BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: S424562
REPORT DATE: 7/6/2026
CODE: 20/1,487

UNIT ID: 24 LARIAT
CLIENT ID: [redacted]
PAYMENT: CC Online

UNIT

EQUIP. MAKE/MODEL: Ford 2.7L V-6 EcoBoost Twin Turbo
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO: Ranger
OIL TYPE & GRADE: Pennzoil Ultra Platinum 5W/30
OIL USE INTERVAL: 4,557 Miles

CLIENT

[redacted]

PHONE: [redacted]
FAX:
ALT PHONE:
EMAIL: [redacted]

COMMENTS

[redacted] Thanks for the notes. It's fine you haven't been driving much; it sounds like you'll be busy in the next few months, so maybe your Lariat appreciates the opportunity to rest up. Everything looks excellent here, so there are no signs of trouble to worry about. Metals have been pretty steady for the past few reports, letting us know this EcoBoost is still getting along without issue. The viscosity is reading thin, but that's not new -- or concerning, since the high flashpoint rules out fuel. The TBN is strong. A 7K-mile run is still on the table. Have fun out there!

ELEMENTS IN PARTS PER MILLION

			UNIT / LOCATION AVERAGES					UNIVERSAL AVERAGES
	MI/HR on Oil	4,557		5,091	4,947	3,587	1,528	606	
	MI/HR on Unit	19,710		15,153	10,062	5,115	2,134	606	
	Sample Date	6/18/2026		9/25/2025	6/15/2025	2/23/2025	11/4/2024	9/30/2024	
	Make Up Oil Added	0 qts		0 qts	0 qts	0 qts	0 qts	0 qts	
	ALUMINUM	5	5	4	4	5	4	5	4
	CHROMIUM	1	1	1	1	1	0	0	0
	IRON	14	12	11	15	14	10	9	13
	COPPER	2	8	2	4	6	8	**25**	4
	LEAD	0	0	0	0	0	0	1	0
	TIN	0	0	0	0	0	0	0	0
	MOLYBDENUM	86	95	84	84	84	94	136	107
	NICKEL	0	0	0	0	0	0	0	0
	MANGANESE	1	2	1	1	1	2	5	1
	SILVER	0	0	0	0	0	0	0	0
	TITANIUM	2	2	2	2	2	2	0	1
	POTASSIUM	2	2	2	1	2	2	2	5
	BORON	145	172	149	158	202	224	155	56
	SILICON	11	38	12	16	23	**36**	**128**	18
	SODIUM	4	5	5	5	4	5	9	8
	CALCIUM	1067	1130	1027	1124	1128	1159	1275	1143
	MAGNESIUM	718	680	728	730	774	735	394	580
	PHOSPHORUS	587	595	588	592	605	601	599	651
	ZINC	720	730	706	736	731	756	730	741
	BARIUM	0	1	0	0	0	1	3	1

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	**55.4**	56-63	**54.8**	53.3	**55.3**	**54.3**	54.3
cSt Viscosity @ 100°C	**8.88**	9.1-11.3	**8.70**	8.26	**8.85**	**8.58**	8.57
Flashpoint in °F	410	>385	400	415	420	440	425
Fuel %	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5
Antifreeze %	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water %	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Insolubles %	0.2	<0.6	0.2	0.2	0.1	0.2	0.1
TBN	3.9	>1.0	5.4	5.0	5.9	6.6	5.9
TAN							
ISO Code							

*** THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE**

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BLACKSTONE LABORATORIES — GAS/DIESEL REPORT

LAB NUMBER:	D95618	**UNIT ID:**	05 F250
REPORT DATE:	7/25/2018	**CLIENT ID:**	28751
CODE:	22/16	**PAYMENT:**	CC: Visa

You'll need your client ID if you want to log on to www.blackstone-labs.net and view your reports.

This is a good place to identify things like bypass filtration, mods, etc.

UNIT

EQUIP. MAKE/MODEL:	Navistar 6.0L Power Stroke	OIL TYPE & GRADE:	Shell Rotella T 15W/40
FUEL TYPE:	Diesel	OIL USE INTERVAL:	4,907 Miles
ADDITIONAL INFO:	This vehicle is the love of my life. I will never sell it.		

CLIENT

OSCAR HUFF
OSCAR'S WORKSHOP
132 PERIWINKLE RD
STE. 102
SWANNANOA, NC 18752

PHONE: (828) 123-5897
FAX: (828) 123-1547
ALT PHONE: (828) 123-1564
EMAIL: oscar@bellsouth.com

COMMENTS

OSCAR: The fuel we spoke of last time improved to 0.5% in this sample. Iron took a big step in the right direction, too. All wear now re d in the proper balance to indicate your engine is free of any obvi ity is common to the 6.0L but the fuel may have lowered it as well. No coolant or moisture was found. Both silicon and insolubles read normally showing good air and oil filtration. At 47,356 total miles your PSD is wearing well. We think you could run the oil a little longer, if you're interested.

