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Gas Services Department
Railroad Commission of Texas

Texas No. 100.15.0
(Cancels Texas No. 100.14.0)

NuStar Logistics, L.P.

Containing the Rates, Rules, and Regulations
Governing the Transportation by Pipeline of
CRUDE PETROLEUM
East Leg – South Texas
Crude

| From | To | Rate in Dollars per Barrel of 42 United States Gallons | |
|---|--|---|----------------------------|
| Oakville Junction, Live Oak County, Texas | Corpus Christi North Beach, Nueces County, Texas | [U] \$1.1590 ⁵ | |
| Pawnee Station, Live Oak County, Texas | Corpus Christi North Beach, Nueces County, Texas | Base Rate | |
| | | [U] \$1.5164 ⁵ | |
| | | Incentive Rates | |
| | | [U] \$1.4728 ^{1 2} | [U] \$ 0.9181 ³ |
| Koch Pipeline Pettus Station, Bee County, Texas | Corpus Christi North Beach, Nueces County, Texas | [U] \$1.4581 ⁵ | |
| Pawnee Station, Live Oak County, Texas | Koch Pipeline Pettus Station, Bee County, Texas ⁴ | [U] \$0.4666 ⁵ | |

Note:

¹ The Incentive Rate is applicable to an Incentive Shipper contracting for transportation of a minimum guaranteed volume of 25,000 barrels per day for a multi-year term.

² The Incentive Rate is applicable to an Incentive Shipper contracting under a multi-year minimum combined commitment of at least 25,000 Barrels per day for transportation under the following tariffs: This East Leg – South Texas Crude and the West Leg -South Texas Crude. Product receipts are limited to Segregated Batches of Common Stream of Light Crude Oil as defined in Special Rule 22.

³ The Incentive Rate is applicable to an Incentive Shipper contracting under a multi-year minimum combined commitment of at least 50,000 Barrels per day for transportation under the following tariffs: This East Leg – South Texas Crude and the West Leg -South Texas Crude. Product receipts are limited to Segregated Batches of Common Stream of Light Crude Oil as defined in Special Rule 22.

⁴ Carrier may offer this temporary, as-available bi-directional service in a given month, and such service shall only be provided in accordance with Rule 24 of these Rules and Regulations.

⁵ [N] To the extent that all or any portion of the FERC's January 20, 2022 order is reversed on rehearing or appeal and the index for the current five-year period is increased from the March 1 Index level, the Carrier reserves the right to collect from shippers the positive difference, if any, between the rates resulting from application of the March 1 Index and the rates resulting from application of the new index, for all barrels shipped from March 1, 2022 forward.

| | | | |
|---|--|----------------|--------------|
| Oakville Junction, Live Oak County, Texas | Citgo Corpus Christi Refinery, Nueces County, Texas | [U] \$1.3444 | |
| Pawnee Station, Live Oak County, Texas | Citgo Corpus Christi Refinery, Nueces County, Texas | Incentive Rate | Base Rate |
| | | [U] \$1.5926 | [U] \$1.7076 |
| Oakville Junction, Live Oak County, Texas | Valero Corpus Christi Refinery, Nueces County, Texas | [U] \$1.3444 | |
| Pawnee Station, Live Oak County, Texas | Valero Corpus Christi Refinery, Nueces County, Texas | Incentive Rate | Base Rate |
| | | [U] \$1.5926 | [U] \$1.7076 |

NuStar Logistics, L.P. P-5 Permit # 616747; P-4 Permit #: 08621, 04851 and 09196

The provisions published herein will, if effective, not result in an effect on the quality of the human environment.

| | |
|---|---|
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| <p>Issued By: Danny Oliver Executive Vice President NuStar Logistics, L.P. 19003 IH-10 West San Antonio, TX 78257</p> | <p>Compiled by: Adam Cummins NuStar Logistics, L.P. 19003 IH-10 West San Antonio, TX 78257 210-918-4577</p> |

SYMBOLS: [U] Unchanged rate [C] Cancel [W] Change in wording only [N] New [I] Increase [D] Decrease

Section I

Rules and Regulations

The following nineteen (1-19) rules are reprinted here pursuant to the requirements of the Texas Railroad Commission Title 16 Part 1 Chapter 3 Rule § 3.71

