Effective Date: 11/1/2023

Phillips 66 Pipeline LLC

Borger-Denver Pipeline
Product Specifications

Current Publication Date: 9/21/2023

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Revision Notes:

Added RFG Specifications for all grades.

Revised gasoline volatility tables to reflect Magellan Pipeline requirements.

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Phillips 66 Pipeline LLC

Borger-Denver Pipeline
Product Specifications

Product Index

Product Name	Destination(s)	Trac66 Product Code(s)
Gasoline, Regular CBOB, 85 octane after 10% Ethanol (80.5 Neat)	PSX La Junta, CO, Terminal	RA7 (7.8#), RA9 (9.0#), RA8 (>9.0#)
Gasoline, Premium CBOB, 91 octane (Neat)	PSX La Junta, CO, Terminal	P84 (7.8#), P1U (9.0#), P64 (>9.0#)
Gasoline, Premium CBOB, 91 Octane after 10% Ethanol (88.5 Neat)	PSX La Junta, CO, Terminal	PE4 (7.8#), PE3 (9.0#), PE2 (>9.0#)
Volatility Schedule, CBOB, All Grades	PSX La Junta, CO, Terminal	Various
Gasoline, Regular RBOB, 85 octane after 10% Ethanol (80.5 Neat)	PSX Denver & La Junta, CO, Terminals	R44 (7.4#), R39 (>7.4#)
Gasoline, Premium RBOB, 91 Octane after 10% Ethanol (88.5 Neat)	PSX Denver & La Junta, CO, Terminals	Q11 (7.4#), Q09 (>7.4#)
Volatility Schedule, RBOB, All Grades	PSX Denver & La Junta, CO, Terminals	Various
Distillate, Jet A / JAA / #1 Diesel Fuel, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD	PSX Denver, CO Terminal	VA3
Distillate, Jet A / JAA, Ultra-Low Sulfur (15 ppm max), (Does NOT meet #1 Diesel motor vehicle specifications); EPA Designation: Jet Fuel	PSX Denver, CO Terminal	K32
Distillate, #2 Diesel Fuel / Fuel Oil, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD	PSX Denver & La Junta, CO, Terminals	V95

Effective Date: 11/1/2023

Trac66 Code(s):
RA7 (7.8#), RA9 (9.0#), RA8 (>9.0#)

Phillips 66 Pipeline LLC

Destinations:
PSX La Junta, CO, Terminal

Borger-Denver Pipeline
Product Specifications

Gasoline, Regular CBOB, 85 octane after 10% Ethanol (80.5 Neat)

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	See Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093 modified- see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		80.5			
Octane, (R+M)/2	D2699 & 2700		85.0		E10	
Octane, Motor	D2700		Report			
Octane, Motor	D2700		80.0		E10	
Octane, Research	D2699		Report			
Octane, Research	D2699		Report		E10	
Odor	Non-offensive odor		Pass			8
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		9
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					10
Product Designation	See Note					11
Referee Methods	See Note					12
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Volatility & Distillation	See D4814		see Table			

Borger-Denver Pipeline
Product Specifications

Gasoline, Regular CBOB, 85 octane after 10% Ethanol (80.5 Neat)

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

For summer gasoline with a maximum RVP specification of less than 9.0 psi (as indicated in the Volatility Table) the following language is applicable:

(a) Suitable for the special RVP provisions for ethanol blends that contain between 9 and 10 vol% ethanol.
(b) The RVP of this blendstock/gasoline does not exceed 9.0 psi.
(c) The use of this gasoline to manufacture a gasoline-ethanol blend containing anything other than between 9 and 10 volume percent ethanol may cause a summertime RVP violation.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

9. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

10. This fuel meets or exceeds all the requirements of ASTM D 4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. This product does not meet the requirements for reformulated gasoline (RFG) and may not be used in any reformulated gasoline covered area.

Borger-Denver Pipeline
Product Specifications

Gasoline, Regular CBOB, 85 octane after 10% Ethanol (80.5 Neat)

11. In accordance with EPA 40 CFR 1090, gasoline shall be designated as either E0 or E10 for oxygenate blending. However, all gasoline will be designated as E10 CBOB (Conventional Blendstock for Oxygenate Blending) upon receipt by Phillips 66 Pipeline. It is the shipper's responsibility to account for their own neat (no ethanol) sales at downstream terminals in coordination with the shipping designations to ensure ethanol dilution impacts are considered per EPA requirements in 40 CFR 1090.740.

12. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2023

Trac66 Code(s):
P84 (7.8#), P1U (9.0#), P64 (>9.0#)

Phillips 66 Pipeline LLC

Destinations:
PSX La Junta, CO, Terminal

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium CBOB, 91 octane (Neat)

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093, modified, see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		91.0			
Octane, Motor	D2700		82.0			
Octane, Research	D2699		Report			
Odor	Non-offensive odor		Pass			8
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		9
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					10
Product Designation	See Note					11
Referee Methods	See Note					12
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Sum- Solvent Washed	D381	mg/100 ml		4		
Volatility & Distillation	See D4814		see Table			

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium CBOB, 91 octane (Neat)

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

For summer gasoline with a maximum RVP specification of less than 9.0 psi (as indicated in the Volatility Table) the following language is applicable:

(a) Suitable for the special RVP provisions for ethanol blends that contain between 9 and 10 vol% ethanol.
(b) The RVP of this blendstock/gasoline does not exceed 9.0 psi.
(c) The use of this gasoline to manufacture a gasoline-ethanol blend containing anything other than between 9 and 10 volume percent ethanol may cause a summertime RVP violation.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

9. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

10. This fuel meets or exceeds all the requirements of ASTM D 4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. This product does not meet the requirements for reformulated gasoline (RFG) and may not be used in any reformulated gasoline covered area.

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium CBOB, 91 octane (Neat)

11. In accordance with EPA 40 CFR 1090, gasoline shall be designated as either E0 or E10 for oxygenate blending. However, all gasoline will be designated as E10 CBOB (Conventional Blendstock for Oxygenate Blending) upon receipt by Phillips 66 Pipeline. It is the shipper's responsibility to account for their own neat (no ethanol) sales at downstream terminals in coordination with the shipping designations to ensure ethanol dilution impacts are considered per EPA requirements in 40 CFR 1090.740.

12. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2023

Trac66 Code(s):
PE4 (7.8#), PE3 (9.0#), PE2 (>9.0#)

Phillips 66 Pipeline LLC

Destinations:
PSX La Junta, CO, Terminal

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium CBOB, 91 Octane after 10% Ethanol (88.5 Neat)

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093, modified, see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		88.5			
Octane, (R+M)/2	D2699 & 2700		91.0		E10	
Octane, Motor	D2700		Report			
Octane, Motor	D2700		82.0		E10	
Octane, Research	D2699		Report			
Octane, Research	D2699		Report		E10	
Odor	Non-offensive odor		Pass			8
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		9
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					10
Product Designation	See Note					11
Referee Methods	See Note					12
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Volatility & Distillation	See D4814		see Table			

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium CBOB, 91 Octane after 10% Ethanol (88.5 Neat)

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

For summer gasoline with a maximum RVP specification of less than 9.0 psi (as indicated in the Volatility Table) the following language is applicable:

(a) Suitable for the special RVP provisions for ethanol blends that contain between 9 and 10 vol% ethanol.
(b) The RVP of this blendstock/gasoline does not exceed 9.0 psi.
(c) The use of this gasoline to manufacture a gasoline-ethanol blend containing anything other than between 9 and 10 volume percent ethanol may cause a summertime RVP violation.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

9. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

10. This fuel meets or exceeds all the requirements of ASTM D 4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. This product does not meet the requirements for reformulated gasoline (RFG) and may not be used in any reformulated gasoline covered area.

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium CBOB, 91 Octane after 10% Ethanol (88.5 Neat)

11. In accordance with EPA 40 CFR 1090, gasoline shall be designated as either E0 or E10 for oxygenate blending. However, all gasoline will be designated as E10 CBOB (Conventional Blendstock for Oxygenate Blending) upon receipt by Phillips 66 Pipeline. It is the shipper's responsibility to account for their own neat (no ethanol) sales at downstream terminals in coordination with the shipping designations to ensure ethanol dilution impacts are considered per EPA requirements in 40 CFR 1090.740.

12. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2023

Trac66 Code(s):
R44 (7.4#), R39 (>7.4#)

Phillips 66 Pipeline LLC

Destinations:
PSX Denver & La Junta, CO, Terminals

Borger-Denver Pipeline
Product Specifications

Gasoline, Regular RBOB, 85 octane after 10% Ethanol (80.5 Neat)

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093 modified- see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		80.5			
Octane, (R+M)/2	D2699 & 2700		85.0		E10	
Octane, Motor	D2700		Report			
Octane, Motor	D2700		80.0		E10	
Octane, Research	D2699		Report			
Octane, Research	D2699		Report		E10	
Odor	Non-offensive odor		Pass			8
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		9
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					10
Product Designation	See Note					11
Referee Methods	See Note					12
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Volatility & Distillation	D4814		see Table			

Borger-Denver Pipeline
Product Specifications

Gasoline, Regular RBOB, 85 octane after 10% Ethanol (80.5 Neat)

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

9. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

10. This fuel is a Reformulated gasoline Blendstock for Oxygenate Blending. Upon the terminal addition of 10 vol% of fuel grade ethanol, this fuel is intended to meet or exceed the requirements of ASTM D4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. A detergent must be added at the terminal to meet finished gasoline requirements prior to distribution.

