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SECTION 2
SHIPPER INFORMATION

2.1 Accepting Shipments

Explorer Pipeline Company accepts shipments in accordance with the terms of its current tariffs, proration policy, and this shipper manual, copies of which are available on the Company web site located www.expl.com. If there are any inconsistencies between the documents, the Company's current tariff will prevail.

2.2 Facility Requirements

2.2.1 Shipper's Facilities - Origin Points

1. Shipper-designed origin facilities shall be capable of supplying clean products free from water and other impurities with a design emphasis on minimizing origin created interfacial mixture. Excessive interfacial mixture will be handled as transmix receipts for the account of the Shipper.
2. Each Shipper will be expected to furnish the following facilities:
 - A. Shipper shall furnish facilities to deliver petroleum products to Explorer manifold at origin stations at a compatible pressure and at a pumping rate equal to Explorer's full line pumping rate or injection rate, if applicable. Explorer's Operations Department should be contacted for applicable pressure and pumping rates.
 - B. Pumps shall be compatible from "No Flow" to "Maximum Flow" in 10 seconds and running at "No Flow" conditions for three minutes.
 - C. Purge lines sized to permit effective purging of Shipper's delivery lines where required.
 - D. Check valves where necessary to prevent back flow to tankage.
 - E. Electrical controls and data exchange to allow Explorer to start and stop pumps, operate valves, read meters and tank gauges, etc. if Explorer is required to operate the Shipper facilities.
 - F. Approved data link to Explorer's origin facilities connected to Shipper.
 - G. All products, except Aviation Turbine Fuel Jet, shall contain an oil soluble corrosion inhibitor approved by Explorer. Please refer to Item No. 85 of the current tariff.
 - H. Injection of products into compatible materials will be at Explorer's option.

2.2.2 Explorer's Facilities - Origin Points

Explorer will furnish the following facilities:

1. Manifold valves and flanged connections at origin locations.
2. Main Line pumps at Port Arthur, Texas; Pasadena, Texas; Glenpool, Oklahoma and Wood River, IL; to boost stream to mainline rates.
3. Custody transfer metering systems and associated equipment for quality control.
4. Insulating flanges.
5. Data for each connected facility, to be sent over a shipper supplied link.
6. Operating personnel, if necessary, to make product changes at Explorer's manifolds, to start and stop receipts and perform other necessary pipeline operations.
7. All Shipper's origin lines will be monitored for water in products. Volumes of free water determined to be in products will be deducted from the meter tickets at origin locations and a processing fee assessed.

2.2.3 Shipper's Facilities-Delivery Points

Shippers will be expected to furnish the following facilities at destinations:

1. Adequate tankage to receive scheduled volumes at Explorer specified delivery rates.
2. Necessary facilities to permit Shipper to make terminal tank changes independent of pipeline, without disruption of pipeline operations.
3. Adequately sized tank lines so that the maximum backpressure at the terminal of Explorer facilities shall not exceed 50 psig at the specified delivery rates.
4. Explorer facilities will terminate at the terminal property line of the Shipper's facilities unless otherwise designated.
5. Necessary tankage to receive transmix generated on lateral stub lines.
6. Data link between the Explorer facility and the Shipper's facility.

2.2.4 Explorer's Facilities - Delivery Points

Explorer will furnish the following facilities to be located on Explorer property as near to the mainline or Explorer tankage as practical:

1. Power operated mainline or stub line delivery valves.
2. Necessary equipment to manage flow through Shipper's receiving facilities to lines and tanks.
3. Necessary custody transfer meters and meter proving facilities. Tank gauges may be used in lieu of meters at Explorer discretion.
4. Necessary manifold delivery valves, power operated, to permit batch changes to be made with minimum contamination.
5. Necessary sampling and interface detection equipment for batch changes.
6. Data for each connected facility.
7. A maximum of two delivery line connections at Explorer's manifold. Lines to be sized to deliver to Shipper's facilities property line. Explorer will determine when separate delivery tank lines are required.

2.2.5 Explorer's Breakout Tankage

Explorer will provide the necessary tankage at certain locations for purposes of scheduling volumes only. Explorer's common carrier breakout tankage is not for the storage of material by Shipper, except under the conditions set forth in Explorer's F.E.R.C. tariff.

2.3 New Connections

New connections for deliveries to and from Explorer will be considered on the basis of a revenue commitment generating favorable economics, compatibility with existing operations and sound business judgment. For connections meeting these requirements, Explorer requires execution of a Pipeage contract. Should you have an interest in a new connection or require more details, contact Explorer's Manager, Shipper Relations & Product Quality or Manager, Business Development.

2.4 Proration - General Requirements

Pursuant to Explorer's Petroleum Products Proration Policy and Item 90 of the F.E.R.C. Tariff, each segment of mainline or lateral line will be separately prorated, if necessary. Space in each segment will be allocated among "Regular Shippers" and any "New Shipper" as follows:

The forecast volumes for each Regular Shipper and New Shipper shall be totaled and divided into line capacity. The resultant fraction will be the "Proration Factor". Each New Shipper shall be allocated space equal to its forecast volumes multiplied by the

Proration Factor. The remaining capacity shall be allocated among Regular Shippers in proration to their base period shipments.

The "base period" is a period of 12 months beginning 13 months prior to the month of allocation and excluding the month preceding the month of allocation. A "Regular Shipper" is any Shipper who received deliveries during the first month of the base period, or who previously has been classified as a Regular Shipper and who continues to receive deliveries in any one or more months of any succeeding base period. A "New Shipper" is a Shipper who does not qualify as a Regular Shipper under the above definition.

2.5 New Shippers

Explorer requires that a company seeking to become a New Shipper must notify Explorer's Manager, Shipper Relations & Product Quality in writing. Explorer will furnish the new prospective Shipper with the necessary documentation to be considered for Shipper status. Shipper documentation must establish a need for capacity on Explorer's system, including retail or rack demands, tank leases, throughput agreements and/or supply contracts. Confidentiality agreements will be provided upon request. In addition, Shipper documentation must include current audited financial statements, most current interim financial statements, acceptable bank and trade references to reflect credit worthiness and executed agreement not to violate the Explorer Proration Policy.

2.6 Required Shipper Information

Explorer's general financial requirements for new Shippers are that Explorer receives the Shipper's most current audited financial statements, most current interim financial statements, acceptable bank references and trade references. New Shippers' credit worthiness will be properly evaluated by the Treasurer of Explorer before a new Shipper will be approved to utilize Explorer's transportation services. Common reasons for denial include insufficient financial data, insufficient income or revenues, limited credit experience or history, and/or excessive obligations or high credit balances. Non-refundable prepayment, prepaid transportation credit and/or parent guarantee may be required. For example, if a New Shipper has not established a sufficient need for capacity as set forth in Section 2.5 and/or does not have sufficient financials, as set forth in this Section, then a non-refundable deposit representing three (3) months of tariffs associated with New Shipper's forecasted volumes will be required. This deposit will be held by Explorer for one year. If after the one (1) year period, the New Shipper has become a Regular Shipper, then the deposit will be applied to future shipments on Explorer. If, after the one (1) year period, the New Shipper has not met the requirements as a Regular Shipper, then the deposit will be forfeited.

2.7 Transportation Charges

Transportation charges will be computed and collected at the rates provided in the current tariff, on the basis of the number of barrels of petroleum products delivered at destinations, after volume corrections as provided in Item No. 60 of the current tariff.

2.8 Product Transfer Orders

Shippers may request transfer of title or ownership of commodities tendered for transportation after they have been received by Explorer at its Gulf Coast origins on the 28" mainline. The Product Transfer Order ("PTO") service is available to Regular or New Shippers desiring to transfer title of commodities to another Regular or New Shipper while

they are in custody of Explorer. A PTO effectively transfers all of the obligations associated with being a Shipper of a particular commodity batch to another Shipper at the destinations listed in 2.8.2.

2.8.1 Process

1. All PTO requests will be initiated and processed through the Transport4 (“T4”) electronic interface system.
2. PTO requests may be initiated by either the buyer or seller of the commodities as long as they are approved Shippers on Explorer. T4 will route the initial PTO request to the counterparty to the transaction for their acceptance and approval. After the request has been approved by the counterparty, T4 will route the request to Explorer for final approval and execution.
3. PTO requests (with approval by the transaction counterparty) should be submitted to Explorer at least one business day (defined here as a non-holiday weekday) before the time scheduled for the start of delivery of the commodities into the Tulsa, Oklahoma tank farm. PTOs cannot be accepted or approved either after the start or completion of delivery of commodities.
4. It is Explorer’s policy to make reasonable efforts to accommodate, approve and promptly process the PTO requests it receives. However, there may be certain instances where Explorer does not accommodate or approve a PTO request for some operating, scheduling, administrative or other reason. Shippers are advised that Explorer has no obligation to accept or process PTOs and makes no guarantee, and can offer no assurance, that a PTO request will be approved or accommodated. Explorer will not be liable for any claims for direct, indirect, incidental or consequential damages, including but not limited to, lost profits or other economic loss stemming from its failure to approve, accommodate or process a PTO request.

2.8.2 Transfer Location and Transportation Charges

All PTOs will be ticketed at the point of product delivery into Port Arthur, Texas (PTA), Tulsa, Oklahoma (GLN) or Wood River, Illinois (WDR) (Receiving Tank Farm). Transportation charges will be invoiced to the origin shipper from the Gulf Coast origin to the Tulsa, Oklahoma destination. Transportation charges will be invoiced to the Shipper receiving title of the commodities from the Tulsa, Oklahoma origin to its final destination. The history for the movement will be recorded the same as was invoiced.

2.8.3 Fees

A transfer fee of eight cents (8.0¢) per barrel of volume transferred will be assessed to the seller of the commodities. Each PTO is subject to a minimum transfer fee of eight hundred dollars (\$800.00).

2.9 **[W] Capacity Allocation Program (CAP) Fees**

Capacity Allocation Program (CAP). See Item 25 of the Company’s current tariff.

2.10 Nomination Integrity Program (NIP)

See Item 25 of the Company's current tariff.

SECTION 3

EXPLORER ORIGIN SPECIFICATIONS

The following are instructions governing the quality of products offered for shipment as Fungible Products.

3.1 Introduction

The American Society for Test Materials (ASTM) latest test methods will apply for all testing of products unless otherwise indicated in the specifications or required by federal, state or local regulations. .

3.2 General

1. Workmanship -The finished product shall be free of undissolved water, sediment or other foreign materials in suspension and shall be clear and bright in origin shipping tanks. Top, middle, and bottom samples may not vary more than 1.0° API from the gravity of the composite. The product temperature of shipping tanks must not exceed 100° F.
2. Two hours prior to lifting, Shipper will be required to furnish to Explorer a Certificate of Analysis warranting to Explorer that all the product scheduled for transportation as a Fungible product meets the required specifications established by Explorer. Explorer may sample and test shipments of Fungible products prior to acceptance, and in the event of variance between Shipper's certificate and Explorer's test, the latter shall prevail.