Carrier (herein generally referred to as "the pipeline", in this tariff) will accept Crude Petroleum (referred to variously in this tariff as "crude oil", "crude", "oil", and "marketable oil", and defined in Rule 1 below) for intrastate transportation by pipeline from the point of origin to the point of destination named in this tariff, subject to the following rules and regulations:

Rule 1 All Marketable Oil To Be Received For Transportation

By the term "marketable oil" is meant any crude petroleum adopted for refining or fuel purposes, properly settled and containing not more than two percent of basic sediment, water, or other impurities above a point six inches below the pipeline connection with the tank. Pipelines shall receive for transportation all such "marketable oil" tendered; but the pipeline shall not be required to receive for shipment from any one person an amount exceeding 3,000 barrels of petroleum in any one day; and, if the oil tendered for transportation differs materially in character from that usually produced in the field and being transported therefrom by the pipeline, then it shall be transported under such terms as the shipper and the owner of the pipeline may agree or the Railroad Commission of Texas ("Commission") may require.

Rule 2 Basic Sediment, How Determined - Temperature

In determining the amount of sediment, water, or other impurities, the pipeline is authorized to make a test of the oil offered for transportation from an average sample from each such tank, by the use of centrifugal machine, or by the use of any other appliance agreed upon by the pipeline and the shipper. The same method of ascertaining the amount of the sediment, water or other impurities shall to used in the delivery as in the receipt of oil. The pipeline shall not be required to receive for transportation, nor shall consignee be required to accept as a delivery, any oil of a higher temperature than 90 degrees Fahrenheit, except that during the summer oil shall be received at any atmospheric temperature, and may be delivered at like temperature. Consignee shall have the same right to test the oil upon delivery at destination that the pipeline has to test before receiving from the shipper.

Rule 3 "Barrel" Defined

For the purpose of these rules, a "barrel" of crude petroleum is declared to be 42 gallons of 231 cubic inches per gallon at sixty degrees Fahrenheit (60°F).

Rule 4 Oil Involved in Litigation, Etc. – Indemnity Against Loss

When any oil offered for transportation is involved in litigation, or the ownership is in dispute, or when the oil appears to be encumbered by lien or charge of any kind, the pipeline may require of shippers an indemnity bond to protect it against all loss.

Rule 5 Storage

The pipeline shall provide, without additional charge, sufficient storage, such as is incident and necessary to the transportation of oil, including storage at destination or so near thereto as to be available for prompt delivery to destination point, for five days from the date of order of delivery at destination.

Rule 6 Identity of Oil, Maintenance of Oil

The pipeline may deliver to consignee, either the identical oil received for transportation, subject to such consequences of mixing with other oil as are incident to the usual pipeline transportation, or it may make delivery from its common stock at destination; provided, if this last be done, the delivery shall be of substantially like kind and market value.

Rule 7 Minimum Quantity To Be Received

The pipeline shall not be required to receive less than one tank carload of oil when oil is offered for loading into tank cars at destination of the pipeline. When oil is offered for transportation for other than tank car delivery, a pipeline shall not be required to receive less than 500 barrels.

Rule 8 Gathering Charges

Tariffs to be filed by a pipeline shall specify separately the charges for gathering of the oil, for transportation, and for delivery.

Rule 9 Gauging, Testing and Deductions

(Reference Commission Special Order No. 20-63, 098, Effective June 18, 1973).

(A) All crude oil tendered to the pipeline shall be gauged and tested by a representative of the pipeline prior to its receipt by the pipeline. The shipper may be present or represented at the gauging and testing. Quantities shall be computed from correctly compiled tank tables showing 100% of the full capacity of the tanks.

(B) Adjustments shall be made for temperature from the nearest whole number degree to the basis of 60°F and to the nearest 5/10 API degree gravity in accordance with the volume correction Tables 5A and 6A contained in API Standard 2540, American Society for Testing Materials 01250, Institute of Petroleum 200, first edition, August 1980. The pipeline may deduct the basic sediment, water, and other impurities as shown by the centrifugal or other test agreed upon; and 1% for evaporation and loss during transportation. The net balance shall be the quantity deliverable by the pipeline. In allowing the deductions, it is not the intention of the commission to affect any tax or royalty obligations imposed by the laws of Texas on any producer or shipper of crude oil.

