P18-1
BLUE-MAR

DAVE'S DIESEL REPAIR

Lubricant Analysis Report

North America: +1-888-655-7415

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: DDR001-0362-0000	Component ID: 143 E	Tracking Number: 24351U48388
Company Name: DEEP CREEK TRUCKING INC	Secondary ID: 2004 KENWORTH W900	Lab Number: E-036767
Contact: IDDON JEFFREYS	Component Type: DIESEL ENGINE	Lab Location: Edmonton
Address: PO BOX 660	Manufacturer: CATERPILLAR	Data Analyst: ZXH
SANGUDO, AB T0E 2A0 CA	Model: C15 ACERT	Sampled: 21-Oct-2025
Phone Number: 780-305-1302	Application: O-T-R TRUCKING	Received: 28-Oct-2025
	Sump Capacity:	Completed: 31-Oct-2025

Filter Information	Miscellaneous Information	Product Information
Filter Type: Information Requested		Product Manufacturer: SHELL
Micron Rating: 0		Product Name: ROTELLA T4 TRIPLE PROTECTION
		Viscosity Grade: SAE 15W40

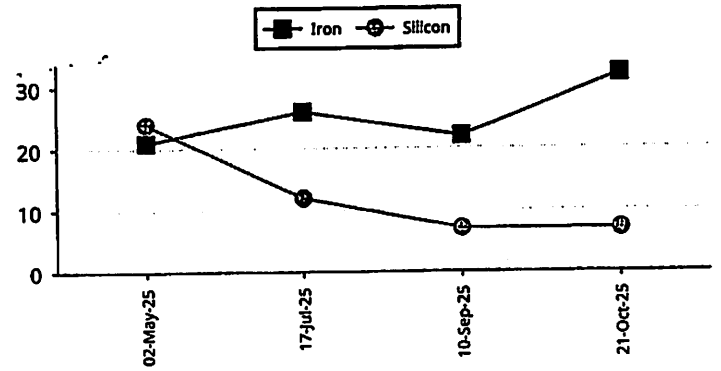
Comments: Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Chrome is at a MINOR LEVEL and is possibly coming from piston ring plating. Please provide this units sump capacity with next sample. Unit hours/miles/kilometers not provided for this sample. Lubricant and filter change acknowledged.

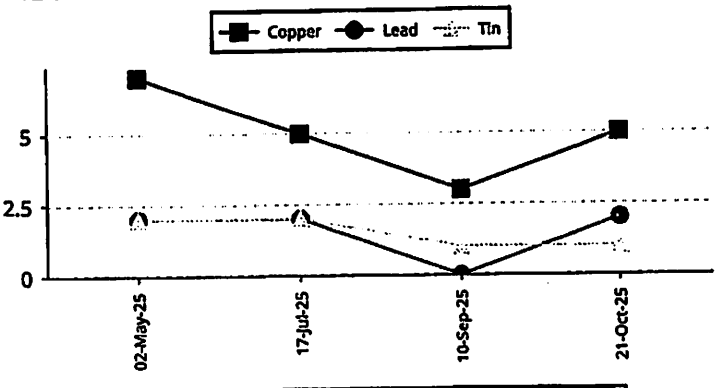
	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)					
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	21	1	0	0	7	2	2	0	0	0	24	6	6	0	14	0	0	0	95	131	2103	0	928	1143
2	26	1	0	1	5	2	2	0	0	0	12	4	8	0	3	0	0	0	96	31	2370	0	992	1194
3	22	1	0	2	3	0	1	0	0	0	7	2	9	0	0	0	0	0	119	15	2382	0	1062	1203
4	32	2	0	1	5	2	1	0	0	0	7	3	8	0	2	0	0	0	112	29	2275	0	1032	1236

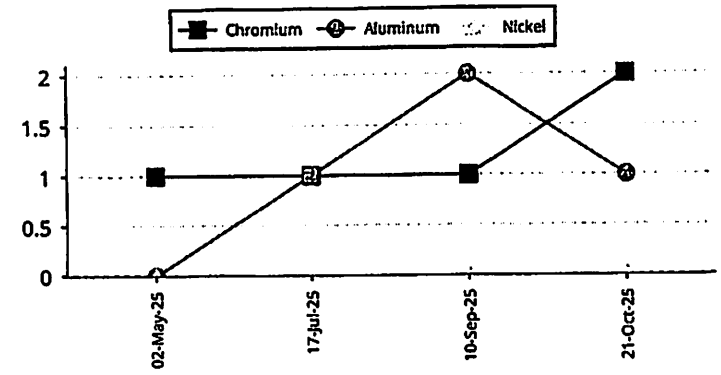
	Sample Information							Contaminants			Fluid Properties					
Sample #	Date Sampled	Date Received	Lube Time km	Unit Time h	Lube Change	Lube Added L	Filter Change	Fuel Dilution %	Soot %	Water %	Viscosity 40°C cSt	Viscosity 100 °C cSt	Acid Number mg KOH / g	Base No. D4739 mg KOH / g	Oxidation abs / cm	Nitration abs / 0.1mm
1	02-May-2025	06-May-2025	0	581455	Yes	2	Yes	<2 - Estimate	<.1	<.1 - FTIR		13.4		5.00		
2	17-Jul-2025	28-Jul-2025	220	0	Yes	2	Yes	<2 - Estimate	0.2 - E2412	<.1 - FTIR		14.0		4.80		
3	10-Sep-2025	15-Sep-2025	629410	200	Yes	1	Yes	<2 - Estimate	0.2 - E2412	<.1 - FTIR		13.9		5.38		
4	21-Oct-2025	28-Oct-2025	651447	0	Yes	0	Yes	<2 - Estimate	.2 - E2412	<.1 - FTIR		14.0		4.80		