Sample report

The amount of oil you added between oil changes.

This is the average wear for this particular type of engine for you or your business.

This column shows average wear for all the samples we've seen from this type of engine.

ELEMENTS IN PARTS PER MILLION

MI/HR on Oil	4,907	UNIT / LOCATION AVERAGES	5,134	5,012	4,832	3,715	UNIVERSAL AVERAGES
MI/HR on Unit	47,356		42,449	37,315	32,303	27,471	
Sample Date	12/02/15		10/08/15	07/12/15	05/21/15	04/16/15	
Make Up Oil	0 qts		0 qts	0 qts	2 qts	5 qts	
ALUMINUM	4	4	4	3	4	**6**	3
CHROMIUM	2	2	1	1	1	2	1
IRON	30	31	**44**	24	23	33	23
COPPER	2	4	3	2	2	3	3
LEAD	2	3	3	4	5	5	3
TIN	0	1	0	1	2	2	1
MOLYBDENUM	4	4	5	5	4	4	29
NICKEL	1	1	1	1	0	1	0
MANGANESE	0	0	0	0	0	1	0
SILVER	0	0	0	0	0	0	0
TITANIUM	0	0	0	0	0	0	0
POTASSIUM	3	3	2	1	2	2	4
BORON	0	2		2	0	1	32
SILICON	9	14	1	8	9	13	11
SODIUM	4	3	3	3	3	4	3
CALCIUM	3430	3437	3970	3632	3525	3015	3142
MAGNESIUM	10	11	11	9	10	11	79
PHOSPHORUS	1204	1190	1289	1274	1212	1246	1116
ZINC	1345	1325	1508	1381	1392	1387	1279
BARIUM	0	0	0	0	0	1	2

The additives in this column are a mix of all different types of oil, so you can't compare them to your sample.

From left to right, these are your past samples.

The tests in the Properties box look at the physical condition of the oil.

PROPERTIES

		Values Should Be*				
SUS Viscosity @ 210°F	**65.5**	69-80	**65.9**	**65.7**	**63.4**	**60.3**
cSt Viscosity @ 100°C	**11.74**	12.7-15.5	**11.85**	**11.79**	**11.16**	**10.29**
Flashpoint in °F	**405**	>410	**390**	430	**390**	**400**
Fuel %	0.5	<2.0	**2.0**	<0.5	<0.5	1.0
Antifreeze %	0.0	0.0	0.0	0.0	0.0	0.0
Water %	0.0	0.0	0.0	0.0	0.0	0.0
Insolubles %	0.3	<0.6	**0.3**	0.2	0.3	0.3
TBN	6.3		8.4	9.5	6.6	12.5
TAN						
ISO Code						

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Gas/Diesel Engine Report Explanation

Averages: Both the universal and unit averages are running averages and change with the number of samples we analyze.

Elements: Elements are quantified in the oil at parts per million levels (PPM). This list shows the most common sources of the elements in gasoline or diesel engine oil. Following each element is a description of where it comes from. They are grouped by category.

Wear Metals
Aluminum: Pistons, bearings
Chromium: Rings, a trace element in steel
Iron: Cylinders, rotating shafts, the valve train, and any steel part sharing the oil. Transmission shafts/gears and bearings in motorcycles
Copper: Brass or bronze parts, copper bushings, bearings, oil coolers
Lead: Bearings, leaded gas, fuel additives
Tin: Bearings, bronze parts, piston coating (rare)
Nickel: Trace element in steel, platings on some cylinder types
Silver: Bearings
Titanium: Some intake valves and connecting rods, aftermarket parts, oil additive

Contaminants
Potassium: Antifreeze, additive in some oil types
Sodium: Antifreeze (ethylene glycol), additive in some gasoline engine oils. Sea water in marine engines
Silicon: Airborne dirt escaping air filtration, sealers, gaskets, sand-casted parts, and spray lubricants, antifreeze inhibitor, oil additive

Additives
Molybdenum: Anti-wear additive, some types of rings
Manganese: Trace element, additive in some gasoline
Boron: Anti-wear/anti-rust additive, antifreeze inhibitor
Calcium: Detergent/dispersant additive
Magnesium: Detergent/dispersant additive
Phosphorus: Anti-wear additive
Zinc: Anti-wear additive
Barium: Detergent/dispersant additive used in some synthetics

Physical properties
Viscosity/Flashpoint: If fuel is present in the oil, the Viscosity and Flashpoint will often be lower than stated in the "Values Should Be" line. A high viscosity may show oil oxidation or high levels of soot. It can also show an oil additive in use.
Fuel %: Indicates the amount of volatile fuel dilution found in the oil.
Antifreeze %: Indicates the amount of antifreeze found in the oil. A question mark means we found possible traces of coolant, but not enough to definitively say it's there.
Water %: Indicates the amount of water found in the oil.
Insolubles %: Insolubles are solid materials present in the oil. They are typically free carbon

from the oxidation of the oil itself, along with blow-by past the rings.