Rule 10 Delivery and Demurrage

The pipeline shall transport oil with reasonable diligence, considering the quality of the oil, the distance of transportation and other material elements, but at any time after receipt of a consignment of oil, upon 24 hours' notice to the consignee, may offer oil for delivery from its common stock at the point of destination, conformable to Rule 6 of this tariff, at a rate not exceeding 10,000 barrels per day of 24 hours. Computation of time of storage (as provided for in Rule 5 of this tariff) shall begin at the expiration of such notice. At the expiration of the time allowed in Rule 5 of this tariff for storage at destination, the pipeline may assess a demurrage charge on oil offered for delivery and remaining undelivered, at a rate for the first 10 days of \$.001 per barrel and thereafter at a rate of \$.0075 per barrel, for each day of 24 hours or fractional part thereof.

Rule 11 Unpaid Charges, Lien For And Sale To Cover

The pipeline shall have a lien on all oil to cover charges for transportation, including demurrage, and it may withhold delivery of oil until the charges are paid. If the charges shall remain unpaid for more than 5 days after notice of readiness to deliver, the pipeline may sell the oil at public auction

at the general office of the pipeline on any day not a legal holiday. The date for the sale shall be not less than 48 hours after publication of notice in a daily newspaper of general circulation published in San Antonio, Texas, the city where the general office of the pipeline is located. The notice shall give the time and place of the sale, and the quantity of the oil to be sold. From the proceeds of the sale, the pipeline may deduct all charges lawfully accruing, including demurrage, and all expenses of the sale. The net balance shall be paid to the person lawfully entitled thereto.

Rule 12 Notice Of Claims

Notice of claim for loss, damage or delay in connection with the shipment of oil must be made in writing to the pipeline within 91 days after the damage, loss, or delay occurred. If the claim is for failure to make delivery, the claim must be made within 91 days after a reasonable time for delivery has elapsed.

Rule 13 Telephone - Telegraph Line - Shipper To Use

If the pipeline maintains a private telegraph or telephone line, a shipper may use it without extra charge, for messages incident to shipments. However, the pipeline shall not be held liable for failure to deliver any messages away from its office or for delay in transmission or for interruption of service.

Rule 14 Contracts Of Transportation

When a consignment of oil is accepted, the pipeline shall give the shipper a run ticket, and shall give the shipper a statement that shows the amount of oil received for transportation, the points of origin and destination, corrections made for temperature, deductions made for impurities, and the rate for such transportation.

Rule 15 Shipper's Tanks, Etc. - Inspection

When a shipment of oil has been offered for transportation, the pipeline shall have the right to go upon the premises where the oil is produced or stored, and have access to any and all tanks or storage receptacles for the purpose of making any examination, inspection, or test authorized by these Rules and Regulations.

Rule 16 Offers In Excess Of Facilities

If oil is offered to the pipeline for transportation in excess of the amount that can be immediately transported, the transportation furnished by the pipeline shall be apportioned among all shippers in proportion to the amounts offered by each; but no offer for transportation shall be considered beyond the amount which the person requesting the shipment then has ready for shipment by the pipeline. The pipeline shall be considered as a shipper of oil produced or purchased by itself and hold for shipment through its line, and its oil shall be entitled to participate in such apportionment.

Rule 17 Interchange of Tonnage

Pipelines shall provide the necessary connections and facilities for the exchange of tonnage at every locality reached by two or more pipelines, when the Commission finds that a necessity exists for connection, and under such regulations as said Commission may determine in each case.

Rule 18 Receipt and Delivery - Necessary Facilities For

The pipeline shall install and maintain facilities for the receipt and delivery of marketable crude petroleum of shippers at any point on its line if the Commission finds that a necessity exists therefor, and under regulations by the Commission.

Rule 19 Report Of Loss From Fire, Lightning and Leakage

- (A) The pipeline shall immediately notify the commission district office, electronically or by telephone, of each fire that occurs at any oil tank owned or controlled by the pipeline, or of any tank struck by lightning. The pipeline shall in like manner report each break or leak in any of its tanks or pipelines from which more than five barrels escape. The pipeline shall file the required information with the commission in accordance with the appropriate commission form within 30 days from the date of the spill or leak.