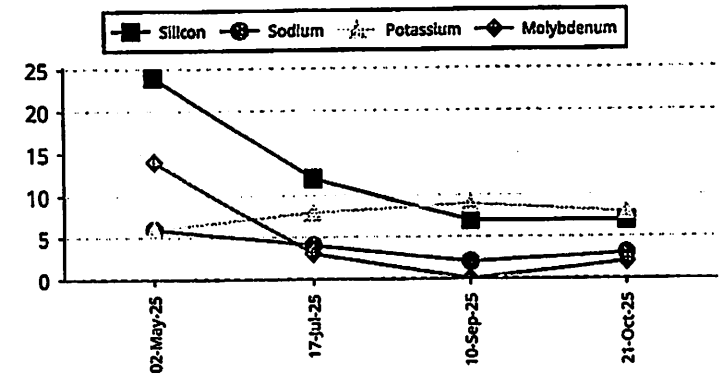
	Particle Count (particles/mL)									Additional Testing
Sample #	ISO Code Based On 4/6/14	> 4 particles / mL	> 6 particles / mL	> 10 particles / mL	> 14 particles / mL	> 21 particles / mL	> 38 particles / mL	> 70 particles / mL	> 100 particles / mL	Test Method
1	/ /									
2	/ /									
3	/ /									
4	/ /									

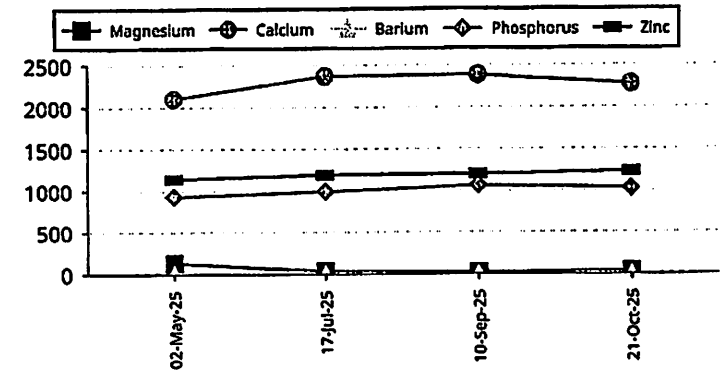
Historical Comments	1	Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Silicon is at a MINOR LEVEL; SILICON sources can be abrasives (dirt, Alumina Silica), seals and gasket material, lube additive or lube supplement, and/or environmental contaminant; Tin is at a MINOR LEVEL; Tin may be coming from piston flashing, bearing overlay, bronze alloy (usually in combination with copper), lubricant additive, or from a Babbitt material in conjunction with copper and lead. LUBRICANT TIME was not provided for this sample.
	2	Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Tin is at a MINOR LEVEL; Tin may be coming from piston flashing, bearing overlay, bronze alloy (usually in combination with copper), lubricant additive, or from a Babbitt material in conjunction with copper and lead. Unit hours/miles/kilometers not provided for this sample.
	3	Data indicates no abnormal findings. Resample at normal interval. Your note was taken into consideration.

