °C   ASTM D2887'   341   355       95% Distillation Point   °C   ASTM D2887'   341   355       95% DISTILLATION QUALITY   method   limit/base   current   bistory1   bistory2   API Gravity   ASTM D1298'   37.7   36       95% DISTILLATION QUALITY   method   limit/base   current   bistory1   bistory2   ASTM D4737'   <40.0   48	50% Distill Point	°C	ASTM D2887*	255	265		
80% Distill Point         °C         ASTM D2887*         295         307             85% Distillation Point         °C         ASTM D2887*         316             90% Distill Point         °C         ASTM D2887*         340             95% Distillation Point         °C         ASTM D2887*         341         355             Final Boiling Point         °C         ASTM D2887*         341         355             IGNITION QUALITY         method         limit/base         current         history1         history2           API Gravity         ASTM D1298*         37.7         36             Cetane Index         ASTM D4737*         <40.0	60% Distill Point	°C	ASTM D2887*	267	279		
85% Distillation Point °C ASTM D2887* 316 90% Distill Point °C ASTM D2887* 310 326 95% Distillation Point °C ASTM D2887* 340 95% Distillation Point °C ASTM D2887* 341 355 95% D1998* 37.7 36 95% D1998* 37.7	70% Distill Point	°C	ASTM D2887*	280	292		
90% Distill Point °C ASTM D2887* 310 326 95% Distillation Point °C ASTM D2887* 340 95% Distillation Point °C ASTM D2887* 341 355 95% Distillation Point °C ASTM D1298* 37.7 366 95% Distillation Point °C ASTM D4737* <40.0 48 95% Distillation Point °C ASTM D4737* <40.0 48 95% Distillation Point °C ASTM D5185(m) <1.0 0 95% Distillation Point °C ASTM D5185(m) <1.0 0 95% Distillation Point °C ASTM D5185(m) <0.1 0 95% Distillation Point °C ASTM D5185(m) 95% Distillation Point °C ASTM D51	80% Distill Point	°C	ASTM D2887*	295	307		
95% Distillation Point °C ASTM D2887* 341 355 Final Boiling Point °C ASTM D2887* 341 355	85% Distillation Point	°C	ASTM D2887*		316		
Final Boiling Point °C ASTM D2887* 341 355	90% Distill Point	°C	ASTM D2887*	310	326		
IGNITION QUALITY   method   limit/base   current   history1   history2	95% Distillation Point	°C	ASTM D2887*		340		
API Gravity Cetane Index  ASTM D1298* 37.7  ASTM D4737* <40.0  48   CONTAMINANTS  method limit/base current history1 history2  Silicon ppm ASTM D5185(m) <1.0  Sodium ppm ASTM D5185(m) <0.1  Potassium ppm ASTM D5185(m) <0.1  Water % ASTM D6304* <0.05  ppm ASTM D6304* <500  22.4   FLUID CLEANLINESS  method limit/base current history1 history2  Particles >4μm  ASTM D647 >2500  ASTM D647 >640  Bastm D7647 >20  ASTM D7647 >40  ASTM D7647 >20  ASTM D7647 >40  ASTM D7647 >40  ASTM D7647 >40  ASTM D7647 >40  Particles >38μm  ASTM D7647 >4  ASTM D	Final Boiling Point	°C	ASTM D2887*	341	355		
Cetane Index         ASTM D4737*         <40.0	IGNITION QUALIT	Υ	method	limit/base	current	history1	history2
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         <1.0	API Gravity		ASTM D1298*	37.7	36		
Silicon         ppm         ASTM D5185(m)         <1.0         0             Sodium         ppm         ASTM D5185(m)         <0.1	Cetane Index		ASTM D4737*	<40.0	48		
Sodium         ppm         ASTM D5185(m)         <0.1         0             Potassium         ppm         ASTM D5185(m)         <0.1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185(m)         <0.1         <1             Water         %         ASTM D6304*         <0.05         0.002             ppm Water         ppm         ASTM D6304*         <500         22.4             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >2500         3708             Particles >6μm         ASTM D7647         >640         608             Particles >14μm         ASTM D7647         >80         25             Particles >21μm         ASTM D7647         >20         6             Particles >38μm         ASTM D7647         >4         0             Particles >71μm         ASTM D7647         >3         0	Silicon	ppm	ASTM D5185(m)	<1.0	0		
Water         %         ASTM D6304*         <0.05         0.002             ppm Water         ppm         ASTM D6304*         <500         22.4             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >2500         3708             Particles >6μm         ASTM D7647         >640         608             Particles >14μm         ASTM D7647         >80         25             Particles >21μm         ASTM D7647         >20         6             Particles >38μm         ASTM D7647         >4         0             Particles >71μm         ASTM D7647         >3         0	Sodium	ppm	ASTM D5185(m)	< 0.1	0		
ppm Water         ppm         ASTM D6304*         <500         22.4             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >2500         3708             Particles >6μm         ASTM D7647         >640         608             Particles >14μm         ASTM D7647         >80         25             Particles >21μm         ASTM D7647         >20         6             Particles >38μm         ASTM D7647         >4         0             Particles >71μm         ASTM D7647         >3         0	Potassium	ppm	ASTM D5185(m)	<0.1	<1		
FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >2500         ▲ 3708             Particles >6μm         ASTM D7647         >640         608             Particles >14μm         ASTM D7647         >80         25             Particles >21μm         ASTM D7647         >20         6             Particles >38μm         ASTM D7647         >4         0             Particles >71μm         ASTM D7647         >3         0	Water	%	ASTM D6304*	< 0.05			
Particles >4μm       ASTM D7647       >2500       ▲ 3708           Particles >6μm       ASTM D7647       >640       608           Particles >14μm       ASTM D7647       >80       25           Particles >21μm       ASTM D7647       >20       6           Particles >38μm       ASTM D7647       >4       0           Particles >71μm       ASTM D7647       >3       0	ppm Water	ppm	ASTM D6304*	<500	22.4		
Particles >6μm       ASTM D7647       >640       608           Particles >14μm       ASTM D7647       >80       25           Particles >21μm       ASTM D7647       >20       6           Particles >38μm       ASTM D7647       >4       0           Particles >71μm       ASTM D7647       >3       0	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Particles >4µm		ASTM D7647	>2500	<b>▲</b> 3708		
Particles >21μm       ASTM D7647       >20       6           Particles >38μm       ASTM D7647       >4       0           Particles >71μm       ASTM D7647       >3       0	Particles >6µm		ASTM D7647	>640	608		
Particles >38μm         ASTM D7647         >4         0             Particles >71μm         ASTM D7647         >3         0	Particles >14μm		ASTM D7647	>80	25		
Particles >71μm   ASTM D7647   >3   <b>0</b>	Particles >21µm		ASTM D7647	>20	6		
	Particles >38μm		ASTM D7647	>4	0		
Oil Cleanliness ISO 4406 (c) >18/16/13 🔺 19/16/12	Particles >71μm		ASTM D7647	>3	0		
	Oil Cleanliness		ISO 4406 (c)	>18/16/13	<u> </u>		



# **FUEL REPORT**





CALA ISO 17025:2017 Accredited

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

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0827604

: 02580143 : 5633203

Received : 01 Sep 2023 Diagnosed

: 05 Sep 2023 Diagnostician : Kevin Marson

Test Package : FUEL ( Additional Tests: CC Flash, GC-PercFuel, PrtCount ) To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

KOOY BROS. 1919 WILSON AVE

TORONTO, ON **CA M9M 1A9** Contact: WILL will@kooybros.com T: (905)960-4030

F: (416)242-6710