- (B) No risk of fires, storm, flood or act of God, and no risk resulting from riot, insurrection, rebellion, war, an act of the public enemy, or from quarantine or authority of law or any order, requisition or necessity of the government of the United States in time of war, shall be borne by the pipeline, nor shall any liability accrue to it from any damage thereby occasioned. If loss of any crude oil from such causes occurs after the oil has been received for transportation, and before it has been delivered to the consignee, the shipper shall bear a loss in such proportion as the amount of his shipment is to all of the oil held in transportation by the pipeline at the time of such loss, and the shipper shall be entitled to have delivered only such portion of his shipment as may remain after a deduction of his due proportion of such loss, but in such event the shipper shall be required to pay charges only on the quantity of oil delivered. This rule shall not apply if the loss occurs because of negligence of the pipeline.

- (C) Common carrier pipelines shall mail (return receipt requested) or hand deliver to landowners (persons who have legal title to the property in question) and residents (persons whose mailing address is the property in question) of land upon which a spill or leak has occurred, all spill or leak reports required by the commission for that particular spill or leak within 30 days of filing the required reports with the commission. Registration with the commission by landowners and residents for the purpose of receiving spill or leak reports shall be required every five years, with renewal registration starting January 1, 1999. If a landowner or resident is not registered with the commission, the common carrier is not required to furnish such reports to the resident or landowner.

Section II

Special Rules and Regulations

The Rules and Regulations set forth in Section 1 may be supplemented or amended by these Section II Special Rules. In the event of a conflict between the rules in Section I and the rules in Section II, the rules in Section II shall control.

Special Rule 1 Definitions

| | |
|--------------------------|--|
| API | American Petroleum Institute. |
| API Gravity | Gravity determined in accordance with ASTM designation and expressed in degrees. |
| Assay | A laboratory analysis of Crude Petroleum to include API gravity, Reid vapor pressure, pour point, sediment and water content, sulfur content, viscosity at 60 degrees Fahrenheit, and other characteristics as may be required by Carrier. |
| ASTM | American Society for Testing Materials. |
| Base Period | Has the meaning set forth in Special Rule 15 Section 1.4. |
| Base Shipment Percentage | Has the meaning set forth in Special Rule 15 Section 1.5 |
| CCNB | Corpus Christi North Beach. |
| Calculation Month | Has the meaning set forth in Special Rule 15 Section 1.6. |
| Capacity | The quantity of Crude Petroleum the Pipeline Segment at issue is capable of transporting under the current operating conditions. |
| Carrier | NuStar Logistics, L.P. |
| Common Stream | Crude Petroleum moved through the pipeline and pipeline facilities which is commingled or intermixed with crude petroleum of like quality and characteristics as may be determined by Carrier based on an analysis of a sample of such Crude Petroleum Assays and/or other pertinent analytical data. |
| Connecting Carrier | A pipeline company connected to Carrier. |
| Consignee | The party to whom a Shipper has ordered the delivery of Crude Petroleum. |
| Crude Petroleum | The direct liquid product of oil wells (b) a mixture of the direct product of oil wells and the indirect petroleum products resulting either from refining Crude Petroleum or the operation of gasoline recovery plants, gas recycling plants or distillate recovery equipment in gas and distillate fields, or broken out during the normal production or processing of natural gas, or (c) Processed |

Condensate, and in each case meeting the specifications referenced in Special Rules 2 and 22.