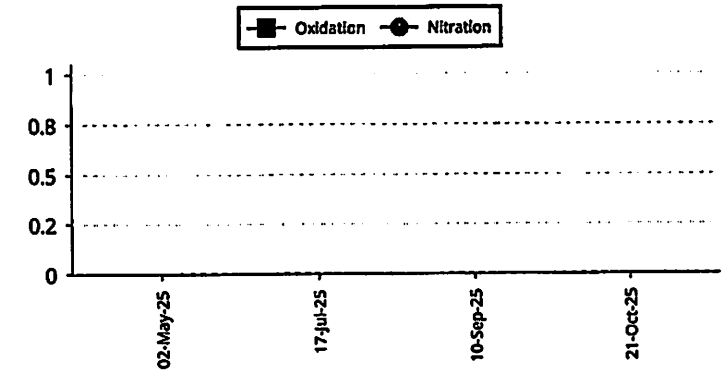

Iron
Silicon
30
20
10
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Copper
Lead
Tin
5
2.5
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Chromium
Aluminum
Nickel
2
1.5
1
0.5
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Silicon
Sodium
Potassium
Molybdenum
25
20
15
10
5
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Magnesium
Calcium
Barium
Phosphorus
Zinc
2500
2000
1500
1000
500
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Oxidation
Nitration
1
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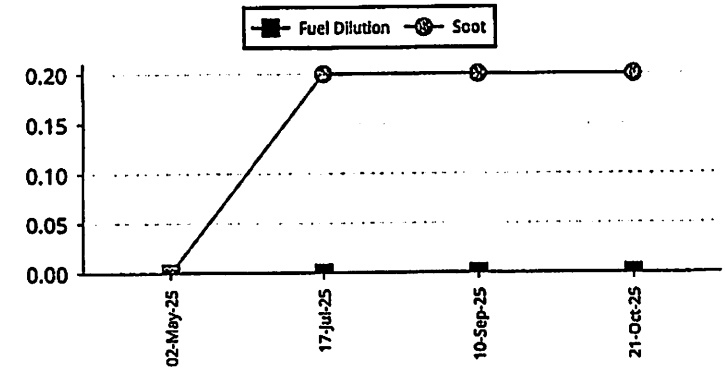
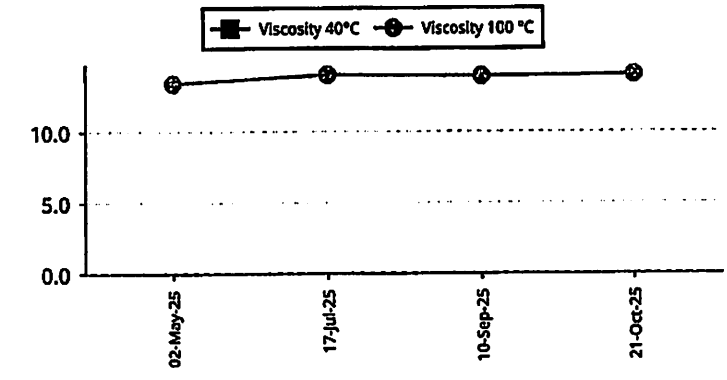
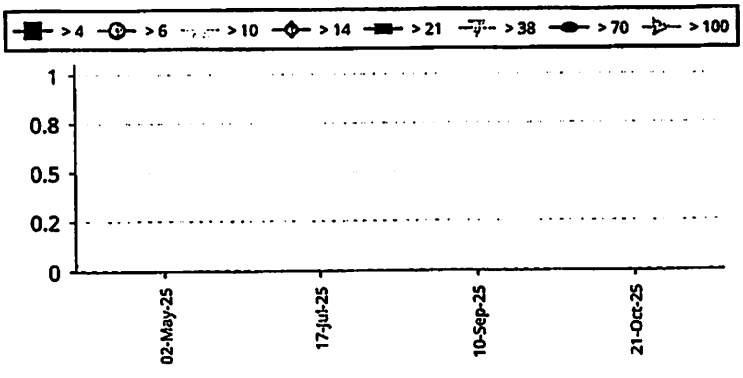
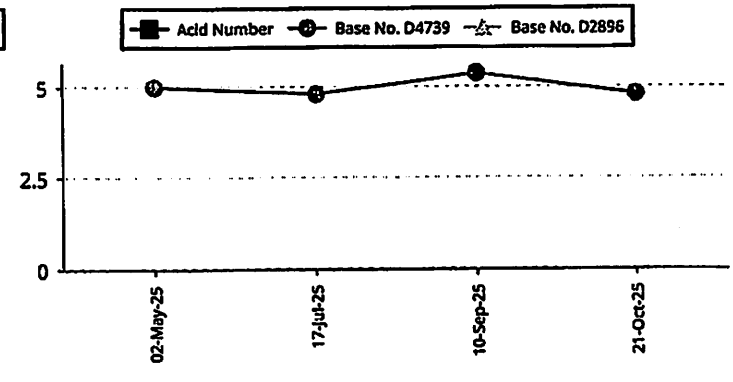
0.5
0.2
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Fuel Dilution
Soot
0.20
0.15
0.10
0.05
0.00
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Viscosity 40°C
Viscosity 100 °C
10.0
5.0
0.0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


> 4
> 6
> 10
> 14
> 21
> 38
> 70
> 100
1
0.8
0.5
0.2
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25


Acid Number
Base No. D4739
Base No. D2896
5
2.5
0
02-May-25
17-Jul-25
10-Sep-25
21-Oct-25

DAVE'S DIESEL REPAIR

Lubricant Analysis Report

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0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: DDR001-0362-0000	Component ID: 143 E	Tracking Number: 24351U48395
Company Name: DEEP CREEK TRUCKING INC	Secondary ID: 2004 KENWORTH W900	Lab Number: E-029432
Contact: IDDON JEFFREYS	Component Type: DIESEL ENGINE	Lab Location: Edmonton
Address: PO BOX 660	Manufacturer: CATERPILLAR	Data Analyst: JUK
SANGUDO, AB T0E 2A0 CA	Model: C15 ACERT	Sampled: 10-Sep-2025
Phone Number: 780-305-1302	Application: O-T-R TRUCKING	Received: 15-Sep-2025
	Sump Capacity:	Completed: 20-Sep-2025
Filter Information	**Miscellaneous Information**	**Product Information**
Filter Type: Information Requested		Product Manufacturer: SHELL
Micron Rating: 0		Product Name: ROTELLA T4 TRIPLE PROTECTION
		Viscosity Grade: SAE 15W40

Comments: Data indicates no abnormal findings. Resample at normal interval. Your note was taken into consideration.

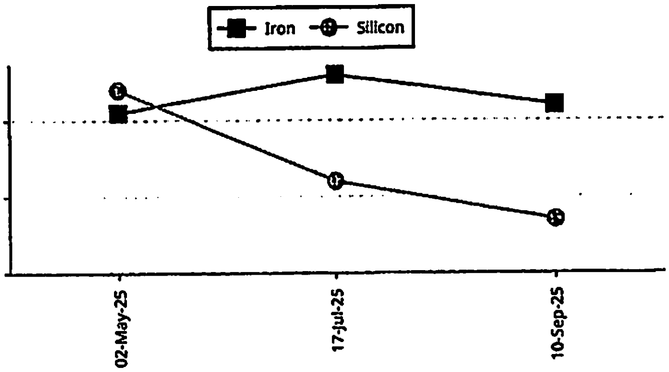
	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)				
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	21	1	0	0	7	2	2	0	0	0	24	6	6	0	14	0	0	0	95	131	2103	0	928	1143
2	26	1	0	1	5	2	2	0	0	0	12	4	8	0	3	0	0	0	96	31	2370	0	992	1194
3	22	1	0	2	3	0	1	0	0	0	7	2	9	0	0	0	0	0	119	15	2382	0	1062	1203