Acceptance of Fungible products into Explorer prior to receipt of the Certificate of Analysis or testing of products by Explorer during receipt of shipment does not constitute a waiver of product specification requirements, nor relieve the shipper of the responsibility for furnishing a Certificate of Analysis to Explorer.

3. All product shipped must be an EPA certified fuel unless it is specifically designated as a Blend Stock, Specialty Grade or Transmix.
4. Explorer may sample and have tested each batch of fungible products for specifications tests. The expense of sampling and testing any off specification product will be for the Shippers account.
5. Any tests performed by Explorer are for Explorer's information and shall in no way relieve Shipper of the necessity for compliance with specifications.
6. If any of the test data obtained in the examination of scheduled shipments are questionable, a recheck will be made.
7. Explorer reserves the right to reject any products into their fungible stream when a sample obtained from any tank level or line sample at origins is found to deviate from the Shipper's Certificate of Analysis. Products not meeting fungible specifications may be moved as segregated batches and the Shipper will be so advised.

8. Explorer reserves the right to sample and check the water level below any product in tankage, including tank lines, scheduled for shipment. Water in tank lines is to be drained prior to pumping.
9. Explorer reserves the right to reject gasolines, jet fuels, fuel oils and any other products scheduled for shipment that contain water or other impurities in accordance with Item 10 of current FERC tariff. This includes undissolved water, haze, or cloudy conditions present in samples from origin tankage or at points of custody transfer at origin locations. Fuel oils will be considered acceptable if they pass a maximum #2 haze (ASTM D4176) rating in origin tankage or at points of custody transfer at origin locations. Distillates may not exceed 250 ppm of water as measured by D-6304. Gasoline may not exceed 250 ppm of water as measured by D-6304. Jet Fuel may not exceed 150 ppm of water as measured by D-6304. Explorer may require the shipper to remove the water received, and/or invoice the shipper for water disposal and associated costs.
10. Heavy metals are not allowed to be present.
11. Perform quarterly oversight testing to ensure that levels of phosphorous do not exceed allowable limits. Phosphorous, grams /gal ASTM D3231 max. 0.004. (1ppm)
12. Gasoline grades may not contain oxygenates, such as ethers and alcohols. The use of any non-hydrocarbon blending component is prohibited. Origin max. for MTBE is .25 vol% before blending.
13. Biodiesel is not allowed to be present at origin.

DILUENT UNREFINED

“This product does not meet the requirements for gasoline”

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)		(1,4)
		MINIMUM	MAXIMUM	
Gravity, API @ 60°F	D287, D1298, D4052	60	86	
Density Kg/m ³	D4052	640	755	
Color	UNDYED			
BS&W Vol%	D95		0.5	
Total Suspended Solids mg/l	D4807		10	
Corrosion (Cu) 3 Hrs. @ 122°F	D130	1a	1	
H ₂ S Liquid wtppm	D5623		10	
Doctor or:	D4952	Negative		(2)
Mercaptan Sulfur wtppm	D5623		175	
C1, C2, C3				
Sulfur, (ppmw)	D2622, D5453, D7039		3000	
Gum, mg/100ml after washing	D381		4	
Gum, mg/100ml unwashed	D381	Report		
Benzene, vol. %	D3606, D4053		1.6	
Oxidation Stability - Minutes	D525	240		
Appearance @ 70°F				(3)
Odor Nonoffensive				(5)
Reid Vapor Pressure	D5191		14.94	
Saybolt Color	D156	+20		
Olefins Vol %	D5443		.51	
Oxygenates wppm	D6729 D4815		100	
Paraffins Vol %	D5443		90	
Naphthenes Vol %	D5443	report		
Aromatics Vol %	D5443	2		
Organic Chlorides wppm	D4929		<1.0	
Isobutane % V/V	D6730		0.70	
n-Butane %V/V	D6730		03.0	
Extract water Ph	D2110	report		

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):	Minimum	60

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.

DILUENT UNREFINED

“This product does not meet the requirements for gasoline”

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)		(1,4)
		MINIMUM	MAXIMUM	
Gravity, API @ 60°F	D287, D1298, D4052	51	90	
Density Kg/m ³	D4052	640	755	
Color	UNDYED			
BS&W Vol%	D95		0.5	
Total Suspended Solids mg/l	D4807		10	
Corrosion (Cu) 3 Hrs. @ 122°F	D130	1a	1	
Corrosion (Ag) 3 Hrs. @ 122°F	D4814	0	1	
H ₂ S Liquid wtppm	D5623		10	
Doctor or:	D4952		Negative	(2)
Mercaptan Sulfur wtppm	D5623		175	
C1, C2, C3				
Sulfur, (ppmwt)	D2622, D5453, D7039		350	
Gum, mg/100ml after washing	D381		4	
Gum, mg/100ml unwashed	D381		Report	
Benzene, vol. %	D3606, D4053		1.6	
Oxidation Stability - Minutes	D525	240		
Appearance @ 70°F				(3)
Odor Nonoffensive				(5)
Reid Vapor Pressure	D5191		14.94	
Saybolt Color	D156		+20	
Olefins Vol %	D5443		.51	
Oxygenates wppm	D6729 D4815		100	
Paraffins Vol %	D5443		90	
Naphthenes Vol %	D5443		Report	
Aromatics Vol %	D5443	2		
Organic Chlorides wppm	D4929		<1.0	
Isobutane % V/V	D6730		0.70	
n-Butane %V/V	D6730		03.0	
Extract water Ph	D2110		Report	

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):	Minimum	60

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.

CONVENTIONAL PREMIUM GASOLINE
HOUSTON - DALLAS, TX AREAS

This product does not meet the requirements for reformulated gasoline, and may not be used in any reformulated gasoline covered area.

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor or:	D4952		Negative (2)
Mercaptan Sulfur, (ppm wt.)	D3227		0.002
Sulfur wt. %	D2622, D5453, D7039		80
Benzene, vol. %	D3606, D4053		3.8
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599		0.10 (4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):	Minimum	93.0

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension.
- (4) This product must be oxygenate free. Non-hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For product blended to meet state or EPA imposed summer RVP requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80. Product must meet state, local or EPA specifications at destination.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements

CONVENTIONAL PREMIUM GASOLINE
CENTRAL MISSOURI - SOUTHERN ILLINOIS

“This product does not meet the requirements for reformulated gasoline, and may not be used in any reformulated gasoline covered area.”

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor or:	D4952		Negative (2)
Mercaptan Sulfur, (ppm wt.)	D3227		0.002
Sulfur wt. %	D2622, D5453, D7039		80
Benzene, vol. %	D3606, D4053		3.8
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599		0.10 (4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):	Minimum	93.0

- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For product blended to meet state or EPA imposed summer RVP requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80. Product must meet state, local or EPA specifications at destination.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements

CONVENTIONAL REGULAR GASOLINE
HOUSTON - DALLAS, TX AREAS

“This product does not meet the requirements for reformulated gasoline, and may not be used in any reformulated gasoline covered area.”

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color		Undyed	
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor or:	D4952		Negative (2)
Mercaptan Sulfur, (ppm wt.)	D3227		0.002
Sulfur wt. %	D2622, D5453, D7039		80
Benzene, vol. %	D3606, D4053		3.8
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599		0.10 (4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):	Minimum	93.0

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For products blended to meet EPA or state imposed summer requirements, test must be performed for RVP in accordance with procedure described in 40 CFR, PART 80, Appendix E, Method 3.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements.

HOUSTON-DALLAS TEXAS AREAS

**CONVENTIONAL REGULAR GASOLINE BLENDSTOCK (CBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806**

The following parameters apply before blending with denatured fuel ethanol unless noted.

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur	D3227		0.002
Sulfur wt. (ppm wt.)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		3.8
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599		0.10 (4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	79.0
	(R+M)/2 (AKI):		83.0

The following parameters apply after blending with denatured fuel ethanol:

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

- Distillation D86 3-A
- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign material in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For product blended to meet state or EPA imposed summer RVP requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80. Product must meet state, local or EPA specifications at destination.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements

NORTHERN ILLINOIS - INDIANA AREAS
CENTRAL MISSOURI - SOUTHERN ILLINOIS

CONVENTIONAL REGULAR GASOLINE BLENDSTOCK (CBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806

The following parameters apply before blending with denatured fuel ethanol unless noted.

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur	D3227		0.002
Sulfur wt. (ppm wt.)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		3.8
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599		0.10 (4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	79.0
	(R+M)/2 (AKI):		83.0

The following parameters apply after blending with denatured fuel ethanol:

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

Distillation	D86	3-A
Volatility - Refer to Section 3		3-A
Distillation - Refer to Section 3		3-A
Drivability Index (Origin) - Refer to Section 3		3-A
Reid Vapor Pressure – Refer to Appendix F		(6)
Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3		3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign material in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For product blended to meet state or EPA imposed summer RVP requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80. Product must meet state, local or EPA specifications at destination.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements

CENTRAL MISSOURI -ILLINOIS – INDIANASUB-OCTANE GASOLINE BLENDSTOCK (SUB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL OR OTHER OCTANE
IMPROVERS
(92% PURITY) AS DEFINED IN ASTM D4806

The following parameters apply before blending with denatured fuel ethanol unless noted.

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Sulfur wt. (ppm wt.)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		3.8
Oxidation Stability - Minutes	D525	240	
Haze Rating	D4176		2
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599		0.10 (4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	79.0
	(R+M)/2 (AKI):		83.0

The following parameters apply after blending with denatured fuel ethanol:

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

Distillation D86	3-A
Volatility - Refer to Section 3	3-A
Distillation - Refer to Section 3	3-A
Drivability Index (Origin) - Refer to Section 3	3-A
Reid Vapor Pressure – Refer to Appendix F	(6)
Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3	3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign material in suspension.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For product blended to meet state or EPA imposed summer RVP requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80. Product must meet state, local or EPA specifications at destination.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements

CONVENTIONAL REGULAR GASOLINE
NORTHERN ILLINOIS - INDIANA AREAS
CENTRAL MISSOURI - SOUTHERN ILLINOIS

“This product does not meet the requirements for reformulated gasoline, and may not be used in any reformulated gasoline covered area.”

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814 Annex A1	1	
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Sulfur wt. (ppm wt.)	D2622, D5453, D7039		80
Benzene, vol. %	D3606, D4053		4.9
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. %	D4815, D5599	0.10	(4)
Odor	Nonoffensive		(5)

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See Page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed.
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment.
- (6) For products blended to meet EPA or state imposed summer RVP requirements, test must be performed for RVP in accordance with procedure described in 40 CFR, PART 80, Appendix E, Method 3.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements.