| | |
|-------------------------------------|---|
| Current Nomination Basis | Has the meaning set forth in Special Rule 15 Section 1.3. |
| Destination | A point named in the tariff at which point Carrier will deliver Crude Petroleum to Shipper or its Consignee after transportation from an Origin. |
| Gravity & Sulphur Bank | That certain bank managed to ensure that Shippers are not materially damaged or allowed to benefit from changes in quality and sulfur of Crude Petroleum in the Common Stream. |
| Incentive Shipper | A Shipper that is a party to a Throughput and Deficiency Agreement. |
| Origin | A point named in the tariff at which point Carrier will accept Crude Petroleum for transportation. |
| New Shipper | Has the meaning set forth in Special Rule 15 Section 1.1. |
| Nomination | A request by a Shipper to Carrier of a stated quantity and grade of Crude Petroleum for transportation from a specified Origin or Origins to a specified Destination or Destinations in accordance with these rules and regulations. |
| Pawnee – Pettus Segment | Has the meaning set forth in Rule 24 Section (B). |
| Pettus – CCNB Segment | Has the meaning set forth in Rule 24 Section (A). |
| Pipeline Segment | Section of Carrier's common carrier facilities, the limits of which are defined by two geographically identifiable points, that, because of the way that section of Carrier's common carrier facilities is designed and operated, must be treated as a unit for purposes of determining Capacity. |
| Processed Condensate | Liquid hydrocarbons that have been processed through a distillation tower or similar process or equipment. |
| Regular Shipper | Has the meaning set forth in Special Rule 15 Section 1.2. |
| Segregated Batch | A tender of Crude Petroleum in a batch having specific identifiable characteristics which is moved through the pipeline and pipeline facilities as a unit so as to maintain its quality and characteristics as may be determined based on analysis of a sample of such Crude Petroleum . |
| Shipper | A party who contracts with Carrier for transportation of Crude Petroleum, as defined herein and under the terms of this tariff. |
| Throughput and Deficiency Agreement | An effective Throughput and Deficiency Agreement executed between Carrier and an Incentive Shipper for the provision of service under this tariff. |

Special Rule 2 Crude Petroleum, Acceptance of

(A) Carrier will reject Crude Petroleum containing more than one percent (1%) of basic sediment, water, and other impurities, except that:

1. If required by operating conditions, Carrier will reject Crude Petroleum containing less than one percent (1 %) of basic sediment, water and other impurities.
2. Sediment and water limitations of a Connecting Carrier shall be imposed upon Carrier when such limits are less than that of the Carrier, in which case the limitations of the Connecting Carrier will be applied.

(B) If required by operating conditions, Carrier will reject any and all of the following shipments:

1. Crude Petroleum having Reid vapor pressure in excess of 10 pounds above a temperature of 100 degrees Fahrenheit.
2. Crude Petroleum where the Shipper or Consignee has failed to comply with all applicable laws, rules and regulations made by any governmental authority regulating shipments of Crude Petroleum.
3. Crude Petroleum where sulfur content is greater than 0.50% by weight.

(C) Shipper shall be responsible for all reasonable expenses incurred by Carrier resulting from Carrier's receipt of any Crude Petroleum which does not comply with the requirements of Rule 2.

Special Rule 3 Additives

Crude Petroleum shall be free of any additives and inhibitors, including drag reducing agents, unless approved by Carrier.

Special Rule 4 Storage

Carrier will only provide working tankage for such storage that is incidental and necessary to the transportation of Crude Petroleum pursuant to the applicable tariff. Any additional storage in Carrier's tankage, i.e., storage beyond what is incidental and necessary to transportation pursuant to the applicable rate tariff, will be subject to the terms and conditions of Carrier's standard storage agreement and is a non-jurisdictional service.

Special Rule 5 Receipt Facilities Required

Carrier will refuse to accept Crude Petroleum for transportation unless satisfactory evidence is furnished that the Shipper or Consignee has provided the necessary tankage facilities at the Origin.

Special Rule 6 Destination Facilities Required

Carrier will refuse to accept Crude Petroleum for transportation unless satisfactory evidence is furnished that the Shipper or Consignee has provided the necessary facilities for the prompt receiving of Crude Petroleum at the Destination e.g. written confirmation by the operator of the terminal at the Destination. If the Shipper or Consignee is unable or refuses to receive said Crude Petroleum as it arrives at Destination, Carrier, if required by operating conditions, will make arrangement for disposition of the Crude Petroleum it deems appropriate in order to clear the Carrier's pipeline. Any additional expenses incurred by Carrier in making such arrangements shall be borne by the Shipper or Consignee.

Special Rule 7 Acceptance Free From Liens and Charges

Carrier will reject any Crude Petroleum which, when nominated for transportation, is involved in litigation, or the title of is in dispute, of which is encumbered by lien or charge of any kind, and Carrier shall require of the Shipper satisfactory evidence of the Shipper's perfect and unencumbered title or satisfactory indemnity bond to protect Carrier. By nominating Crude Petroleum, the Shipper warrants and guarantees that it owns or controls, has the right to deliver or have delivered for its account, such Crude Petroleum, and agrees to hold Carrier harmless for any and all loss, cost, liability, damage and/or expense resulting from failure of ownership or control thereto, provided, that acceptance for transportation shall not be deemed a representation by Carrier as to ownership or control.