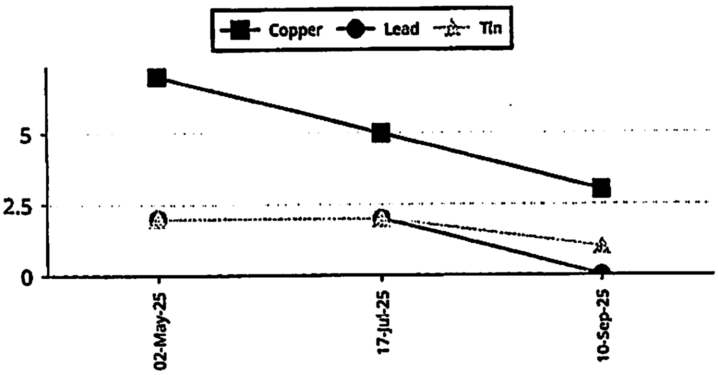
	Sample Information							Contaminants			Fluid Properties					
Sample #	Date Sampled	Date Received	Lube Time km	Unit Time h	Lube Change	Lube Added gal	Filter Change	Fuel Dilution %	Soot %	Water %	Viscosity 40°C cSt	Viscosity 100 °C cSt	Acid Number mg KOH / g	Base No. D4739 mg KOH / g	Oxidation abs / cm	Nitration abs / 0.1mm
1	02-May-2025	06-May-2025	0	581455	Yes	2	Yes	<2 - Estimate	<.1	<.1 - FTIR		13.4		5.00		
2	17-Jul-2025	28-Jul-2025	220	0	Yes	2	Yes	<2 - Estimate	0.2 - E2412	<.1 - FTIR		14.0		4.80		
3	10-Sep-2025	15-Sep-2025	629410	200	Yes	1	Yes	<2 - Estimate	0.2 - E2412	<.1 - FTIR		13.9		5.38		

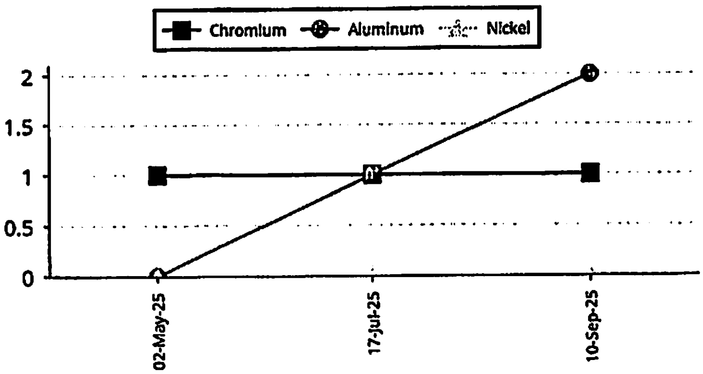
	Particle Count (particles/mL)										Additional Testing
Sample #	ISO Code Based On 4/6/14	> 4 particles / mL	> 6 particles / mL	> 10 particles / mL	> 14 particles / mL	> 21 particles / mL	> 38 particles / mL	> 70 particles / mL	> 100 particles / mL	Test Method	
1	/ /										
2	/ /										
3	/ /										

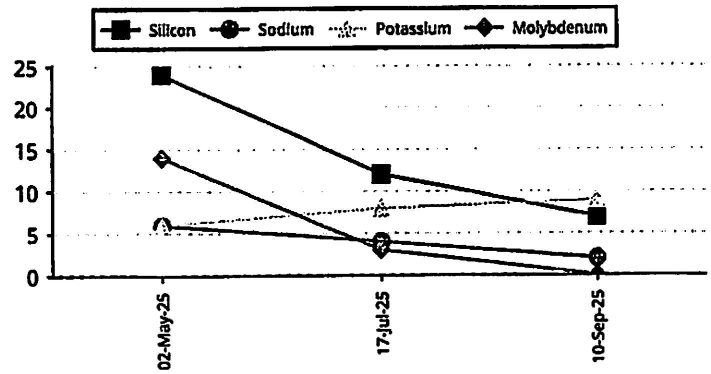
Comments are advisory only and are based on the sample information provided by the customer being valid. Results related only to the items tested. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.

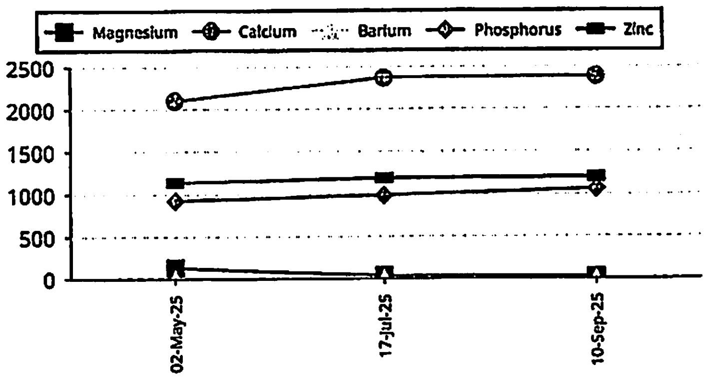
Historical Comments		
	1	Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Silicon is at a MINOR LEVEL; SILICON sources can be abrasives (dirt, Alumina Silica), seals and gasket material, lube additive or lube supplement, and/or environmental contaminant; Tin is at a MINOR LEVEL; Tin may be coming from piston flashing, bearing overlay, bronze alloy (usually in combination with copper), lubricant additive, or from a Babbitt material in conjunction with copper and lead. LUBRICANT TIME was not provided for this sample.
	2	Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Tin is at a MINOR LEVEL; Tin may be coming from piston flashing, bearing overlay, bronze alloy (usually in combination with copper), lubricant additive, or from a Babbitt material in conjunction with copper and lead. Unit hours/miles/kilometers not provided for this sample.