11. In accordance with EPA 40 CFR 1090, all gasoline shall be designated as E10 for oxygenate blending at origin. Any neat (no ethanol) sales need to be accounted for at downstream terminals and the provisions for Downstream BOB recertification in 40 CFR 1090.740 shall be followed to account for sulfur and benzene deficits resulting from the downstream BOB recertification.

12. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2023

Trac66 Code(s):
Q11 (7.4#), Q09 (>7.4#)

Phillips 66 Pipeline LLC

Destinations:
PSX Denver & La Junta, CO, Terminals

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium RBOB, 91 Octane after 10% Ethanol (88.5 Neat)

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093 modified- see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		88.5			
Octane, (R+M)/2	D2699 & 2700		91.0		E10	
Octane, Motor	D2700		Report			
Octane, Motor	D2700		82.0		E10	
Octane, Research	D2699		Report			
Octane, Research	D2699		Report		E10	
Odor	Non-offensive odor		Pass			8
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		9
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					10
Product Designation	See Note					11
Referee Methods	See Note					12
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Volatility & Distillation	D4814		see Table			

Borger-Denver Pipeline
Product Specifications

Gasoline, Premium RBOB, 91 Octane after 10% Ethanol (88.5 Neat)

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

9. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

10. This fuel is a Reformulated gasoline Blendstock for Oxygenate Blending. Upon the terminal addition of 10 vol% of fuel grade ethanol, this fuel is intended to meet or exceed the requirements of ASTM D4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. A detergent must be added at the terminal to meet finished gasoline requirements prior to distribution.

11. In accordance with EPA 40 CFR 1090, all gasoline shall be designated as E10 for oxygenate blending at origin. Any neat (no ethanol) sales need to be accounted for at downstream terminals and the provisions for Downstream BOB recertification in 40 CFR 1090.740 shall be followed to account for sulfur and benzene deficits resulting from the downstream BOB recertification.

12. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2023

Trac66 Code(s):
VA3

Phillips 66 Carrier LLC

Destinations:
PSX Denver, CO Terminal

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA / #1 Diesel Fuel, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD

Property	Test Method	Units	Min	Max	Specific	Note#
Acid Number	D3242	mg KOH/g		0.10		
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	37.5	50.5		
Appearance	D4176 Proc 1		Pass			2
Aromatics	D1319, D6379	Vol%		25		
Ash	D482	Wt%		0.01		
Carbon Res 10% Btms	D524	Wt%		0.10		
Cetane Index by 2-var	D976		40			
Cetane Number	D613, D6890, D7170, D7668		40.0			3
Cloud Pt	D2500, D5771/2/3, D7689	Deg F		-12		
Color, Saybolt	D156, D6045		+16			
Corrosion, Copper Strip	D130 2 Hr @ 212 F	Rating		1		
Dist 10 Vol% Rec	D86, D2887	Deg F		393		4
Dist 50 Vol% Rec	D86, D2887	Deg F	Report			4
Dist 90 Vol% Rec	D86, D2887	Deg F		550		4
Dist End Pt	D86, D2887	Deg F		560		4
Dist IBP	D86, D2887	Deg F	Report			4
Dist Loss	D86, D2887	Vol%		1.5		5
Dist Residue	D86, D2887	Vol%		1.5		5
Electrical Conductivity	D2624	pS/m	150	600	w/ Stadis 450	6
Electrical Conductivity	D2624	pS/m	Report		wo/ Stadis 450	
Existent Gum	D381	mg/100ml		4.0		
Flash Pt	D56, D93, D3828	Deg F	108			7
Freeze Pt	D2386, D5972, D7153, D7154	Deg F		- 42.5		
Fuel Sys Icing Inhibitor	D5006	Vol%	0.07	0.10	if FSII is present	8
Haze @ 77F	D4176 Procedure 2	Rating		2		
JFTOT Press Drop	D3241 @ 275 C	mm Hg		25		
JFTOT Tube Rating	D3241 @ 275 C	Rating		See Note		9
Mercaptan Sulfur	D3227	Wt%		0.003		10
MSEP	D3948 Water Sep by MSEP	Rating	85			
MSEP w/ Stadis 450	D3948	Rating	70		w/ Stadis 450	11
Naphthalenes or Smoke Pt	D1322	mm	19			12
Naphthalenes or Smoke Pt	D1840	Vol%		2.9		12
Net Heat of Combustion	D3338, D4529, D4809	BTU/lb	18,410			
Particulate Matter	D5452	mg/L		Report		
Pour Point	D97 or D5949	Deg F		-25		
Product Description	See Note					13
Referee Methods	See Note					14