**REFORMULATED PREMIUM GASOLINE BLENDSTOCK (PBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
VOC-CONTROLLED REGION 1 COMPLEX MODEL PHASE II
HOUSTON-DALLAS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Sulfur wt. (ppm wt.)	D2622, D5453, D7039		80
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		27.0	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):		93.0 (8)

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED PREMIUM GASOLINE BLENDSTOCK (PBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
NON-VOC-CONTROLLED REGION 1 COMPLEX MODEL PHASE II
HOUSTON-DALLAS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		27.0	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):		93.0 (8)

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

REFORMULATED PREMIUM GASOLINE BLENDSTOCK (PBOB) **
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
VOC-CONTROLLED REGION 1 COMPLEX MODEL PHASE II
ST. LOUIS AREA

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		27.0	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):		93.0 (8)

- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F 3-B (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED PREMIUM GASOLINE BLENDSTOCK (PBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
NON-VOC-CONTROLLED COMPLEX MODEL PHASE II
ST. LOUIS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		27.0	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):		93.0 (8)

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED PREMIUM GASOLINE BLENDSTOCK (PBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
VOC-CONTROLLED REGION 2 COMPLEX MODEL PHASE II
CHICAGO AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		25.4	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):		93.0 (8)

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED PREMIUM GASOLINE BLENDSTOCK (PBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
NON-VOC-CONTROLLED COMPLEX MODEL PHASE II
CHICAGO AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	Report
	(R+M)/2 (AKI):		93.0 (8)

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
VOC-CONTROLLED REGION 1 COMPLEX MODEL PHASE II
HOUSTON-DALLAS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		27.0	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F 3-B (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
NON-VOC-CONTROLLED REGION 1 COMPLEX MODEL PHASE II
HOUSTON-DALLAS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F 3-B (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
NON-VOC-CONTROLLED COMPLEX MODEL PHASE II
CHICAGO AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F 3-B (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
VOC-CONTROLLED REGION 2 COMPLEX MODEL PHASE II
CHICAGO AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		25.4	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

- Volatility - Refer to Section 3 3-A
- Distillation - Refer to Section 3 3-A
- Drivability Index (Origin) - Refer to Section 3 3-A
- Reid Vapor Pressure – Refer to Appendix F 3-B (6)
- Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
VOC-CONTROLLED REGION 1 COMPLEX MODEL PHASE II
ST. LOUIS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor	Nonoffensive		(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
Emission Performance Reduction (%)		27.0	
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

**REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB)
FOR BLENDING WITH 10% DENATURED FUEL ETHANOL
(92% PURITY) AS DEFINED IN ASTM D4806
NON-VOC-CONTROLLED COMPLEX MODEL PHASE II
ST. LOUIS AREA**

The following parameters apply before blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Gravity, API @ 60°F	D287, D1298, D4052		Report
Color			Undyed
Corrosion (Cu) 3 Hrs. @ 122°F	D130		1
Corrosion (Ag) 3 Hrs. @ 122°F	D4814		1
Gum, mg/100ml after washing	D381		4
Gum, mg/100ml unwashed	D381	Report	
Doctor	D4952		Negative (2)
or: Mercaptan Sulfur wt %	D3227		0.002
Oxidation Stability - Minutes	D525	240	
Appearance @ 70°F			(3)
Oxygen, wt. % Neat		Report	(4)
Odor		Nonoffensive	(5)

The following parameters apply after blending with denatured fuel ethanol:

PRODUCT PROPERTY	ASTM TEST METHOD	SPECIFICATIONS (1)	
		MINIMUM	MAXIMUM
Sulfur, (ppmwt)	D2622, D5453, D7039		80
Benzene, vol. %	D3606		1.30
Aromatics (vol %)	D5769, D5599		50.0 (6)
Olefins (vol %)	D1319		25.0
Oxygen, wt. % Blended	D4815, D5599	1.7	4.0 (7)
E200 (vol %)	D86	30.0	70.0
E300 (vol %)	D86	70.0	100.0

Octane:	RON: Minimum	D2699	Report
	MON: Minimum	D2700	82.0
	(R+M)/2 (AKI):		87.0

Volatility - Refer to Section 3 3-A
 Distillation - Refer to Section 3 3-A
 Drivability Index (Origin) - Refer to Section 3 3-A
 Reid Vapor Pressure – Refer to Appendix F 3-B (6)
 Additives: Gum Inhibitors, Metal Deactivators, Refer to Section 3 3-B

NOTE: This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.

CODE 4T

- (1) Deliveries may be higher or lower by normal testing and handling tolerance. All tests should be the most current version or the version specified by federal, state, or local government.
- (2) Mercaptan Sulfur waived if fuel is negative by doctor test.
- (3) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See page 3-2 Paragraph 8.
- (4) This product must be oxygenate free. Non hydrocarbon blending components are not allowed
- (5) Any Gasoline exhibiting an offensive odor and/or poses a personal health hazard and/or contains more than 0.30 wt. % dicyclopentadiene will not be accepted for shipment
- (6) Refer to test methods published in 40 CFR Chapter 1, Part 80.46. ASTM methods D1319 and D4815 may be used in accordance with Federal and State laws.
- (7) Refer to test method published in 40 CFR, Part 80, Appendix E, Method 3.
- (8a) This product must be blended with 10% by volume Denatured Fuel Grade Ethanol.
- (8b) Federal RFG maximum and minimum testing requirement will apply to the final blends of this product.
- (8c) This product, when blended with 10% volume percent of Denatured Fuel Grade Ethanol, and must have a Benzene level of 1.3 volume % or lower and have an Oxygen content of at least 1.7% but not more than 4.0% by wt.

SECTION 3-A

Distillation and Volatility Requirements before blending with 10% Ethanol

Distillation: ASTM D86	CLASS					
	<u>AA</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
10% Evap. °F Max	158	158	149	140	131	122
50% Evap. °F Min Blended	150	150	150	150	150	150
50% Evap. °F Min	170	170	170	170	170	170
50% Evap. °F Max	250	250	245	240	235	230
90% Evap. °F Max	374	374	374	365	365	365
End Point, °F Max	430	430	430	430	430	430
Residue, % Max	2	2	2	2	2	2
*Vapor Pressure (VP)	7.8	9.0	10.0	11.5	13.5	15.0
Vapor Pressure Blended	8.8	10.0	11.0	12.5	14.5	15.5
Drivability Index, Blended °F Max	1250	1250	1240	1230	1220	1200

**V/L @ 20, Min. Temp °F
ASTM D5188

Neat:

Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
140	133	124	116	105	95

Blended:

Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
129	122	116	107	102	95

* For products blended to meet EPA or state imposed volatility requirements, Reid Vapor Pressure (RVP) tests must be performed in accordance with methods published in 40 CFR Part 80 1476-14490 Vol. 58 No. 50

** D5188 is the referee test method.

Section 3-A.1

For products blended to meet EPA or state imposed summer requirements, test must be performed for RVP in accordance with procedure described in 40 CFR, PART 80, Appendix E, Method 3.

Vapor pressure requirements at destination are based on ASTM Standard D4814 EPA and/or State standards. Due to in-transit times for destinations, Explorer will publish Reid Vapor Pressure schedules by cycle number for origin locations.

The Reid Vapor Pressures published by cycle number are estimations based on Explorer in-transit time and federal and state volatility laws applicable within the designated distribution areas.

Shipper terminals should monitor inventories to ensure that motor gasolines comply with federal and state volatility requirements.

SECTION 3-B

ADDITIVES FOR GASOLINE

I. Gum Inhibitors and Metal Deactivators

Shipments of gasolines may, but are not required to contain the following:

- N,N'di-secondary butyl para-phenylenediamine
- N,N'disalicyldene-1,2 propanediamine
- 2,6-di-tertiary butyl 4 methyl phenol
- N,N'di(1-ethyl-2-methylpentyl) para-phenylenediamine
- N,N'di-isopropyl-para-phenylenediamine
- N,N'bis-(1,4-diamthylphenyl)-p-phenylenediamine
- n-Butyl para-aminophenol
- 2,4,6-tritertiary butylphenol
- Ortho-tertiary butylphenol
- 2,4-diamethyl-6-tertiary-butylphenol
- 2,4-di-tertiary butylphenol
- N,secondary butyl,N'phenyl-para-phenylenediamine
- Butylated ethyl, methyl and dimethyl phenols
- Mixed propylated and butylated phenols
- 2,4,6 tri-isopropylphenol
- 2,6-di-tertiary butylphenol

II. Corrosion Inhibitors

All products shipped on Explorer Pipeline, with the exception of all grades of Aviation Kerosene, are required to meet a minimum level of corrosion protection. The concentration of inhibitor dosage will be controlled to meet a minimum rating of B+ (less than 5% of test surface rusted) before blending with denatured fuel ethanol (where applicable) as determined by NACE Standard TMO172, Test Method-Antirust Properties of Petroleum Products Pipeline Cargoes.

Unleaded Gasolines shipped on Explorer Pipeline may contain only the following corrosion inhibitors:

Afton	Hi TEC	Mid	MCC
Aqua	11CH7	Mobil	C-
Corexi	526	Nalco	5403,5405,EC5624A
Ethyl	58	Spec-Aid	8Q22,8Q1018Q123ULS
Innospec	DCI-4A, DCI6A,DCI-11,DCI30	Tola	245, 249, 351, 3232, 3232D
Lubrizol	8014	Uniche	7500, 7501, 751
		UO	Unicor

- III. The use of Port Fuel Injections (PFI) and intake valve detergent additives is prohibited.
- IV. No additives or corrosion inhibitors containing phosphorus may be used in the gasoline. Phosphorous, as measured by ASTM D3231 shall not exceed 0.004 gms/gal.
- V. All Explorer Fungible Gasolines are “Bases-Gasoline and are not for sale to the ultimate consumer.”

FUNGIBLE AVIATION TURBINE FUEL
JET A

		EXPLORER ORIGIN SPECIFICATIONS (1)		
PRODUCT PROPERTY	ASTM TEST METHOD	MINIMUM	MAXIMUM	NOTES
<u>General Properties</u>				
Gravity, °API @ 60°F	D287, D1298, D4052	37	31	
Net Heat of Combustion, BTU/Pound	D3338, D4529, D4809	18,400		a.
Corrosion, Copper Strip, 2 Hrs. @ 212°F	D130		No. 1	
MSEP (WSIM) Origin	D3948, D7224	85		
Destination		75		
Electrical Conductivity	D2624		10	Report
Particulate contaminant Mg/Gal	D2276		Report	
Water Reaction:	D1094			
Interface Rating			1b	
Color, Saybolt (Origin)	D156, D6045	20		
Total Sulfur, ppm	D4294, D2622, D5453, D7039		1500	
Color, Saybolt (Destination)	D156, D6045	18		
Appearance				b.
Additives				c. & d.
<u>Low Temperature Properties</u>				
Freezing Point, °C	D2386, D5972		-40.0	
Viscosity, cSt 104°F (40°C)	D445 D7042		1.9	
Viscosity, cSt -4°F (-20°C)	D445 D7042		8.0	
<u>Volatility</u>				
Flash Point, °F Origin	D56, D3828	108		e.
Destination		100		
Distillation, Temp., C °(F)	D86			h.
10% Recovered			205 (400)	
50% Recovered			Report	
90% Recovered			288 (550)	
Final Boiling Point, °F			300 (572)	
Distillation Residue, Vol. %			1.5	
Distillation Loss, Vol. %			1.5	