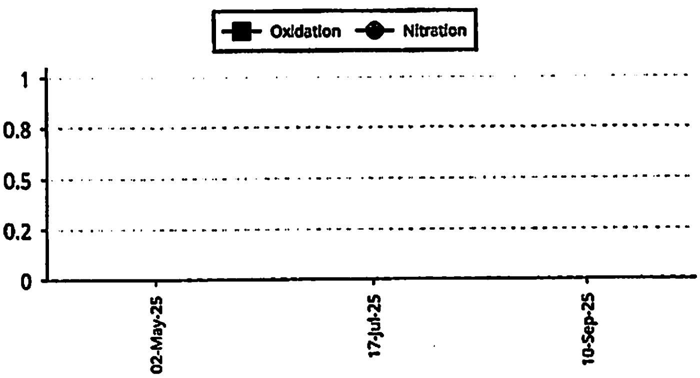

Iron
Silicon
20
10
0
02-May-25
17-Jul-25
10-Sep-25

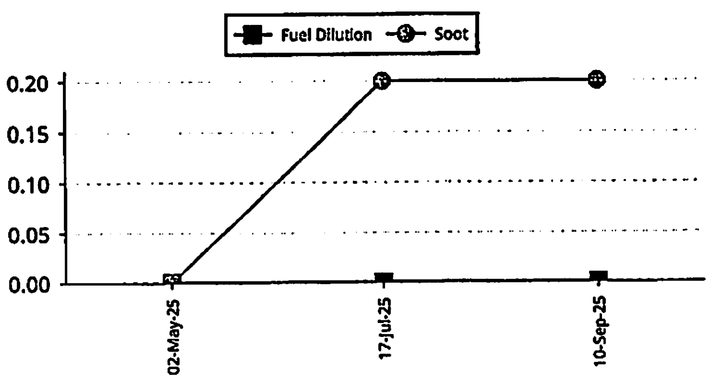

Copper
Lead
Tin
5
2.5
0
02-May-25
17-Jul-25
10-Sep-25

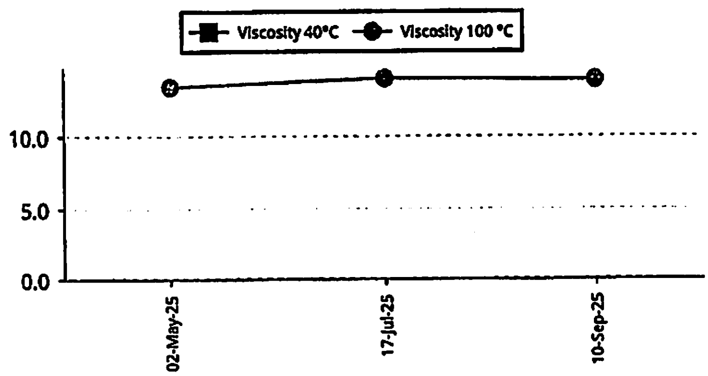

Chromium
Aluminum
Nickel
2
1.5
1
0.5
0
02-May-25
17-Jul-25
10-Sep-25

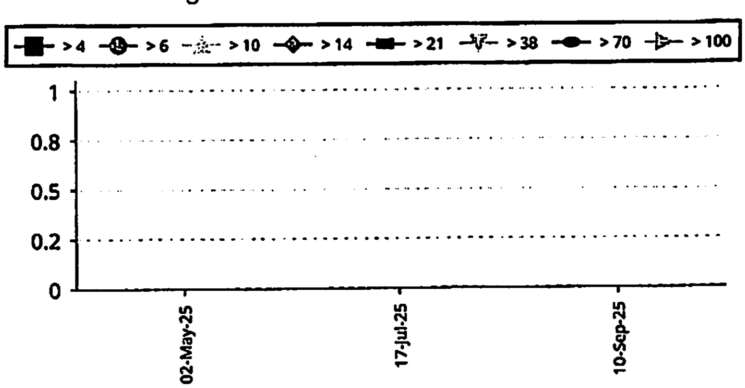

Silicon
Sodium
Potassium
Molybdenum
25
20
15
10
5
0
02-May-25
17-Jul-25
10-Sep-25

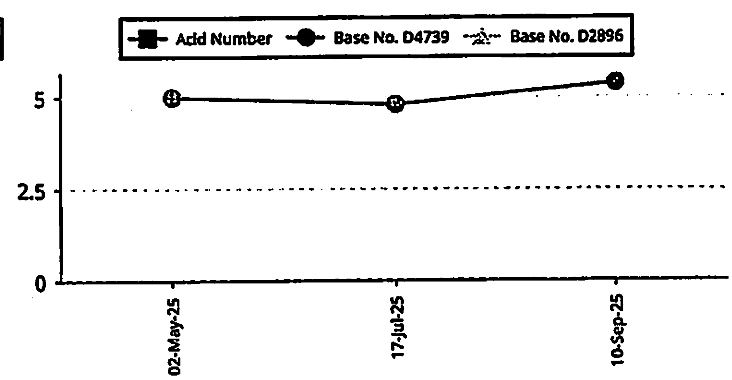

Magnesium
Calcium
Barium
Phosphorus
Zinc
2500
2000
1500
1000
500
0
02-May-25
17-Jul-25
10-Sep-25