Effective Date: 11/1/2023

Trac66 Code(s):
VA3

Phillips 66 Carrier LLC

Destinations:
PSX Denver, CO Terminal

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA / #1 Diesel Fuel, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD

Property	Test Method	Units	Min	Max	Specific	Note#
Sulfur	D2622, D5453	ppm		11		
Test Tolerances	See Note					15
Viscosity @ -4 F (-20 C)	D445, D7042, D7945	cSt		8.0		16
Viscosity @ 104F (40C)	D445, 7042	cSt	1.3	1.9		
Water and Sediment	D2709	Vol%		0.05		

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA / #1 Diesel Fuel, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD

Notes:

1. Only those additives specified and within the concentrations noted in the current edition of ASTM D 1655 are permitted. Use of additives permitted by ASTM D 1655 must be clearly indicated on the Certificate of Analysis. The use of any other additives is prohibited.

2. The fuel shall be clear and bright and free from visual undissolved water, sediment, and suspended matter.

3. Where the listed test methods for cetane number are not available, Test Method D4737 can be used as an approximation.

4. For D86, the distillation of jet fuel is run at Group 4 conditions, except Group 3 condenser temperature is used. If D2887 is used, the results shall be converted to estimated D86 results by application of the correlation in the applicable appendix in the test method; distillation residue and loss shall be reported as "not applicable" when reporting D2887 results.

5. Distillation residue and loss limits provide control of the distillation process during the use of D86, and they do not apply to D2887. Distillation residue and loss shall be reported as "not applicable" (N/A) when reporting D2887 results.

6. This specification is applicable after the conductivity improver is added at downstream terminals. The conductivity must be between 150 and 600 pS/m at ambient temperature or 85° F, whichever is lower, unless otherwise directed by the procuring activity.

7. Aviation Turbine Fuel Results obtained by D93 can be up to 1C higher than those obtained by the default method (D56). Results obtained by D3828 can be up to 2C lower than those obtained by D56. In case of dispute, D56 shall apply.

8. This specification only applies after fuel is additized with FSII at downstream terminals. FSII test shall be performed using the DiEGME scale of the refractometer.

9. One of the following requirements must be met: 1) Annex A1 VTR, VTR color code <3 rating, no peacock or abnormal color deposits, or 2) Annex A2 ITR or Annex 3 ETR 85 nm max average over area of 2.5 mm^2. Refer to the latest version of ASTM D1655.

10. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

11. ASTM D1655 allows for a 70 min MSEP limit when Stadis 450 (conductivity improver) is present at the point of manufacture. MSEP limits are not intended to be used as a sole reason for rejection of the fuel at downstream facilities, but an investigation shall be conducted prior to releasing the fuel if the values do not meet the applicable limit in Table 1 of ASTM D1655.

12. One of the following requirements shall be met:
A. Smoke Point 27 mm minimum by ASTM D 1322 OR
B. Smoke Point 19 mm minimum AND Naphthalenes 2.9 Vol% maximum by ASTM D 1840.

13. This fuel meets or exceeds the requirements of ASTM D1655 (Jet A) and ASTM D975 (Ultra-Low Sulfur Grade No. 1-D S15 Diesel Fuel Oil), with the possible exception of the lubricity/conductivity requirements in ASTM D975. Additives or further blending may be utilized at downstream locations to meet these specifications.

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA / #1 Diesel Fuel, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD

14. ASTM Referee Methods for Jet A are as follows:
Aromatics, ASTM D1319; Distillation, ASTM D86; Flash Point, ASTM D56; Existent Gum, ASTM D381; Freeze Point, ASTM D2386; Net Heat of Combustion, D 4809; Viscosity, ASTM D445. (ASTM D1655)
For a product satisfying both ASTM D1655 (Jet A) and ASTM D975 (#1 Diesel Fuel Oil), ASTM D56 is considered the referee Flash Point method.