		EXPLORER ORIGIN SPECIFICATIONS (1)		
PRODUCT PROPERTY	ASTM TEST METHOD	MINIMUM	MAXIMUM	NOTES
or Simulated Distillation C (F)	D2887			h.
10% Recovery			185 (365)	
50% Recovery		Report		
90% Recovery			304 (579)	
End Point			340 (644)	
Stability				
Existent Gum, mg/100 ml	D381		7.0	
Thermal Stability:	D3241			f.
Filter Pressure Drop. mm Hg			25	
Tube Deposit			<3	
No Peacock or Abnormal Color Deposits				
Composition Properties				
Sulfur, Total wt%	D7039 or D5453 D2622 or D4294		0.150	
Doctor Test	D4952		Negative	
Sulfur, Mercaptan	D3227		0.003	
Aromatics, Vol. %	D1319		25	
Acidity, Total Max, mg KOH/g	D3242		0.1	
Combustion Properties				
One of the following requirements shall be met:				
(1) Luminometer No.	D1740	45		
(2) Smoke Point, mm	D1322	25.0		
(3) Smoke Point, mm	D1322	18.0		
AND				
Naphthalenes, Vol. %	D1840	3.0		

- (1) Deliveries may be higher or lower by normal testing and handling tolerance.
 - (a.) For all grades use either Eq 1 or Table 1 in test method D 4529 or Eq 2 in Test Method D 3338. Test Method D 4809 may be used as an alternative. In case of dispute, Test Method D4809 shall be used.
 - (b.) Product shall be clear and bright and free of suspended water and sediment. See Page 3-2 paragraph 8.
 - (c.) No additives other than anti-oxidants and metal deactivators as set forth in ASTM D1655 (latest edition) Section 5.2.1 and 5.2.2 shall be permitted. The use of these additives requires advance approval from Explorer Pipeline prior to delivery into the pipeline. The use of these additives must be clearly stated on the C of A. Explorer Pipeline reserves the right to refuse shipment of product containing these additives. The use of any other additives is prohibited.
 - (d.) No rust inhibitor shall be injected into this product unless approved by all shippers.
 - (e.) Method D56 is the preferred method. In case of a dispute D56 will apply.
 - (f.) At origin, Thermal Stability test (JFTOT) shall be conducted for 2.5 hours at a control temperature of 275° C. At destination, test shall be conducted for 2.5 hours at a control temperature of 260°C. Tube deposits shall always be reported by Visual Method: a rating by the Tube Deposit Rating (TDR) optical density method is desirable, but not mandatory.
 - (g.) The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the doctor test described in 4.2 of ASTM D235.
 - (h.) Physical or Simulated distillation can be used. ASTM D 86 will be the referee test method.

ULTRA LOW SULFUR FUEL OIL
FUNGIBLE ULTRA LOW SULFUR FUEL OIL

		EXPLORER ORIGIN SPECIFICATIONS (1)		
PRODUCT PROPERTY	ASTM TEST METHOD	MINIMUM	MAXIMUM	NOTES
General Properties				
Gravity, °API	D287, D4052	30		
Flash Point, °F Pensky-Marten	D93	130		
Distillation C (F)	D86			
50%		Report		
90%		282 (540)	338 (640)	
End Point			366 (690)	
Or Simulated Distillation C (F)	D2887			
50% recovered			Report	
90% recovered		300 (572)	356 (673)	
End Point			421 (790)	
Color, ASTM	D1500, D6045		2.5	
Color, Visual		Undyed		
Viscosity, cSt @ 104°F (40°C)	D445 D7042	1.9	4.1	
Pour Point, °F	D97, D5949, D5950, D5985		See Page 3-50	
Cloud Point, °F	D2500, D5771, D5772, D5773		See Page 3-50	
Corrosion, 3 Hrs. @ 122 °F	D130		1	
Total Sulfur, % by wt.	D4294, D2622, D5453, D7039			
28" Origin			0.0011	(2)
Lake Charles, Port Neches			0.0011	(2)
Cetane Index	D976	40		
Cetane Index	D4737			
	Procedure A	40.0		
Cetane Number	D613, D6890	40.0		
Ash, % by wt.	D482		0.01	
Carbon Residue: Ramsbottom on 10% Bottom	D524		0.35	
Water & Sediment				(4)
Thermal Stability mg/100ml.	D2274		2.5	
300°F Pad rating, DuPont scale			7	
Thermal stability Reflectance	D6468	(W) 75		
Reading Min.		(Y) 82		
Oxidation Stability mg/100 ml	D2274		2.5	
Haze Rating @ 77°F (25°C)	D4176 Procedure 2		2	
Additives:	Corrosion Inhibitors: Page 3-51			

NOTES:

- (1) Ultra Low Sulfur Diesel Fuel to meet EPA Standards.
- (2) Per 40 CFR 80.580 (b) (3) any method certified under 80.585 may be used. Explorer will accept any EPA qualified method.
- (3) Aromatics by D1319 of 35 vol% max. may be used as an alternative.
- (4) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See Page 3-2 Paragraph 8.
- (5) On System #10 the Houston to Dallas 10" pipeline, diesel fuel may contain up to 5% Bio-Diesel. Locations affected are: North Houston (NH1), Bryan Terminal (BR1), Hearne Terminal (HR1), Waco Terminal (WA2 & WA4), Arlington Terminal (AR1 & AT1), Fort Worth Terminals (FT1, FM1, and FW1), Grapevine/Southlake Terminals (GR1, GR3, GR5) and Dallas/Singleton Terminals (DT1 & DT2).

**FUNGIBLE ULTRA LOW SULFUR FUEL OIL BLENDSTOCK FOR BLENDING TO
MEET TEXAS L.E.D. SPECIFICATIONS**

		EXPLORER ORIGIN SPECIFICATIONS (1)		
PRODUCT PROPERTY	ASTM TEST METHOD	MINIMUM	MAXIMUM	NOTES
General Properties				
Gravity, °API	D287, D4052, D1298	30		
Flash Point, °F Pensky-Marten	D93	130		
Distillation C (F)	D86			
50%		Report		
90%		282 (540)	338 (640)	
End Point			366 (690)	
Or Simulated Distillation C (F)	D2887			
50% recovered			Report	
90% recovered		300 (572)	356 (673)	
End Point			421 (790)	
Color, ASTM	D1500, D6045		2.5	
Color, Visual		Undyed		
Viscosity, cSt @ 104°F (40°C)	D445 D7042	1.9	4.1	
Pour Point, °F	D97, D5949, D5950, D5985		See Page 3-50	
Cloud Point, °F	D2500, D5771, D5772, D5773		See Page 3-50	
Corrosion, 3 Hrs. @ 122 °F	D130		1	
Total Sulfur, % by wt.	D4294, D2622, D5453, D7039			
28" Origin			0.0011	(2)
Lake Charles, Port Neches			0.0011	(2)
Cetane Index	D976	40		
Cetane Index	D4737			
	Procedure A	40.0		
Cetane Number	D613, D6890	40.0		
Ash, % by wt.	D482		0.01	
Carbon Residue: Ramsbottom on 10% Bottom	D524		0.35	
Water & Sediment				(4)
Thermal Stability mg/100ml.	D2274		2.5	
300°F Pad rating, DuPont scale			7	
Thermal stability Reflectance	D6468	(W) 75		
Reading Min.		(Y) 82		
Oxidation Stability mg/100 ml	D2274		2.5	
Haze Rating @ 77°F (25°C)	D4176 Procedure 2		2	
Additives:	Corrosion Inhibitors: Page 3-51			

NOTES:

- (1) Ultra Low Sulfur Diesel Fuel to meet EPA Standards.
- (2) Per 40 CFR 80.580 (b) (3) any method certified under 80.585 may be used. Explorer will accept any EPA qualified method.
- (3) Aromatics by D1319 of 35 vol% max. may be used as an alternative
- (4) This product shall be free from undissolved water, sediment or other foreign materials in suspension. See Page 3-2 Paragraph 8
- (5) On System #10 the Houston to Dallas 10" pipeline, diesel fuel may contain up to 5% Bio-Diesel. Locations affected are: North Houston (NH1), Bryan Terminal (BR1), Hearne Terminal (HR1), Waco Terminal (WA2 & WA4), Arlington Terminal (AR1 & AT1), Fort Worth Terminals (FT1, FM1, and FW1), Grapevine/Southlake Terminals (GR1, GR3, GR5) and Dallas/Singleton Terminals (DT1 & DT2).

BIODIESEL

		EXPLORER ORIGIN SPECIFICATIONS (1)		
PRODUCT PROPERTY	ASTM TEST METHOD	MINIMUM	MAXIMUM	NOTES
General Properties				
Gravity, °API	D1298, D4052	Report	Report	
Distillation °C (°F)				
90%	D1160		360 (680)	
Corrosion, 3 Hrs @ 50°C	D130		1B	
Cloud Point, °C (°F)	D2500			
Summer			10 (50)	(2)
Winter			2 (35.6)	(2)
Water & Sediment	D2709		0.05	
Haze Rating @ 77°F (25°C)	D4176			
	Procedure 2		1	
Viscosity, cSt @ 104°F (40°C)	D445, D7042		1.9	6.0
Carbon Residue, mass %	D4951		0.05	
Phosphorous, mass%	D4951		0.001	
Sulphur, ppm			11	
Cetane number	D613, D6304	47		
Water, mass%	E203		0.035	
Free glycerin, mass%	D6584		0.020	
Monoglyceride content, mass%	D6584			
Summer			0.700	(2)
Winter			0.400	(2)
Total Glycerin, mass%	D6584		0.240	
Acid Number, mg KOH/g	D664		0.5	
Cold Soak Filterability, seconds	D7501			
Summer			360	(2)
Winter			200	(2)
Sulfated Ash, mass%	D874		0.020	
Alcohol Control, one of the following:				
1. Methanol Content, mass%	EN14110	130°C	0.200	
2. Flashpoint, °C (°F)	D93	(266°F) 93°C		
Flashpoint (closed cup), °C (°F)	D93	(199°F)		
Oxidation Stability hrs @ 110°C (230°F)	EN15751	6		
Sodium & Potassium combined ppm (µg/g)	EN14538		5	
Calcium & Magnesium combined ppm (µg/g)	En14538		5	

Additional Specifications:

1. Product must pass ASTM D6751 standards.
(Distilled ME from palm oil, UCO and DCO upon approval)
2. No methyl esters derived from palm oil, brown grease, or yellow grease.
3. Supplier must be BQ9000 certified.
4. All product must pass through a 20 micron filter at loading.
5. All product must be undyed.