Oxidation
Nitration
1
0.8
0.5
0.2
0
02-May-25
17-Jul-25
10-Sep-25


Fuel Dilution
Soot
0.20
0.15
0.10
0.05
0.00
02-May-25
17-Jul-25
10-Sep-25


Viscosity 40°C
Viscosity 100 °C
10.0
5.0
0.0
02-May-25
17-Jul-25
10-Sep-25


> 4
> 6
> 10
> 14
> 21
> 38
> 70
> 100
1
0.8
0.5
0.2
0
02-May-25
17-Jul-25
10-Sep-25


Acid Number
Base No. D4739
Base No. D2896
5
2.5
0
02-May-25
17-Jul-25
10-Sep-25

DAVE'S DIESEL REPAIR

Lubricant Analysis Report

North America: +1-888-655-7415

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: DDR001-0362-0000 Company Name: DEEP CREEK TRUCKING INC Contact: IDDON JEFFREYS Address: PO BOX 660 SANGUDO, AB T0E 2A0 CA Phone Number: 780-305-1302	Component ID: 143 E Secondary ID: 2004 KENWORTH W900 Component Type: DIESEL ENGINE Manufacturer: CATERPILLAR Model: C15 ACERT Application: GAS-OIL FIELD Sump Capacity:	Tracking Number: 24351U48396 Lab Number: E-021154 Lab Location: Edmonton Data Analyst: AC Sampled: 17-Jul-2025 Received: 28-Jul-2025 Completed: 29-Jul-2025
Filter Information	**Miscellaneous Information**	**Product Information**
Filter Type: Information Requested Micron Rating: 0		Product Manufacturer: SHELL Product Name: ROTELLA T4 TRIPLE PROTECTION Viscosity Grade: SAE 15W40

Comments Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Tin is at a MINOR LEVEL; Tin may be coming from piston flashing, bearing overlay, bronze alloy (usually in combination with copper), lubricant additive, or from a Babbitt material in conjunction with copper and lead. Unit hours/miles/kilometers not provided for this sample.

	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)				
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	21	1	0	0	7	2	2	0	0	0	24	6	6	0	14	0	0	0	95	131	2103	0	928	1143
2	26	1	0	1	5	2	2	0	0	0	12	4	8	0	3	0	0	0	96	31	2370	0	992	1194

	Sample Information							Contaminants			Fluid Properties					
Sample #	Date Sampled	Date Received	Lube Time h	Unit Time h	Lube Change	Lube Added L	Filter Change	Fuel Dilution %	Soot %	Water %	Viscosity 40°C cSt	Viscosity 100 °C cSt	Acid Number mg KOH / g	Base No. D4739 mg KOH / g	Oxidation abs / cm	Nitration abs / 0.1mm
1	02-May-2025	06-May-2025	0	581455	Yes	2	Yes	<2 - Estimate	<.1	<.1 - FTIR		13.4		5.00		
2	17-Jul-2025	28-Jul-2025	220	0	Yes	2	Yes	<2 - Estimate	0.2 - E2412	<.1 - FTIR		14.0		4.80		

	Particle Count (particles/mL)									Additional Testing
Sample #	ISO Code Based On 4/6/14	> 4 particles / mL	> 6 particles / mL	> 10 particles / mL	> 14 particles / mL	> 21 particles / mL	> 38 particles / mL	> 70 particles / mL	> 100 particles / mL	Test Method
1	/ /									
2	/ /									