15. Test results shall not exceed the maximum or be less than the minimum values specified (herein). No allowance shall be made for the precision of the test methods. To determine conformance to the specification requirement, a test result may be rounded to the same number of significant figures as in Table 1 using Practice E 29. Where multiple determinations are made, the average result, rounded in accordance with Practice E 29, shall be used. (ASTM D1655 Table 1 Notes)

16. Results from Test Method D7042 shall be reported as bias-corrected kinematic viscosity results by application of the correction in Test Method D7042.

Effective Date: 11/1/2023

Trac66 Code(s):
K32

Phillips 66 Pipeline LLC

Destinations:
PSX Denver, CO Terminal

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA, Ultra-Low Sulfur (15 ppm max), (Does NOT meet #1 Diesel motor vehicle specifications); EPA Designation: Jet Fuel

Property	Test Method	Units	Min	Max	Specific	Note#
Acid Number	D3242	mg KOH/g		0.10		
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	37.5	50.5		
Appearance	D4176 Proc 1		Pass			2
Aromatics	D1319, D6379	Vol%		25		
Color, Saybolt	D156, D6045		+16			
Corrosion, Copper Strip	D130 2 Hr @ 212 F	Rating		1		
Dist 10 Vol% Rec	D86, D2887	Deg F		393		3
Dist 50 Vol% Rec	D86, D2887	Deg F	Report			3
Dist 90 Vol% Rec	D86, D2887	Deg F	Report			3
Dist End Pt	D86, D2887	Deg F		560		3
Dist IBP	D86, D2887	Deg F	Report			3
Dist Loss	D86	Vol%		1.5		4
Dist Residue	D86	Vol%		1.5		4
Electrical Conductivity	D2624	pS/m	150	600	w/ Stadis 450	5
Electrical Conductivity	D2624	pS/m	Report		wo/ Stadis 450	
Existent Gum	D381	mg/100ml		4.0		
Flash Pt	D56, D93, D3828	Deg F	108			6
Freeze Pt	D2386, D5972, D7153, D7154	Deg F		- 42.5		
Fuel Sys Icing Inhibitor	D5006	Vol%	0.07	0.10	if FSII is present	7
Haze @ 77F	D4176 Procedure 2	Rating		2		
JFTOT Press Drop	D3241 @ 275 C	mm Hg		25		
JFTOT Tube Rating	D3241 @ 275 C	Rating		See Note		8
Mercaptan Sulfur	D3227	Wt%		0.003		9
MSEP	D3948	Rating	85			
MSEP w/ Stadis 450	D3948	Rating	70		w/ Stadis 450	10
Naphthalenes or Smoke Pt	D1322	mm	19			11
Naphthalenes or Smoke Pt	D1840	Vol%		2.9		11
Net Heat of Combustion	D3338, D4529, D4809	BTU/lb	18,410			
Particulate Matter	D5452	mg/L		Report		
Product Description	See Note					12
Referee Methods	See Note					13
Sulfur	D2622, D5453	ppm		11		
Test Tolerances	See Note					14
Viscosity @ -4 F (-20 C)	D445, D7042, D7945	cSt		8.0		15

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA, Ultra-Low Sulfur (15 ppm max), (Does NOT meet #1 Diesel motor vehicle specifications); EPA Designation: Jet Fuel

Notes:

1. If the fuel is being sold as Jet A, only those additives specified and within the concentrations noted in the current edition of ASTM D1655 are permitted. Use of additives permitted by ASTM D1655 must be clearly indicated on the Certificate of Analysis. The use of any other additives is prohibited.

If being sold as JAA, this fuel is required by contract to contain fuel system icing inhibitor (FSII), corrosion inhibitor/lubricity improver (CI/LI), and static dissipater additive (SDA) prior to distribution to the Air Force Base. The use of any other additives is prohibited.
FSII shall be added to the fuel and shall be Diethylene Glycol Monomethyl Ether (DIEGME) conforming to the latest revision of ASTM D 4171, Standard Specification for FSIIs, Type III or MIL-DTL-85470B, Inhibitor, Icing, Fuel System, High Flash, NATO Code Number S-1745.
The CI/LI additive must conform to the latest revision of MIL-PRF-25017, Inhibitor, Corrosion/Lubricity Improver, Fuel Soluble, found in ASSIST and shall be listed in the electronic Qualified Products List (QPL)-25017 located in the Qualified Products Database (QPD) found at http://assistdocs.com.
SDA shall be added to the fuel and the conductivity limits of 50 to 600 picosiemens per meter (pS/m) at ambient temperature or 29.4oC (85oF), whichever is lower, unless directed by the procuring activity, shall apply at the custody transfer point. The following electrical conductivity additive is approved: Stadis R 450 marketed by Innospec Fuel Specialties, Newark DE 19702.