Special Rule 8 Gauging, Measurement

No charge shall be made by Carrier for metering Crude Petroleum upon receipt or delivery. Crude Petroleum tendered to Carrier for transportation shall be measured by meter prior to its receipt from Shipper. Quantities shall be determined by dynamic or static measurement methods in accordance with appropriate American Petroleum Institute (API) standards, latest revision and adjusted to base (reference or standard) conditions. Quantities shall be metered on a one hundred percent (100%) volume basis at the observed fluid temperature. Carrier will correct this one hundred percent volume basis for temperatures from observed degrees Fahrenheit to 60 degrees Fahrenheit. (60°F.) The temperature corrected volume or Total Calculated Volume (TCV) shall be the quantity upon which transportation charges will be assessed. Measurement by the Carrier shall be conclusive and binding absent fraud or manifest error of amount tendered, regardless if Shipper or their representative is present.

Carrier will adjust any overage or shortage of Crude Petroleum with Shippers to allow for inherent losses or gains, including but not limited to shrinkage, evaporation, interface mixture, product measurements and other physical losses not due to negligence of Carrier. The adjustments for losses or gains will be allocated by grade by month, among the Shippers in the proportion that the total number of barrels of a given grade delivered out of the system, by grade, for each Shipper bears to the total number of barrels of that grade delivered out of the system for all Shippers.

Special Rule 9 Evidence of Receipts and Deliveries

Crude Petroleum received from Shipper and Crude Petroleum delivered to Consignee shall, in each instance, be evidenced by tickets or Carrier's statements containing data essential to the determination of quantity.

Special Rule 10 Operation

A. General. Carrier will operate the pipeline both as a Common Stream operation and as a Segregated Batch operation.

B. Common Stream Operation. Shippers will be required, as a condition of nominating Crude Petroleum to be transported as a Common Stream, to participate in a Gravity and Sulfur Bank set forth in this Rule 10 and Exhibits A-D (collectively, the "Rules"). The tables of gravity and sulfur differential values per barrel as attached hereto as Exhibits B and C are incorporated herein and made a part of this Rule.

The weighted average gravity differential value per barrel (for two or more gravities of Crude Petroleum), as hereinafter referred to, shall be obtained in the following manner: Multiply the gravity differential values per barrel by the number of barrels to which such gravity differential values are applicable and then divide the total of the resultant gravity differential values in dollars and cents by the total of the applicable barrels.

Applicable barrels and gravities shall be the net barrels at 60° Fahrenheit (with no deduction for loss allowance) and the gravities recorded by the operator at points where it customarily records gravities and quantities.

The weighted average sulfur differential value per barrel (for two or more sulfur contents of crude petroleum), as hereinafter referred to, shall be obtained in the following manner: Multiply the sulfur differential values per barrel by the number of barrels to which such sulfur differential values are applicable and then divide the total of the resultant sulfur differential values in dollars and cents by the total of the applicable barrels.

Applicable barrels and sulfur content shall be the net barrels at 60° Fahrenheit (with no deduction for loss allowance) and the sulfur content recorded by a competent laboratory for samples obtained by the operator at points where it customarily measures and samples receipts for custody transfer.

Sulfur content as furnished by the laboratory at the true gravity shall be adjusted to reflect its comparison to the reference crude at 35.5° gravity. The adjustment to the test sulfur content shall be made by establishing a ratio of weight per gallon for the gravity of the sample to weight per gallon for the gravity of the reference crude of 35.5° gravity. The Table of Ratio Factors for Sulfur Adjustments is attached hereto as Exhibit D and made a part of these Rules.

The ratio thus obtained will be applied against the tested sulfur content of the sample to obtain the adjusted sulfur content (gravity ratio x tested sulfur content= adjusted sulfur content). The adjusted sulfur content will then be used to obtain the sulfur differential value per barrel from the table of sulfur differential values per barrel (Exhibit C).