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Historical Comments		
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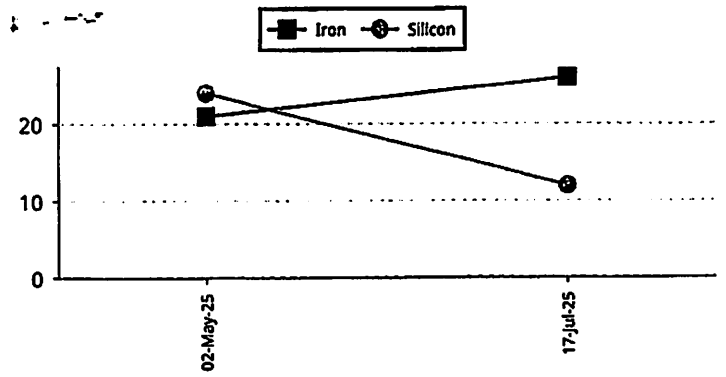
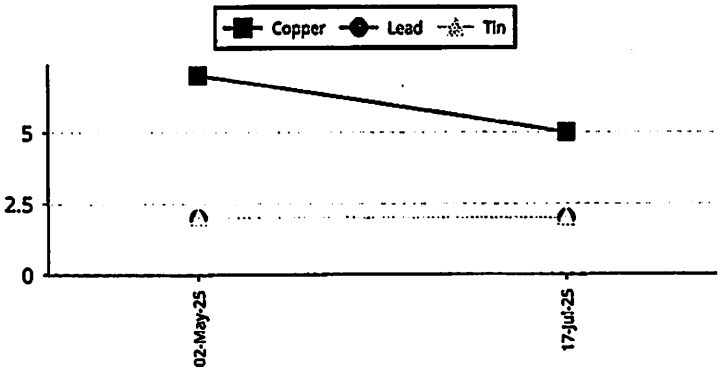
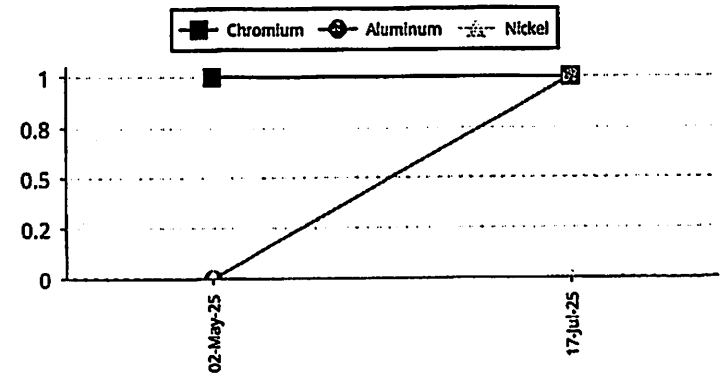
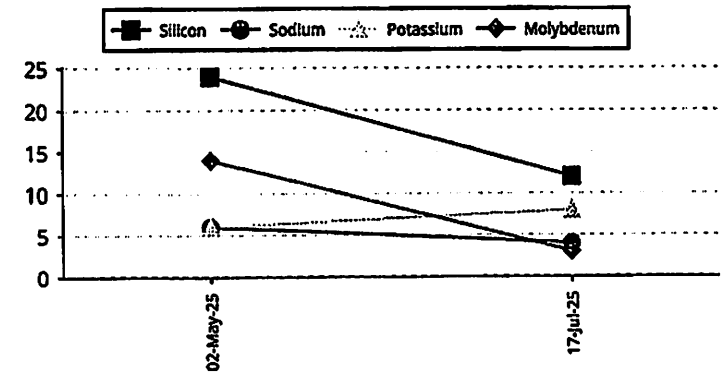
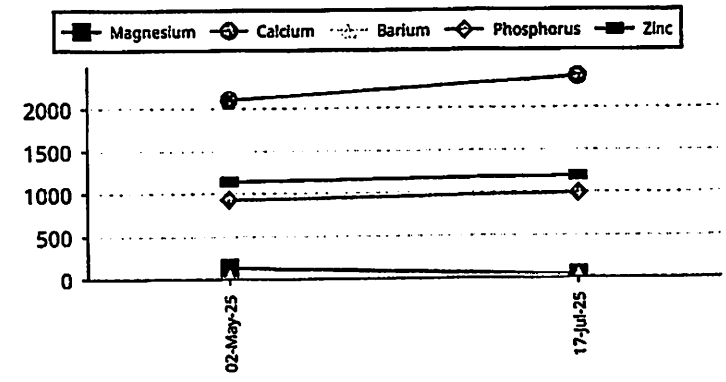
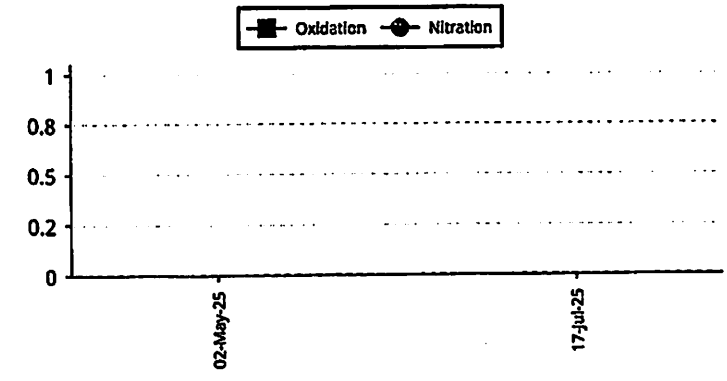