2. The fuel shall be clear and bright and free from visual undissolved water, sediment, and suspended matter.

3. For D86, the distillation of jet fuel is run at Group 4 conditions, except Group 3 condenser temperature is used. If D2887 is used, the results shall be converted to estimated D86 results by application of the correlation in the applicable appendix in the test method; distillation residue and loss shall be reported as “not applicable” when reporting D2887 results.

4. Distillation residue and loss limits provide control of the distillation process during the use of D86, and they do not apply to D2887. Distillation residue and loss shall be reported as “not applicable” (N/A) when reporting D2887 results.

5. This specification is applicable after the conductivity improver is added at downstream terminals. The conductivity must be between 150 and 600 pS/m at ambient temperature or 85° F, whichever is lower, unless otherwise directed by the procuring activity.

6. Aviation Turbine Fuel Results obtained by D93 can be up to 1C higher than those obtained by the default method (D56). Results obtained by D3828 can be up to 2C lower than those obtained by D56. In case of dispute, D56 shall apply.

7. This specification only applies after fuel is additized with FSII at downstream terminals. FSII test shall be performed using the DiEGME scale of the refractometer.

8. One of the following requirements must be met: 1) Annex A1 VTR, VTR color code <3 rating, no peacock or abnormal color deposits, or 2) Annex A2 ITR or Annex 3 ETR 85 nm max average over area of 2.5 mm^2. Refer to the latest version of ASTM D1655.

9. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

Borger-Denver Pipeline
Product Specifications

Distillate, Jet A / JAA, Ultra-Low Sulfur (15 ppm max), (Does NOT meet #1 Diesel motor vehicle specifications); EPA Designation: Jet Fuel

10. ASTM D1655 allows for a 70 min MSEP limit when Stadis 450 (conductivity improver) is present at the point of manufacture. MSEP limits are not intended to be used as a sole reason for rejection of the fuel at downstream facilities, but an investigation shall be conducted prior to releasing the fuel if the values do not meet the applicable limit in Table 1 of ASTM D1655.

11. One of the following requirements shall be met:
A. Smoke Point 27 mm minimum by ASTM D 1322 OR
B. Smoke Point 19 mm minimum AND Naphthalenes 2.9 Vol% maximum by ASTM D 1840.

12. This fuel meets or exceeds all the requirements of ASTM D 1655 (Jet A), except that for the JAA grade, additional additives are added as required by contract. Additives or further blending may be utilized at downstream locations to meet these requirements.

13. ASTM Referee Methods for Jet A are as follows:
Aromatics, ASTM D1319; Distillation, ASTM D86; Flash Point, ASTM D56; Existent Gum, ASTM D381; Freeze Point, ASTM D2386; Net Heat of Combustion, D 4809; Viscosity, ASTM D445. (ASTM D1655)
For a product satisfying both ASTM D1655 (Jet A) and ASTM D975 (#1 Diesel Fuel Oil), ASTM D56 is considered the referee Flash Point method.

14. Test results shall not exceed the maximum or be less than the minimum values specified (herein). No allowance shall be made for the precision of the test methods. To determine conformance to the specification requirement, a test result may be rounded to the same number of significant figures as in Table 1 using Practice E 29. Where multiple determinations are made, the average result, rounded in accordance with Practice E 29, shall be used. (ASTM D1655 Table 1 Notes)

15. Results from Test Method D7042 shall be reported as bias-corrected kinematic viscosity results by application of the correction in Test Method D7042.

Effective Date: 11/1/2023

Trac66 Code(s):
V95

Phillips 66 Pipeline LLC

Destinations:
PSX Denver & La Junta, CO, Terminals

Borger-Denver Pipeline
Product Specifications

Distillate, #2 Diesel Fuel / Fuel Oil, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	30.0			
Appearance	Visual		Clear & Br			2
Ash	D482	Wt %		0.01		
Carbon Res 10% Btms	D524	Wt%		0.30		
Cetane Index by 2-var	D976		40			
Cetane Number	D613, D6890, D7170, D7668		40.0			3
Cloud Pt- summer	D2500, D5771/2/3, D7689	Deg F		20	Apr - Aug	
Cloud Pt- winter	D2500, D5771/2/3, D7689	Deg F		15	Sep - Mar	
Color, ASTM	D1500			2.5		
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Dist 10 Vol% Rec	D86, D2887, D7345	Deg F	Report			4
Dist 50 Vol% Rec	D86, D2887, D7345	Deg F	Report			4
Dist 90 Vol% Rec	D86, D2887, D7345	Deg F	540	640		4
Dist End Pt	D86, D2887, D7345	Deg F	Report			4
Dist IBP	D86, D2887, D7345	Deg F	Report			4
Flash Pt	D56, D93, D3828, D7094	Deg F	135			
Haze @ 77F	D4176 Procedure 2	Rating		2		
Pour Pt- summer	D97, D5949	Deg F		10	Apr - Aug	
Pour Pt- winter	D97, D5949	Deg F		0	Sep - Mar	
Product Description	See Note					5
Referee Methods	See Note					6
Stability	D6468	Pad Rating		5		
Sulfur	D2622, D3120, D5453, D7039	ppm		11		
Viscosity @ 104F (40C)	D445, 7042	cSt	1.9	3.4		7
Water and Sediment	D2709	Vol%		0.05		