Adjustment between Shippers shall be computed as follows:

- I. Compute the weighted average gravity differential value per barrel of the barrels received from each Shipper. Compute the weighted average sulfur differential value per barrel of the barrels received from each Shipper.
- II. Compute the weighted average gravity differential value per barrel of the composite Common Stream receipts. III. Determine the following:
 - A. If the weighted average gravity differential value per barrel of a Shipper as so determined under Paragraph I above shall be greater than the weighted average gravity differential value per barrel of the aforementioned Common Stream Crude Petroleum as determined under Paragraph II, the difference in cents per barrel shall be calculated and Shipper shall be credited an amount calculated by multiplying said difference in gravity differential value per barrel by the applicable barrels.
 - B. If the weighted average gravity differential value per barrel of a Shipper is less than the weighted average gravity differential value per barrel of the aforementioned Common Stream Crude Petroleum, the difference shall be calculated as above outlined and Shipper debited for such difference
- IV. Compute the weighted average sulfur differential value per barrel of the composite Common Stream receipts.
 - A. If the weighted average sulfur differential value per barrel of a Shipper as so determined under Paragraph I above shall be greater than the weighted average sulfur differential value per barrel of the aforementioned

Common Stream Crude Petroleum as determined under Paragraph II, the difference in cents per barrel shall be calculated and Shipper shall be debited an amount calculated by multiplying said difference in sulfur differential value per barrel by the applicable barrels.

- B. If the weighted average sulfur differential value per barrel of a Shipper is less than the weighted average sulfur differential value per barrel of the aforementioned Common Stream Crude Petroleum, the difference shall be calculated as above outlined and Shipper shall be credited for such difference.

A sample calculation is attached as Exhibit A.

These calculations shall be made for each calendar month and the algebraic sum of the adjustments for the system shall be zero \pm one dollar. If a Shipper shall have a net debit balance in combining the two adjustments made above, the balance shall be remitted to the clearinghouse within twenty (20) days from receipt of statement of such debit. If Shipper shall have a credit, the clearinghouse shall remit the amount thereof after receipt by the clearinghouse of the sums from those Shippers having debits as calculated above.

Carrier will only be liable to Shipper for any errors to the Gravity and Sulfur Bank to the extent resulting from fraud, Carrier's gross negligence, or willful misconduct. Shipper must make any claims for such errors by written notice to Carrier within ninety (90) days of the date of the Gravity and Sulfur Bank invoice and Shipper irrevocably waives any claim for which the required notice is not provided within the required time. Any Shipper receiving a windfall from an error in Gravity and Sulfur Bank calculation agrees to refund such windfall, with the adjustment reflected on a future invoice. If the error cannot be reasonably determined, all Shippers agree to a settlement reallocation, and adjustments will be reflected on a future invoice.

C. Segregated Batch. Shippers will be required, as a condition of nominating Crude Petroleum to be transported as a Segregated Batch, to be able to receive the Segregated Batch. Carrier will operate the pipeline as a batched system maintaining the integrity of each Segregated Batch to the extent possible and in accordance with its policies.

Special Rule 11 Duty of Carrier

- (A) Carrier shall not be required to transport Crude Petroleum except with reasonable diligence, considering the quality of the Crude Petroleum, the distance of transportation and other material elements, and will not accept Crude Petroleum to be transported in time for any particular market.
- (B) For Segregated Batch movements, Carrier will use reasonable care to transport Crude Petroleum received to the Destination with a minimum contamination and mixing, and will attempt to maintain the identity of each shipment
- (C) For Common Stream movements, Carrier will not be required to deliver the identical Crude Petroleum received, and Carrier will not be liable for damage or loss, including but not limited to consequential, incidental, direct or indirect damages or damage or lost profits, caused by contamination, discoloration, deterioration, a change in density, or other change in quality of a Shipper's Crude Petroleum resulting from Carrier's transportation of the Crude Petroleum.
- (D). Carrier may suspend transportation services on the Pipeline Segment in order to comply with applicable Laws of any Governmental Authority, to perform maintenance, testing, inspections, or repairs, or to prevent injuries to persons, damage to property, or harm to the environment, without incurring any obligation for any liabilities.