NOTES:

1. This shall be the referee method. Others as allowable under ASTM D6751.

January	Winter	
February	Winter	
March*	Summer	Transition month: Product cannot be 100% summer specification
April	Summer	
May	Summer	
June	Summer	
July	Summer	
August	Summer	
September	Summer	
October	Summer	
November*	Summer	Transition month: Product cannot be 100% summer specification
December	Winter	

SPECIFICATIONS FOR POUR POINT & CLOUD POINT

<u>MONTH</u>	<u>CYCLE</u>	<u>POUR PT. °F MAX.</u>	<u>CLOUD PT. °F MAX.</u>
Jan.	01 ---- 06	0	+15
Feb.	07----- 12	0	+15
Mar.	13----- 18	0	+15
Apr.	19----- 24	+10	+20
May	25----- 30	+10	+20
Jun.	31----- 36	+10	+20
Jul.	37----- 42	+10	+20
Aug.	43----- 48	+10	+20
Sep.	49----- 54	0	+15
Oct.	55----- 60	0	+15
Nov.	61----- 66	0	+15
Dec.	67----- 72	0	+15

ADDITIVE REQUIREMENTS FOR FUEL OIL DISTILLATE SPECIFICATIONS

I. Corrosion Inhibitors

All products shipped on Explorer Pipeline, with the exception of all grades of Aviation Kerosene, are required to meet a minimum level of corrosion protection. The concentration of inhibitor dosage will be controlled to meet a minimum rating of B+ (less than 5% of test surface rusted) as determined by NACE Standards TMO172, Test Method-Antirust Properties of Petroleum Products Pipeline Cargoes.

Fuel Oil Distillate shipped on Explorer Pipeline may contain only the following corrosion inhibitors:

Tolad	4410	Lubrizol	8014	SPEC-AID	8Q110 ULS
Tolad	4415	Lubrizol	8017	SPEC-AID	8Q123 ULS
Corexit	5267	Mobil	C-605	SPEC-AID	8Q22
DuPont	DCI-4A	Nalco	5403	Tolad	245
DuPont	DCI-6	Nalco	5405	Tolad	249
DuPont	DCI-6A	Nalco	5406	Unichem	7500
DuPont	DCI-11	Nalco	5400-A	Unichem	7501
DuPont	DCI-17	Nalco	EC5414A	Unichem	7510
DuPont	AFA-1	Nalco	EC5415A	UOP Unicor	
DuPont	DMA-4	Nalco	EC5416A	UOP Unicor J	
Ethyl HI Tec	580			UOP Unicor PL	
MidContinental Chemical	MCC5001				

II. Static Dissipater Additives

Fuel Oil shipments may, but are not required to, contain static dissipater additive. The only approved SDA for use on Explorer Pipeline is “Innospec Stadis 450”. SDA is prohibited from all Kerosene grades. The origin maximum concentration of Stadis 450 is 0.75 mg/l, and the origin maximum conductivity allowed is 250 pS/m at 21 degrees C (70 F) by ASTM D2624.

SECTION 5
SCHEDULING CALENDAR

2018			Jet Cycle		Diesel Cycle	
Month Nominated	Schedule Nominations	Due Date	Start Date at Houston	Cycles	Start Date at Houston	Cycles
Jan.	Shipper Original Nominations and Bids due	12/9/2017	1/1/2017	1	1/6/2017	2
	EPL-award Bids	12/12/2017	1/11/2017	3	1/16/2017	4
	Shippers Sch. Binding Requests	12/13/2017	1/21/2017	5	1/26/2017	6
Feb.	Shipper Original Nominations and Bids due	1/10/2018	2/1/2018	7	2/6/2018	8
	EPL-award Bids	1/11/2018	2/11/2018	9	2/16/2018	10
	Shippers Sch. Binding Requests	1/12/2018	2/21/2018	11	2/26/2018	12
Mar.	Shipper Original Nominations and Bids due	2/10/2018	3/1/2018	13	3/6/2018	14
	EPL-award Bids	2/11/2018	3/11/2018	15	3/16/2018	16
	Shippers Sch. Binding Requests	2/14/2018	3/21/2018	17	3/26/2018	18
Apr.	Shipper Original Nominations and Bids due	3/10/2018	4/1/2018	19	4/6/2018	20
	EPL-award Bids	3/11/2018	4/11/2018	21	4/16/2018	22
	Shippers Sch. Binding Requests	3/14/2018	4/21/2018	23	4/26/2018	24
May	Shipper Original Nominations and Bids due	4/10/2018	5/1/2018	25	5/6/2018	26
	EPL-award Bids	4/11/2018	5/11/2018	27	5/16/2018	28
	Shippers Sch. Binding Requests	4/12/2018	5/21/2018	29	5/26/2018	30
June	Shipper Original Nominations and Bids due	5/10/2018	6/1/2018	31	6/6/2018	32
	EPL-award Bids	5/11/2018	6/11/2018	33	6/16/2018	34
	Shippers Sch. Binding Requests	5/12/2018	6/21/2018	35	6/26/2018	36
July	Shipper Original Nominations and Bids due	6/10/2018	7/1/2018	37	7/6/2018	38
	EPL-award Bids	6/11/2018	7/11/2018	39	7/16/2018	40
	Shippers Sch. Binding Requests	6/13/2018	7/21/2018	41	7/26/2018	42
Aug.	Shipper Original Nominations and Bids due	7/10/2018	8/1/2018	43	8/6/2018	44
	EPL-award Bids	7/11/2018	8/11/2018	45	8/16/2018	46
	Shippers Sch. Binding Requests	7/12/2018	8/21/2018	47	8/26/2018	48
Sep.	Shipper Original Nominations and Bids due	8/10/2018	9/1/2018	49	9/6/2018	50
	EPL-award Bids	8/11/2018	9/11/2018	51	9/16/2018	52
	Shippers Sch. Binding Requests	8/14/2018	9/21/2018	53	9/26/2018	54
Oct.	Shipper Original Nominations and Bids due	9/10/2018	10/1/2018	55	10/6/2018	56
	EPL-award Bids	9/11/2018	10/11/2018	57	10/16/2018	58
	Shippers Sch. Binding Requests	9/12/2018	10/21/2018	59	10/26/2018	60
Nov.	Shipper Original Nominations and Bids due	10/10/2018	11/1/2018	61	11/6/2018	62
	EPL-award Bids	10/11/2018	11/11/2018	63	11/16/2018	64

	Shippers Sch. Binding Requests	10/12/2018	11/21/2018	65	11/26/2018	66
Dec.	Shipper Original Nominations and Bids due	11/10/2018	12/1/2018	67	12/6/2018	68
	EPL-award Bids	11/11/2018	12/11/2018	69	12/16/2018	70
	Shippers Sch. Binding Requests	11/14/2018	12/21/2018	71	12/26/2018	72
2019						
Jan.	Shipper Original Nominations and Bids due	12/10/2018	1/1/2019	1	1/6/2019	2
	EPL-award Bids	12/11/2018	1/11/2019	3	1/16/2019	4
	Shippers Sch. Binding Requests	12/12/2018	1/21/2019	5	1/26/2019	6
Feb.	Shipper Original Nominations and Bids due	1/10/2019	2/1/2019	7	2/6/2019	8
	EPL-award Bids	1/11/2019	2/11/2019	9	2/16/2019	10
	Shippers Sch. Binding Requests	1/12/2019	2/21/2019	11	2/26/2019	12
To estimate cycle starting dates at other EPL origins use the following table						
	Port Neches	-2 to -3 Days				
	Port Arthur	-1 to -2 Days				
	Pasadena	0 Days				
	Houston	0 Days				
	Glenpool	+4 to +7 Days				
	Wood River	+8 to +13 Days				
	Hammond	+12 to +20 Days				

SECTION 6
NOMINATION INSTRUCTIONS

6.1 Batch Number System

6.1.1 General

Numbers will be assigned to batches to identify the movement with the Shipper, Pipeline Operating Personnel, and the Accounting Department.

6.1.2 Batch Number

The batch number identifying shipments through Explorer will contain the following information:

Shipper	(A.)
Grade of Product	(B.)
Cycle Number	(C.)
Flexible Batch	(D.)
Cycle & Number of Shipment of Grade in Cycle	(E.)
Point of Origin	(F.)
PHP-46-271-PTA	(A)-(B)-(C)(D&E)-(F)

- a. The shipper will be identified by a three letter symbol as shown in **Appendix A**.
- b. Grades of products and crudes will be identified by numerical codes shown in **Appendix C**.
- c. Cycle number will be identified by the numerical code shown in **Section 5** of Schedule Calendar.
- d. An alpha code will be used to designate Flexible Batches.
- e. A numeric code will be used to designate the shipment number.
- f. Point of origin will be identified by a three letter symbol shown in **Appendix B**.

6.1.3 Cycle and Shipment Within A Cycle

This will consist of a 3-digit number, the first two of which will indicate the cycle in which the product was originated. The third digit indicating the number of shipments of a particular grade in each cycle for each company, from each location; but not necessarily in sequential order. An alpha code will be used in place of cycle number to designate Flexible Batches.

6.1.4 Batch Numbering Illustration (Refined Products)

Using PHI-46-271-PTA as an example, batch number would identify the movement as follows:

PHI Phillips Petroleum Company - Shipper

46 87.0 R+M/2 North of Tulsa Unleaded Gasoline
27 Scheduled for Shipment in 27th Cycle; to Originate Gulf Coast Area
approximately September 25th; The Last Digit Indicating First
Nominated Movement of 87.0 R+M/2 - Leaded Gasoline by
ConocoPhillips in 27th Cycle.
PTA Port Arthur, TX – Point of Origin

6.1.5 Deliveries of multiple Origin Batches

For accounting purposes, when a single batch consists of product from two or more originating points for the same shipper, deliveries will be made to cover each origin's portion of the batch.

6.1.6 Transmix Identification

Transmix is commingled product that is generated in the mainline that does not meet shippers marketing specifications. This product is accumulated in transmix tanks and managed by Explorer Pipeline.

6.2 General Forecasting Instructions

A. Any shipper desiring to tender a refined petroleum product as outlined in the current Tariff for transportation shall on or before the 10th day of the month give notice on Transport 4, that includes an **origin, destination and volume** for the product to be shipped in the following month. Unless such notifications are made, the carrier shall be under no obligation to accept petroleum products from such shipper and late nominations that must travel through prorated sections will not be accepted.

Example: Nominations due February 10th should cover nominations for March Cycles 13, 14, 15, 16, 17 and 18.

B. Carrier will prepare and furnish to each shipper schedules showing the estimated time that each shipment will be received for transportation at origin points and estimated time of arrival at destinations. Such schedules may be revised from time to time to the extent reasonable to facilitate the efficient and economical use and operation of carrier's facilities.

C. Shipper shall have each shipment available in tankage connected to carrier's stations at least eight hours before the schedule time for receipt by carrier. When a product is not available in tankage within the time limits as aforesaid, acceptance of said product will be at the discretion of the carrier.

6.3 Special Nominating Instructions

Seventy two (72) hours prior to lifting, Explorer's scheduling office must be notified through T4 regarding changes in volumes, origins, tankage, consignees, and delivery locations. If changes to the Nominations are not received within this period, Explorer is not obligated to accept the changes. Fees will apply for failure to adjust batches prior to the 72 hour deadline.

6.4 Transmix (Interface Material)

Explorer will handle transmix as set forth under Item No. 75 of current tariff.

6.4.1 General Procedure - Mainline

Explorer Pipeline takes responsibility for managing all transmix generated in mainline segments.

6.4.2 General Procedures - Lateral, or Stub Lines

Shippers who participate in movements on lateral or stub lines, which generate transmix, are required to provide for receipt of transmix (interface).