Borger-Denver Pipeline
Product Specifications

Distillate, #2 Diesel Fuel / Fuel Oil, Ultra-Low Sulfur (15 ppm max), EPA Designation: ULSD

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. Where the listed test methods for cetane number are not available, Test Method D4737 can be used as an approximation.

4. ASTM D2887 or ASTM D7345 results must be converted to "Predicted D86" results using the correlations found in each test method, and reported in the same way.

5. This fuel meets or exceeds all the requirements of ASTM D975 (Ultra Low Sulfur Grade No. 2-D S15 Diesel Fuel Oil) and ASTM D396 (Grade No. 2 Low Sulfur Fuel Oil), with the possible exception of the lubricity/conductivity requirements in ASTM D975. Additives or further blending may be utilized at downstream locations to meet these requirements.

6. ASTM Referee Methods for Diesel Fuel are as follows:
Cetane Number, ASTM D613; Cloud Pt, ASTM D2500; Distillation, ASTM D86; Flash Point, ASTM D93; Sulfur, ASTM D5453, Viscosity, ASTM D445. (source ASTM D975)

7. Results from Test Method D7042 shall be reported as bias-corrected kinematic viscosity results by application of the correction in Test Method D7042.

Effective Date: 11/1/2023

Trac66 Code(s):
Various

Phillips 66 Pipeline LLC

Destinations:
PSX La Junta, CO, Terminal

Borger-Denver Pipeline
Product Specifications

Volatility Schedule, CBOB, All Grades

Month(s)	Class	Pipeline Grade(s)	Clear RVP max, psi	E10 RVP max, psi	E10 V/L Test Temp min, °F	Clear V/L Test Temp min, °F	Drive Index max	Distillation Requirements, °F: 10% max	E10 50% min	Clear 50% min	50% max	90% max	End Pt max	Dist Resid max, %
Jan	E-5	RA8, P64,	15.0*	16.0	105	105*	1200	122	150	170*	230	365	430	2
Feb	E-5	RA8, P64,	15.0*	16.0	105	105*	1200	122	150	170*	230	365	430	2
Feb	D-4	RA8, P64,	13.5*	14.5	116	116*	1220	131	150	170*	235	365	430	2
Mar	D-4	RA8, P64,	13.5*	14.5	116	116*	1220	131	150	170*	235	365	430	2
Apr	C-3	RA8, P64,	11.5*	12.5	116	124*	1230	140	150	170*	240	365	430	2
May	A-3	RA9, P1U,	9.0*	10.0	116	124*	1250	158	150	170*	250	374	430	2
Jun	A-2	RA7, P84,	9.0*	10.0	122	133*	1250	158	150	170*	250	374	430	2
Jul	A-2	RA7, P84,	9.0*	10.0	122	133*	1250	158	150	170*	250	374	430	2
Aug	A-2	RA7, P84,	9.0*	10.0	122	133*	1250	158	150	170*	250	374	430	2
Sep 1 - 15	A-2	RA7, P84,	9.0*	10.0	122	133*	1250	158	150	170*	250	374	430	2
Sep 16 - 30	B-2	RA8, P64,	10.0*	11.0	122	133*	1240	149	150	170*	245	374	430	2
Oct	C-3	RA8, P64,	11.5*	12.5	116	124*	1230	140	150	170*	240	365	430	2
Nov	D-4	RA8, P64,	13.5*	14.5	116	116*	1220	131	150	170*	235	365	430	2
Dec	E-5	RA8, P64,	15.0*	16.0	105	105*	1200	122	150	170*	230	365	430	2

Volatility dates are approximate; consult the pipeline schedule for detailed requirements. During transition months, certain volatility classes may be required prior to the class being listed in this table in order to turn over downstream tanks. In this case, find the next associated volatility class in the table based on the lowest RVP class that the product meets and use the associated volatility properties (for example, a 9.0 lb RVP shipped in March would be an A-3 class instead of a D-4 class).