Iron
Silicon
20
10
0
02-May-25
17-Jul-25

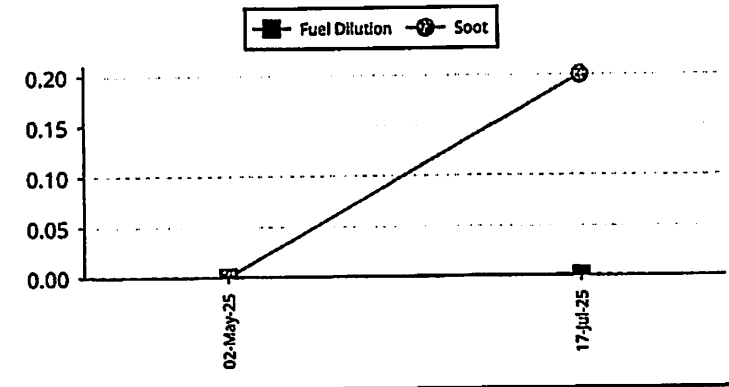

Copper
Lead
Tin
5
2.5
0
02-May-25
17-Jul-25

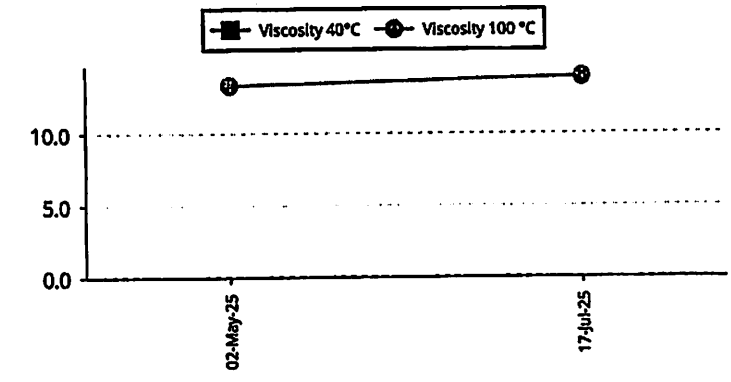

Chromium
Aluminum
Nickel
1
0.8
0.5
0.2
0
02-May-25
17-Jul-25

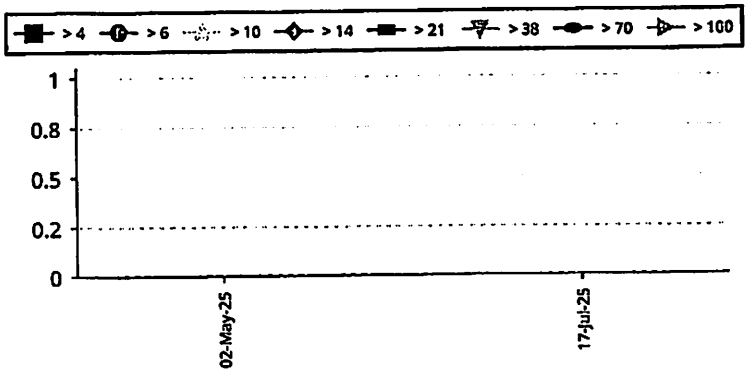

Silicon
Sodium
Potassium
Molybdenum
25
20
15
10
5
0
02-May-25
17-Jul-25

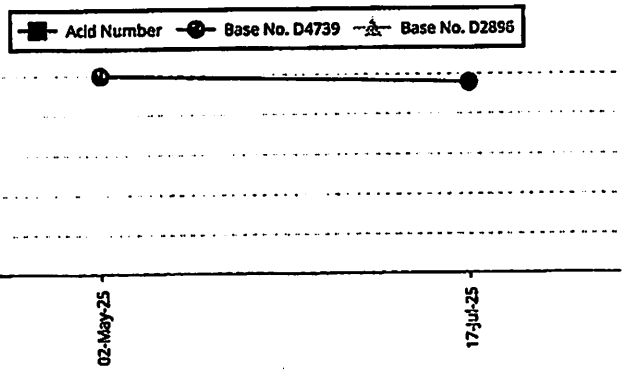

Magnesium
Calcium
Barium
Phosphorus
Zinc
2000
1500
1000
500
0
02-May-25
17-Jul-25


Oxidation
Nitration
1
0.8
0.5
0.2
0
02-May-25
17-Jul-25


Fuel Dilution
Soot
0.20
0.15
0.10
0.05
0.00
02-May-25
17-Jul-25


Viscosity 40°C
Viscosity 100 °C
10.0
5.0
0.0
02-May-25
17-Jul-25


> 4
> 6
> 10
> 14
> 21
> 38
> 70
> 100
1
0.8
0.5
0.2
0
02-May-25
17-Jul-25


Acid Number
Base No. D4739
Base No. D2896
5
4
3
2
1
0
02-May-25
17-Jul-25

DAVE'S DIESEL REPAIR

Lubricant Analysis Report

North America: +1-888-655-7415

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: DDR001-0362-0000 Company Name: DEEP CREEK TRUCKING INC Contact: IDDON JEFFREYS Address: PO BOX 660 SANGUDO, AB T0E 2A0 CA Phone Number: 780-305-1302	Component ID: 143 E Secondary ID: 2004 KENWORTH W900 Component Type: DIESEL ENGINE Manufacturer: CATERPILLAR Model: C15 ACERT Application: GAS-OIL FIELD Sump Capacity:	Tracking Number: 24351U48387 Lab Number: E-006672 Lab Location: Edmonton Data Analyst: AC Sampled: 02-May-2025 Received: 06-May-2025 Completed: 06-May-2025
Filter Information	**Miscellaneous Information**	**Product Information**
Filter Type: Information Requested Micron Rating: 0		Product Manufacturer: SHELL Product Name: ROTELLA SERIES Viscosity Grade: SAE 15W40

Comments Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Silicon is at a MINOR LEVEL; SILICON sources can be abrasives (dirt, Alumina Silica), seals and gasket material, lube additive or lube supplement, and/or environmental contaminant; Tin is at a MINOR LEVEL; Tin may be coming from piston flashing, bearing overlay, bronze alloy (usually in combination with copper), lubricant additive, or from a Babbitt material in conjunction with copper and lead. LUBRICANT TIME was not provided for this sample.

	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)				
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	21	1	0	0	7	2	2	0	0	0	24	6	6	0	14	0	0	0	95	131	2103	0	928	1143

	Sample Information							Contaminants			Fluid Properties					
Sample #	Date Sampled	Date Received	Lube Time h	Unit Time km	Lube Change	Lube Added L	Filter Change	Fuel Dilution %	Soot %	Water %	Viscosity 40°C cSt	Viscosity 100 °C cSt	Acid Number mg KOH / g	Base No. D4739 mg KOH / g	Oxidation abs / cm	Nitration abs / 0.1mm
1	02-May-2025	06-May-2025	0	581455	Yes	2	Yes	<2 - Estimate	<.1	<.1 - FTIR		13.4		5.00		

	Particle Count (particles/mL)									Additional Testing
Sample #	ISO Code Based On 4/6/14	> 4 particles / mL	> 6 particles / mL	> 10 particles / mL	> 14 particles / mL	> 21 particles / mL	> 38 particles / mL	> 70 particles / mL	> 100 particles / mL	Test Method
1	/ /									

Comments are advisory only and are based on the sample information provided by the customer being valid. Results related only to the items tested. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.