APPENDIX A
SHIPPERS, CONSIGNEES & SUPPLIER CODES

Shipper	Name
AAL	American Airlines, Inc
AMO	BP Amoco Oil Company
AOT	AOT Energy Americas
APX	Apex Oil Company
ART	AMERICAN RIVER TRANSPORT.CO.
ATM	Atlantic Trading & Marketing
BCE	Barclays Capital
BNR	Burlington Northern Railroad
BZA	BP North America
CBL	CBL Trading
CEV	Cenovus Energy Marketing
CHV	Chevron USA Inc.
CIG	Citigroup Energy Inc.
CIT	Citgo Petroleum Corp.
CL6	Imperial Oil
CNX	CHS Inc.
CON	Phillips 66
CTR	Center Oil Company
DDU	U. S. Government
DFL	Direct Fuels L.P.
DRC	Delek
ENI	ENI Trading
EQU	Shell Oil Products US
ETI	Epsilon Trading, Inc.
EVA	Shell Trading (US) Co.
EXN	Exxon
EXP	Joint Shipper Account
FHR	Flint Hills Resources, LP
FOC	Total Petrochemicals, Inc.
FP2	Freepoint Commodities
FWI	Fikes
GAV	Gavilon Group
GEW	GEORGE E. WARREN CORP.
GLC	Glencore LTD
GLR	Gladieux Refinery Inc.
GRO	GROWMARK, INC.
GUN	Gunvor
HAA	Hess Energy Trading Company
HFP	Hartland Fuel Products
HRL	Houston Refining LP
HRM	HollyFrontier Ref & Mktg LLC
HUS	Huskey
HWT	Hartford-Wood River Terminal

ITO	IPC USA
JDS	J. D. STRETT & CO., INC.
JPE	JPE Energy Partners Caddo Mills
JPP	J P Energy
KME	Kinder Morgan
KOR	Koch Supply & Trading, LP
KSR	Kansas City Southern Railway
LDA	Louis Dreyfus Energy Services
MAC	Marathon Ashland Petroleum Co.
MEI	Mercuria
MFD	Mansfield Oil Co.
MSC	Morgan Stanley
MST	Morgan Stanley Capital Grp Inc
MTV	Motiva
MUC	Murphy Oil USA Inc
MUS	Musket Corp.
MWP	Midwest Petroleum
MXE	Metroplex Energy Inc.
NGP	NGL Energy Partners
NOB	Noble Petro Inc.
NPT	Noble Petro Inc.
NVI	NIC Holding Corp
OIL	Rolympus
PBF	PBF Holding Company
PHI	Phillips 66
PTC	Petroleum Traders Corporation
QTC	QUIK TRIP Corporation
RST	Repsol Trading
SEF	SEI fuel Services
SEM	Sem Fuels
SHT	Shell Trading(US) Co.
SHZ	Sheetz, Inc.
SPL	Sunoco Pipeline Co.
SOM	Site Oil of Missouri
STO	Statoil Marketing
SUN	Sun Refining & Marketing Co In
SUU	Suncor Energy USA
SWJ	Southwest Jet Fuel Co.
TAA	TRUMAN ARNOLD COMPANIES
TMS	Total Specialties USA
TOP	Topco Assoc.
TXN	Texon LP
TRA	Trafigura AG
UAL	United Aviation Fuels Corp.
UET	United Energy Trading
UNP	Union Pacific
UPF	UPS Fuel Services Inc.

USO	U. S. Oil Company Inc
VAL	Valero Refining Co.
VTL	VITOL S.A., INC.
WFS	World Fuel Services, Inc.
WPL	Magellan Pipeline Co.
WSP	West Shore Pipe Line Co.
WTH	Magellan Terminals Holdings
WVP	Wolverine Pipeline Co.

APPENDIX B
ORIGIN & DELIVERY LOCATION CODES
FOR TANKAGE & PIPELINE FACILITES

ORIGIN LOCATIONS	FACILITIES						
	<u>SCD Loc.</u> <u>Code</u>	<u>Type</u>	<u>Connection</u> <u>Codes</u>	<u>Tank Owner</u>	<u>SIS Code</u>	<u>Supplier</u>	<u>Supplier</u> <u>Code</u>
Pt. Neches	PTN	Origin	N01	Totals Specialty Products USA	FOC	Total Petrochemical	FOC
			N02	Unocal	UOC	Unocal	UOC
Pt. Arthur	PTA	Origin	A01	Shell	EQU	Motiva Gas	MTV
			A02	Shell	EQU	Motiva Distillate	MTV
			A03	Shell	EQU	Valero Gas	VAL
			A04	Shell	EQU	Valero Distillate	VAL
			A05	EPCo.	TEP	Motiva Gas	EPP
			A06	EPCo.	TEP	Motiva Oil	EPP
Cedar Bayou	CED	Origin	C01	Lonestar	LDH	Lonestar	LDH
Pasadena	PAS	Origin	P01	Kinder Morgan	KME	Multiple	various
			P03	Shell Oil Gas	EQU		
			P04	Shell Oil Distillate	EQU		
			P05	ExxonMobile Gas	EXN		
			P06	ExxonMobile Distillate	EXN		
			P07	Marathon Gas	MAP		
			P08	Marathon Distillate	MAP		
			P09	ConocoPhillips Gas	PHL		
				ConocoPhillips Distillate	PHL		
			P11	Magellan Gas	WEV		
			P12	Magellan Distillate	WEV		
			P13	Shell Pipeline (Colex) Intercontinental	EQP		
			P14	Terminals Co	ITC		
			NPA	NP1	Kinder Morgan		
Allendale	ALD	Origin	AD1	Houston Refining	HRF	HRF	
			AE1	Houston Refining	HRF		
			AL1	Houston Refining	HRF		
Aldine	AND	Origin	AN1	Sunoco	SUN	Sunoco	
Hearne	HRT	Delivery	HR1	Sunoco	SUN	Sunoco	
Fauna/Magellan E. Houston	FNA	Delivery	FN1	Magellan	WPL		
			FN8	EXP Tankage	EXP		
			FN9	EXP Lease Tankage	EXP		
	FNA	Origin	F08	EXP Tankage	EXP		
	F09		EXP lease tankage	EXP			

			F01	Texon Tankage		TXN				
Houston/Galena Park	GLP	Delivery	GP1	Chevron		CHV				
			GP2	Magellan		WPL				
Greenville 28"	GVL	Delivery	GV1	Delek Refining Gas		WPL				
			GV2	Delek Refining Oil		WPL				
			GV3	J P Energy	Gas	JPE				
			GV4	J P Energy	Oil	JPE				
			GV9	EXP Custody Lease		EXP				
			Greenville 12"	GVL	Origin	V01	Magellan		WPL	
						V02	J P Energy		JPE	
						V09	Explorer TKG (lease)		EXP	
						G02	Magellan		WPL	
G04	J P Energy					JPE				
G05	J P Energy					JPE				
Dallas 10"	ADN	Origin	AN1	Sunoco		SUN	Sunoco			
Dallas 10"/12"	DAL	Delivery	DT1	Motiva		MTV				
			DT2	Magellan Pipeline		MGP				
	GRP	Delivery	GR1	Magellan	sys 3	WPL				
			GR3	NuStar Grapevine		NSL				
			GR5	NuStar Southlake	sys 3	NSL				
			GR6	Magellan	sys 10	WPL				
			GR7	NuStar Southlake	sys 10					
			GR8	NuStar Southlake		EXP				
			GR9	EXP Jet		EXP				
Dallas 10"	NHO HRN BRN WAC	Delivery	NH1	U S Oil		USO				
			HR1	Sunoco		SUN				
			BR1	U S Oil		USO				
			WA1	Flint Hills Resources		FHR				
			WA2	Flint Hills Resources		FHR				
			WA3	Fikes Gas		FWI				
			WA4	Fikes Diesel		FWI				
Arlington	ARL	Delivery	AR1	Direct Fuels 10"		DFL				
			AT1	Direct Fuels 8"		DFL				
	FOR		FT1	U S Oil		USO				
			FR3	U S Oil		USO				
Dallas 10"/12"	FWM	Delivery	FM1	Motiva	sys 3	MTV				
			FM6	Motiva	sys 10					
	FWT		FW1	Chevron	sys 3	CHV				
			FW6	Chevron	sys10					
	CAR		IR1	Exxon		EXN				
	GRP		DF1	Allied		OAS				

Glenpool 28"	GLN	Delivery	GT1	Magellan	WPL
			GT3	Conoco Phillips	CON
			GT5	Magellan Gas	WPL
			GT6	Magellan Oil EXP/Magellan Joint	WPL
			GT7	Tariff	WPL
			GT9	EXP Lease Tankage	EXP
			Glenpool 24"	TUW	Delivery
GLN	Origin	T01			
Glenpool 24"	GLN	Origin	T03	Magellan	WPL
			T07	Magellan Joint Mt. Vernon	WPL
			T09	EXP Tankage	EXP
				Magellan East	
			MO2	Glenpool 8"	WPL
			Wood River 24"	WDR	Origin
W09	Tankage				
W03	ConocoPhillips	PHI			
WDR	Delivery	WT1		Illinois Petroleum	IPS
		WT3		Buckeye	BET
		WT9		Explorer Lease	EXP
MTV		MV1		Magellan	WPL
		STP		PR1	Magellan
Wood River 14"	WDR	Origin		R01	Buckeye
			R03	ConocoPhillips	PHI
	ESL	Delivery	ES1	Conoco Phillips	PHI
			STL	Delivery	SL1
			SL2	J D Streett Oil	JDS
			SL3	Artco	ART
			SL5	Buckeye	BET
	Wood River 12" (Local)	WDR	Delivery	E01	Buckeye
E02				BP Amoco	AMO
E03				Hartford Woodriver Marathon/Omega	HWT
E04				Partners	MAP/OMP
E05				Valero	VAL
E06				Conoco Phillips	PHI
EW1				Conoco Phillips	PHI
Cochin				IRW	Delivery
Peotone/Southern Lights	MAN	Delivery	MN1	Enbridge	ENB
Griffith	GRF	Delivery	GF1	Marathon Gas	MAP
			GF2	Marathon Oil	MAP

			GF3	Buckeye Hartsdale Gas	NPL
			GF4	Buckeye Hartsdale Oil	NPL
Hammond	HMD	Delivery	H01	Citgo	CIT
			H02	Buckeye Terminal Buckeye Term. (E. Hammond)	2BE BET
			H04	Valero Buckeye Term. (E. Chicago)	VAL NPL
			H06	Exxon Mobile	MOB
			H07	Badger	BGP
			H08	Buckeye Pipeline	BPL
			H09	West Shore	WSP
			H10	Wolverine	WVP
			H11	Marathon	MPL
			H13	BP gasoline	AMO
			H14	BP Oil	AMO
			H15	BP HAC	AMO
			HM1	Explorer Lease (Citgo) Explorer Lease	EXP
			HM9	Tankage	EXP

APPENDIX C
PRODUCT CODES

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Blendstocks and Special Grades	C-2
Conventional - Premium Gasoline	C-3
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Reformulated - Premium Blendstock for Oxygenated Blending	C-5
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Special Distillate Fuels and Transmix	C-9