Vapor pressure and T50 minimum limits marked with an * apply to the fuel without ethanol. Unmarked limits apply to the fuel with 10 vol% ethanol.

V/L limits may be met on either the clear (no ethanol) gasoline or the E10 gasoline blend, using the values in each corresponding column. Though the State of Colorado only requires that the V/L to be met before the addition of ethanol, the listed E10 specifications should result in the clear fuel meeting the state requirements. Higher V/L limits are listed for the clear fuel (Classes 2 and 3) since these were the values before in the incorporation of gasoline-ethanol blends into the D4814 V/L requirements.

Test Methods: (latest version unless otherwise indicated)
Distillation: ASTM D86, corrected to 760 mm Hg;
Driveability Index: ASTM D4814;
V/L: ASTM D5188, or the estimate method using Appendix X2 of ASTM D4814;
Vapor Pressure: ASTM D5191. For conventional gasoline that meets a summer RVP specification of 9.0 psi or less and which is intended for sale in the summer, EPA requires the use of the EPA equation and also requires that batch reporting of RVP be to 2 decimal places (example; 8.97 psi).

Effective Date: 11/1/2023

Trac66 Code(s):
Various

Phillips 66 Pipeline LLC

Destinations:
PSX Denver & La Junta, CO, Terminals

Borger-Denver Pipeline
Product Specifications

Volatility Schedule, RBOB, All Grades

Month(s)	Class	Pipeline Grade(s)	Clear RVP max, psi	E10 RVP max, psi	E10 V/L Test Temp min, °F	Clear V/L Test Temp min, °F	Drive Index max	Distillation Requirements, °F						Dist Resid max, %
								10% max	E10 50% min	Clear 50% min	50% max	90% max	End Pt max	
Jan	E-5	R39, Q09	15.0*	16.0	105	108*	1200	122	150	170*	230	365	430	2
Feb	E-5	R39, Q09	15.0*	16.0	105	108*	1200	122	150	170*	230	365	430	2
Feb	D-4	R39, Q09	13.5*	14.5	116	122*	1220	131	150	170*	235	365	430	2
Mar	D-4	R39, Q09	13.5*	14.5	116	122*	1220	131	150	170*	235	365	430	2
Apr	C-3	R39, Q09	11.5*	12.5	116	122*	1230	140	150	170*	240	365	430	2
May	AA-2	R44, Q11	NA	7.4	122	133*	1250	158	150	170*	250	374	430	2
Jun	AA-2	R44, Q11	NA	7.4	122	133*	1250	158	150	170*	250	374	430	2
Jul	AA-2	R44, Q11	NA	7.4	122	133*	1250	158	150	170*	250	374	430	2
Aug	AA-2	R44, Q11	NA	7.4	122	133*	1250	158	150	170*	250	374	430	2
Sep 1 - 15	AA-2	R44, Q11	NA	7.4	122	133*	1250	158	150	170*	250	374	430	2
Sep 16 - 30	B-2	R39, Q09	10.0*	11.0	122	133*	1240	149	150	170*	245	374	430	2
Oct	C-3	R39, Q09	11.5*	12.5	116	122*	1230	140	150	170*	240	365	430	2
Nov	D-4	R39, Q09	13.5*	14.5	116	122*	1220	131	150	170*	235	365	430	2
Dec	E-5	R39, Q09	15.0*	16.0	105	108*	1200	122	150	170*	230	365	430	2

Volatility dates are approximate; consult the pipeline schedule for detailed requirements. During transition months, certain volatility classes may be required prior to the class being listed in this table in order to turn over downstream tanks. In this case, find the next associated volatility class in the table based on the lowest RVP class that the product meets and use the associated volatility properties (for example, a 7.4 lb RVP shipped in March would be an AA-2 class instead of a D-4 class).

Vapor pressure and T50 minimum limits marked with an * apply to the fuel without ethanol. Unmarked limits apply to the fuel with 10 vol% ethanol. V/L does not have to be run on both the neat and E10, as the neat specs are intended to ensure the E10 specs are met after the addition of ethanol.

Test Methods: (latest version unless otherwise indicated)
Distillation: ASTM D86, corrected to 760 mm Hg;
Driveability Index: ASTM D4814;
V/L: ASTM D5188, or the estimate method using Appendix X2 of ASTM D4814;
Vapor Pressure: ASTM D5191. For conventional gasoline that meets a summer RVP specification of 9.0 psi or less and which is intended for sale in the summer, EPA requires the use of the EPA equation and also requires that batch reporting of RVP be to 2 decimal places (example; 8.97 psi).