BLENDSTOCKS & SPECIAL GRADES

C-2

<u>CODE</u>	<u>CLASS</u>	<u>PRODUCT NAME</u>	<u>NOTES</u>	<u>CRITICAL CHARACTERISTICS</u>
10	S	Naphtha - Isomerized	Not Diluent	Minimum RVP of 4.5
11	S	Naphtha - Light	Not Diluent (<200 ppm sulfur / 70-85 gravity)	Minimum RVP of 4.5
12	S	Naphtha - Heavy	Not Diluent (>200 ppm sulfur / 50-70 gravity)	Min.RVP of 4.5 Aromatics 40%
13	S	Naphtha Mix	Not Diluent	Minimum RVP of 4.5
14	S	Natural Gasoline	Not Diluent	Low Olefins
15	S	Alkylate		High Octane (AKI - 90-100)
16	S	Reformate		High Octane (AKI - 95-105)
17	S	Iso Octane		High Octane (AKI - 100)
18	S	Raffinate	No DRA allowed	Low Octane (AKI - 55-70)
19	S	HUF/Toluene		High Octane (AKI - 95)
1A	F	Diluent - Natural Gasoline Refined	a.k.a. Diluent	Low Olefins 3000 sulfur
1B	F	Diluent - Natural Gasoline Unrefined	a.k.a. Diluent	Low Olefins
1C	S	Diluent - Condensate	a.k.a. Diluent	Low Olefins
1E	S	Naphtha - No DRA	No DRA allowed	Low Octane (AKI - 55-70)

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

PREMIUM CONVENTIONAL GASOLINE

C-3

<u>CODE</u>	<u>CLASS</u>	<u>DESTINATION</u>	<u>NOTES</u>	<u>CRITICAL CHARACTERISTICS</u>
22	W	Tulsa Area	a.k.a. A Grade	High Octane (AKI - 91)
26	S	Missouri & Illinois	Premium Conventional	High Octane (AKI - 91)
30			<i>Inactive</i>	
31	F	Houston-Dallas Area	All non-hydrocarbons (oxygenates) are prohibited	High Octane (AKI - 93)
32	W	Tulsa Area	a.k.a. A3 Grade	High Octane (AKI - 93)
33	W	Tulsa Area	a.k.a. A1 Grade	High Octane (AKI - 91)
34	S	St. Louis, Missouri		High Octane (AKI - 93)
35	S	Illinois - Indiana - St. Louis MO	Premium CBOB	High Octane (AKI - 93) after blending
36	F	Central MO & Southern IL	All non-hydrocarbons (oxygenates) are prohibited	High Octane (AKI - 93)
37	S	Hammond/Griffith IN	All non-hydrocarbons (oxygenates) are prohibited	High Octane (AKI - 93)
38	S	Illinois - Indiana		High Octane (AKI - 91/93)
39			<i>Inactive</i>	
3E	S	Illinois Only		High Octane (AKI - 93)

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

PREMIUM BLENDSTOCK FOR OXYGENATED BLENDING

C-4

CODE	CLASS	COMPLEX MODEL	DESTINATION	REGION	VOC CONTROLLED YES/NO	RVP MAX.	OXYGEN MIN/MAX	AKI MIN	ETHANOL BLEND RATE % BY VOLUME	AKI AFTER BLENDING	Emissions Performance Reduction (%)
3C	F	Yes	Houston-Dallas Area	1	Yes	Report *		Report	10.0	93.0	27.0
3D	F	Yes	Houston-Dallas Area	1	No	**		Report	10.0	93.0	
3R	S	Yes	St. Louis Area	2	Yes	7.2*		Report	10.0		27.0
3S	F	Yes	St. Louis Area	2	Yes	7.2*		Report	10.0	93.0	27.0
3T	F	Yes	St. Louis Area	2	No	**		Report	10.0	93.0	
3U	F	Yes	Chicago Area	2	Yes	Report *		Report	10.0	93.0	25.4
3V	S	Yes	St. Louis Area	2	No	**		Report	10.0		
3X	F	Yes	Chicago Area	2	No	**		Report	10.0	93.0	

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

CONVENTIONAL GASOLINE CONVENTIONAL BLEND STOCKS

C-5

<u>CODE</u>	<u>CLASS</u>	<u>DESTINATION</u>	<u>NOTES</u>	<u>CRITICAL CHARACTERISTICS</u>
40	W	Tulsa Area	a.k.a. N2 Grade	
41	F	Houston - Dallas	All non-hydrocarbons (oxygenates) are prohibited	
42	W	Tulsa Area	a.k.a. N Grade	discontinued
43	W	Tulsa Area	a.k.a. N1 Grade	
44	F	Houston - Dallas	CBOB	After blending AKI 87.0 7.8 RVP
45	F	Illinois - Indiana	CBOB	AKI 87.0 after blending
46	F	Illinois - Indiana - Missouri	All non-hydrocarbons (oxygenates) are prohibited	
47	S	Missouri	CBOB	AKI 87.0 after blending
48	S	Hammond, Indiana	Reprocessed	
49	S		Buffer Batch	
4E	S	Illinois Only	AKI 87.0 before blending	T50 Distillation Specification
4F	W	Texas	Sub Octane (a.k.a. V-78 Grade)	87.0 after blending (7.8 RVP)
4G	W	Texas	Sub Octane (a.k.a. V-68 Grade)	87.0 after blending (6.8 RVP)
4H	W	Texas	Sub Octane (a.k.a. V-66 Grade)	87.0 after blending (6.6 RVP)
4J	W	Texas	CBOB	87.0 after blending
4K	W	Tulsa Area	Sub Octane (seasonal specifications) Meets 45 spec if the blended octane is 87	84.0 neat or 87.0 blended
4M	F	Illinois - Indiana - Missouri	Sub Octane	87.0 after blending

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

BLENDSTOCK FOR OXYGENATED BLENDING

C-6

CODE	CLASS	COMPLEX MODEL	DESTINATION	REGION	VOC CONTROLLED YES/NO	RVP MAX.	OXYGEN MIN/MAX	AKI MIN	ETHANOL BLEND RATE % BY VOLUME	AKI AFTER BLENDING	Emissions Performance Reduction (%)
4C	F	Yes	Houston-Dallas Area	1	Yes	Report *		82.0	10.0	87.0	27.0
4D	F	Yes	Houston-Dallas Area	1	No	**		82.0	10.0	87.0	
4S	F	Yes	St. Louis	2	Yes	7.8 Report*		82.0	10.0	87.0	27.0
4T	F	Yes	St. Louis	2	No	**		82.0	10.0	87.0	
4U	F	Yes	Chicago Area	2	Yes	Report *		82.0	10.0	87.0	25.4
4X	F	Yes	Chicago Area	2	No	**		82.0	10.0	87.0	

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

JET FUEL/KEROSENE

C-7

<u>CODE</u>	<u>CLASS</u>	<u>PRODUCT NAME</u>	<u>NOTES</u>	<u>CRITICAL CHARACTERISTICS</u>
50	S	Jet Fuel	JP-8 Military Jet	3000 PPM
51	F	Jet Fuel	Jet A	1500 PPM S
52	W	Jet Fuel	a.k.a. Q Grade	3000 PPM
53			<i>Inactive</i>	
54	F	Jet Fuel	Jet A (Bonded Use)	3000 PPM
55		Light Middle Distilate	<i>Inactive</i>	LMD
56	S	Low Sulfur Kerosene	K1-Kerosene	470 PPM
57	S	Jet Fuel (ULS)	Ultra Low Sulfur Jet	12 PPM S
58			<i>Inactive</i>	
59	F	Jet Fuel	Buffer Batch	1500 PPM S
60			<i>Inactive</i>	
61			<i>Inactive</i>	
62			<i>Inactive</i>	
63			<i>Inactive</i>	
64	S	ULS Kerosene		12 PPM S
6Y	W	ULS Kerosene	a.k.a. Y Grade	12 PPM S

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

<u>CODE</u>	<u>CLASS</u>	<u>PRODUCT NAME</u>	<u>NOTES</u>	<u>CRITICAL CHARACTERISTICS</u>
72			<i>Inactive</i>	
73			<i>Inactive</i>	
74	S	Low Sulfur Diesel Fuel	Locomotive & Marine	470 PPM
75	F	Ultra Low Sulfur Diesel Fuel		10 PPM
76			<i>Inactive</i>	
77	F	Ultra Low Sulfur Diesel Fuel	On Road - TxLED	10 PPM
78			<i>Inactive</i>	
79			<i>Inactive</i>	
7A	S	Low Sulfur Diesel Fuel	Off Road	470 PPM
7B	S	ULSD with 5% biodiesel	10" system only	Biodiesel
7C	S	Ultra Low Sulfur Diesel Fuel	TxLED	10 PPM
7D	S	Ultra Low Sulfur Diesel Fuel	Buffer for 1B	10 PPM
7E	S	TXLED with 5% biodiesel	10" system only	Biodiesel
7H	W	High Sulfur Diesel Fuel	Off Road (a.k.a. X5 Grade - Dyed)	5000 PPM
7R	F	Ultra Low Sulfur Diesel Fuel Renewable	Same Specifications as 75	10 PPM
7V	F	Ultra Low Sulfur Diesel Fuel	Off Road	10 PPM
7X	W	Ultra Low Sulfur Diesel Fuel	On Road (a.k.a. X Grade)	10 PPM

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

<u>CODE</u>	<u>CLASS</u>	<u>PRODUCT NAME</u>	<u>NOTES</u>	<u>CRITICAL CHARACTERISTICS</u>
80	S	Light Cycle Oil	Undyed	5000 PPM
81	F	Sphere		
90	F	Transmix	EPL Transmix	
91			<i>Inactive</i>	
92	F	Transmix	Not in Transmix Pool / Shipper Batch	
94	F	Transmix	Gas Rich Transmix	
96	F	Transmix	Oil Rich Transmix	
97	F	Transmix	Explorer Sold Transmix for processing	
9A	F	Transmix	Shipper Inventory	
9Z	F	Transmix	ULST Gas Rich	
9Y	F	Transmix	ULST Oil Rich	
9X	F	Transmix	sulfur between 21 and 30 ppm	

Class: F = Fungible; S = Segregated; W = Magellan Pipe Line Batch

a.) Reformulated gasoline covered areas which are located in the following States are included in VOC-Control Region 1:

- Alabama
- Arizona
- Arkansas
- California
- Colorado
- District of Columbia
- Florida
- Georgia
- Kansas
- **Louisiana**
- Maryland
- Mississippi
- **Missouri**
- Nevada
- New Mexico
- North Carolina
- **Oklahoma**
- Oregon
- South Carolina
- Tennessee
- **Texas**
- Utah
- Virginia

b.) Reformulated gasoline covered areas which are located in the following States are included in VOC-Control Region 2:

- Connecticut
- Delaware
- Idaho
- **Illinois**
- **Indiana**
- Iowa
- Kentucky
- Maine
- Massachusetts
- Michigan
- Minnesota
- Montana
- Nebraska
- New Hampshire
- New Jersey

- New York
- North Dakota
- Ohio
- Pennsylvania
- Rhode Island
- South Dakota
- Vermont
- Washington
- West Virginia
- Wisconsin
- Wyoming

c.) Reformulated gasoline covered areas which are partially in VOC Control Region 1 and partially in VOC Control Region 2 shall be included in VOC Control Region 1, except in the case of the Philadelphia-Wilmington-Trenton CMSA which shall be included in VOC Control Region 2.

APPENDIX D

CONNECTING CARRIERS

COMPANY NAME

- B.P. Amoco
- Badger Pipe Line Company
- Buckeye Pipe Line Company
- Energy Transfer
- Enbridge
- Enterprise
- Exxon Mobil
- Kinder Morgan
- Koch
- Marathon Pipe Line Company
- Phillips
- Shell Pipe Line Corporation
- Sunoco
- West Shore Pipe Line Company
- Magellan Pipe Line Company
- Wolverine Pipe Line Company

APPENDIX E

ACCOUNTABILITY FOR QUANTITY

Explorer will only be accountable for delivery of that quantity of petroleum product accepted for transportation after the tender deduction of 0.05%.

Overages or shortages of inventories in Explorer's custody will be settled monthly with each shipper on a monetary basis determined by the Platt's Oilgram low posting for US Gulf Coast Pipeline using the average of each business day prices quoted for the settlement month.

1. All Conventional Premium Unleaded Gasoline 93 octane and Premium Blend Stock – with a blended octane of Index (R+M/2) rating of either 93.0 or 91.0 after blending with 10% ethanol will be valued at the posting for the equivalent Premium product less \$0.05/gallon on the first 5% at origin.
2. All Unleaded Gasoline and Blend Stock - with Octane Index (R+M/2) rating of 87.0 will be valued at the posting for the CBOB 83.7 octane. Must become 87 octane after blending with 10% ethanol.
3. All Ultra-Low Sulfur Diesel Fuel - will be valued at the posting for Ultra-Low Sulfur Diesel.
4. All Other No. 2 Fuel - will be valued at the posting for Low Sulfur Diesel Fuel.
5. All Aviation Jet Fuel - will be valued at the posting for Jet 54 grade.
6. All Kerosene/No. 1 Fuel - will be valued at the posting for Kerosene.
7. All Specialty Grades – will be valued at the posting for CBOB 83.7 octane. Must become 87 octane after blending with 10% ethanol.
8. Transmix - 35% gas CBOB/65% oil ULSD split less \$0.15/Gallon processing fee.

**APPENDIX F
RVP SCHEDULE
FUNGIBLE GASOLINE
VAPOR PRESSURE SCHEDULE - JANUARY 1, 2018**

Shown below are the RVP Requirements for motor gasoline shipments on Explorer Pipeline before blending with ethanol. These requirements are subject to change due to transit time. Shippers should confirm RVP with Magellan Pipeline on shipments to West Tulsa.

2018	CYCLE NO.	HOUSTON / DALLAS AREA			ST. LOUIS, MO E ST. LOUIS, IL			HAMMOND, GRIFFITH, IN		
		C-GAS*	RBOB	RBOB VOCC	C-GAS*	RBOB	RBOB VOCC	C-GAS*	RBOB	RBOB VOCC
MONTH		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
JAN.	1-2	13.5	13.5	-	15.0	15.0	-	15.0	15.0	-
	3-4	13.5	13.5	-	13.5	13.5	-	13.5	13.5	-
	5-6	13.5	13.5	-	13.5	13.5	-	13.5	13.5	-
FEB.	7-8	13.5	13.5	-	13.5	13.5	-	13.5	13.5	-
	9-10	13.5	13.5	-	13.5	13.5	-	13.5	13.5	-
	11-12	11.5	11.5	-	13.5	13.5	-	13.5	13.5	-
MAR.	13-14	11.5	11.5	-	11.5	11.5	-	9.0	9.0	Report
	15-16	9.0	9.0	-	9.0	-	Report	9.0	-	Report
	17-18	9.0	-	Report	9.0	-	Report	9.0	-	Report
APR	19-20	6.6	-	Report	9.0	-	Report	9.0	-	Report
	21-22	6.6	-	Report	9.0	-	Report	9.0	-	Report
	23-24	6.6	-	Report	9.0	-	Report	9.0	-	Report
MAY	25-26	6.6	-	Report	9.0	-	Report	9.0	-	Report
	27-28	6.6	-	Report	9.0	-	Report	9.0	-	Report
	29-30	6.6	-	Report	9.0	-	Report	9.0	-	Report
JUNE	31-32	6.6	-	Report	9.0	-	Report	9.0	-	Report
	33-34	6.6	-	Report	9.0	-	Report	9.0	-	Report
	35-36	6.6	-	Report	9.0	-	Report	9.0	-	Report
JUL	37-38	6.6	-	Report	9.0	-	Report	9.0	-	Report
	39-40	6.6	-	Report	9.0	-	Report	9.0	-	Report
	41-42	6.6	-	Report	9.0	-	Report	9.0	-	Report
AUG	43-44	6.6	-	Report	9.0	-	Report	9.0	-	Report
	45-46	6.6	-	Report	9.0	-	Report	9.0	-	Report
	47	6.6	-	Report	9.0	-	Report	9.0	-	Report
SEPT	48	6.6	-	Report	9.0	-	Report	9.0	-	Report
	49	6.6	-	Report	9.0	-	Report	9.0	-	Report
	50	6.6	-	Report	11.5	11.5	-	11.5	11.5	-
	51	6.6	10.0	-	11.5	11.5	-	11.5	11.5	-
	52	6.6	10.0	-	11.5	11.5	-	11.5	11.5	-
	53	6.6	10.0	-	13.5	13.5	-	13.5	13.5	-
	54	6.6	11.5	-	13.5	13.5	-	13.5	13.5	-

OCT	55-56		11.5	11.5	-		13.5	13.5	-		13.5	13.5	-
	57-58		11.5	11.5	-		13.5	13.5	-		13.5	13.5	-
	59		11.5	11.5	-		13.5	13.5	-		13.5	13.5	-
	60		11.5	11.5			13.5	13.5	-		13.5	15.0	
NOV	61-62		13.5	13.5	-		13.5	13.5	-		13.5	15.0	-
	63-64		13.5	13.5	-		13.5	13.5	-		13.5	15.0	-
	65		13.5	13.5	-		15.0	15.0	-		15.0	15.0	-
	66		13.5	13.5			15.0	15.0	-		15.0	15.0	
DEC	67-68		13.5	13.5	-		15.0	15.0	-		15.0	15.0	-
	69-70		13.5	13.5	-		15.0	15.0	-		15.0	15.0	-
	71-72		13.5	13.5	-		15.0	15.0	-		15.0	15.0	-

*C-GAS-CONVENTIONAL GASOLINE
and CBOB

- (1) EPL - CODES - 31,41,44
- (2) EPL CODES - 3D, 4D,
- (3) EPL CODES 3C, 4C
- (4) EPL CODES - 36,45,46,4M
- (5) EPL CODES - 3T, 4T
- (6) EPL CODES - 3S, 4S
- (7) EPL CODES - 37,45,46,4M
- (8) EPL CODES - 3X, 4X
- (9) EPL CODES - 3U, 4U

NOTE: "SHIPPERS" MOVING SEGREGATED SHIPMENT OF GASOLINES MUST NOTIFY EXPLORER IN WRITING THE VAPOR PRESSURE OF EACH SHIPMENT PRIOR TO PUMPING INTO EXPLORER.

APPENDIX G

**FUNGIBLE GASOLINE
DRIVEABILITY INDEX SCHEDULE - JANUARY 1, 2018**

Shown below are the DI Requirements for motor gasoline shipments on Explorer Pipeline. These requirements are subject to change due to transit time. Shippers should confirm DI with Magellan Pipeline on shipments to West Tulsa.

2018	CYCLE NO.	HOUSTON / DALLAS AREA			CENTRAL MO. SO. ILLINOIS (WOOD RIVER) ILLINOIS			HAMMOND, GRIFFITH, IN		
		C-GAS*	RBOB	RBOB VOCC	C-GAS*	RBOB	RBOB VOCC	C-GAS*	RBOB	RBOB VOCC
MONTH		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
JAN.	1-2	1220	-		1200	-		1200	1200	-
	3-4	1220	-		1220	-		1220	0	-
	5-6	1220	-		1220	-		1220	1220	-
FEB.	7-8	1220	-		1230	-		1230	1230	-
	9-10	1220	-		1220	-		1220	1220	-
	11-12	1230	-		1220	-		1220	-	1230
MAR.	13-14	1230	-		1230	-		1250	-	1250
	15-16	1250	-		1250	-		1250	-	1250
	17-18	1250	-		1250	-		1250	-	1250
APR	19-20	1250	-		1250	-		1250	-	1250
	21-22	1250	-		1250	-		1250	-	1250
	23-24	1250	-		1250	-		1250	-	1250
MAY	25-26	1250	-		1250	-		1250	-	1250
	27-28	1250	-		1250	-		1250	-	1250
	29-30	1250	-		1250	-		1250	-	1250
JUNE	31-32	1250	-		1250	-		1250	-	1250
	33-34	1250	-		1250	-		1250	-	1250
	35-36	1250	-		1250	-		1250	-	1250
JUL	37-38	1250	-		1250	-		1250	-	1250
	39-40	1250	-		1250	-		1250	-	1250
	41-42	1250	-		1250	-		1250	-	1250
AUG	43-44	1250	-		1250	-		1250	-	1250
	45-46	1250	-		1250	-		1250	-	1250
	47-48	1250	-		1250	-		1250	-	1250
SEPT	49-50	1250	-		1250	-		1250	0	-
	51-52	1250	-		1230	-		1230	1230	-
	53	1250	-		1220	-		1220	1220	-
	54	1250	-		1220	-		1220	1220	-
OCT	55-56	1230	-		1220	-		1220	1220	-

	57-58	1230	-		1220	-		1220	1220	-
	59-60	1230	-		1220	-		1220	1220	-
NOV			-							
	61-62	1220			1220	-		1220	1220	-
	63-64	1220	-		1220	-		1220	1220	-
	65-66	1220	-		1200	-		1200	1200	-
DEC			-							
	67-68	1220			1200	-		1200	1200	-
	69-70	1220	-		1200	-		1200	1200	-
	71-72	1220	-		1200	-		1200	1200	-

*C-GAS-CONVENTIONAL GASOLINE

- (1) EPL - CODES - 31,41
- (2) EPL CODES - 3D, 4D,
- (3) EPL CODES 3C, 4C
- (4) EPL CODES - 36,46
- (5) EPL CODES - 3T, 4T
- (6) EPL CODES - 3S, 4S
- (7) EPL CODES - 37,46
- (8) EPL CODES - 3X, 4X
- (9) EPL CODES - 3U, 4U

NOTE: "SHIPPERS" MOVING SEGREGATED SHIPMENT OF GASOLINES MUST NOTIFY EXPLORER IN WRITING THE DRIVEABILITY INDEX OF EACH SHIPMENT PRIOR TO PUMPING INTO EXPLORER.