Special Rule 12 Claims

Notice of claims for loss or damage in connection with shipments must be made to Carrier in writing within nine (9) months and one day after same shall have accrued, or, in case of failure to make delivery, within nine (9) months and one day after a reasonable time for delivery shall have elapsed. Such claims, fully amplified, must be filed with Carrier within nine (9) months and one day thereafter, and unless so made and filed, Carrier shall be wholly released and discharged therefrom and shall not be liable therefore in any court of justice. No suit at law or in equity shall be maintained upon any claim unless instituted within two (2) years and one (1) day after the cause of action accrued. Any such loss or damage shall be determined solely on the basis of volumetric loss and not on the monetary value of the Crude Petroleum.

Special Rule 13 Application of Rates from and to Intermediate Points

For Crude Petroleum accepted for transportation from any point on Carrier's lines not named in a particular tariff which is intermediate to a point from which rates are published there, through such unnamed point, Carrier will apply from such unnamed point the rates published therein from the next more distant point specified in such tariff. For Crude Petroleum accepted for transportation to any point not named in a particular tariff which is intermediate to a point to which rates are published in said tariffs, through such named point, the rate published therein to the next more distant point specified in the tariff will apply. Carrier will file a tariff publication applicable to the transportation movements within 30 days of the start of the service if the intermediate point is to be used on a continuous basis for more than 30 days.

Special Rule 14 Line Fill and Tank Bottom Inventory Requirements

Carrier will require each Shipper to supply a pro rata share of Crude Petroleum necessary for pipeline and tankage fill to ensure efficient operation of the pipeline system prior to delivery. Crude Petroleum provided by Shippers for this purpose may be withdrawn only after: (1) shipments have ceased and Shippers have notified Carrier in writing, on no less than thirty (30) days notice, to discontinue shipments in Carrier's system; and (2) Shipper balances have been reconciled between Shippers and Carrier. Carrier shall require advance payment of transportation charges on the volumes to be cleared from Carrier's system, and any unpaid accounts receivable, before final delivery will be made. Carrier shall have thirty (30) days from the receipt of sold notice to complete administrative and operational requirements incidental to Shipper withdrawal.

If Shipper's inventory balance drops below its pro rata portion of the volume of Crude Petroleum necessary for the efficient operation of Carrier's pipeline system, Carrier will require Shipper to provide the necessary volume to meet its pro rata portion of such volume of Crude Petroleum.

Special Rule 15 Proration of Pipeline Capacity

When a quantity of Crude Petroleum is nominated by Shippers to Carrier which exceeds the Capacity of any Pipeline Segment from an Origin to a Destination, Crude Petroleum nominated by each Shipper for transportation from that Origin to that Destination will be transported in such quantities and at such times to the limit of Carrier's Capacity in a manner determined by Carrier to be equitable to all Shippers. The details of Special Rule 15 are set out in the following paragraphs through 2.9:

1.0 Definitions

- 1.1 "New Shipper" means a Shipper that has not delivered Crude Petroleum to any Destination on the Pipeline Segment to be prorated within the Base Period. A

Shipper that becomes a New Shipper shall remain one for the following 12 consecutive months.

- 1.2 "Regular Shipper" means a Shipper that is not a New Shipper.
 - 1.3 "Current Nomination Basis" means that the portion of Capacity available pursuant to paragraph 2.2 contained in Special Rule 15 to New Shippers will be allocated among all New Shippers in proportion to the volumes of Crude Petroleum nominated by each New Shipper for that month in accordance with Special Rule 16.
 - 1.4 "Base Period" is the 12-calendar-month period just preceding the Calculation Month. Individual months within the Base Period are designated by Nos. 1 through 12, with "Month 1" being the most recent Base Period month and "Month 12" being the oldest Base Period month.
 - 1.5 "Base Shipment Percentage" for each Regular Shipper is the total deliveries of Crude Petroleum to all Destinations on the Pipeline Segment to be prorated by the Regular Shipper during the Base Period divided by the lessor of (a) twelve or (b) the number of Base Period month within which the Regular Shipper first delivered Crude Petroleum to a Destination on the Pipeline Segment to be prorated.
 - 1.6 "Calculation Month" is the calendar month immediately preceding the month for which Capacity is being prorated.
- 2.0 Prorating of Capacity
- 2.1 When Capacity will be prorated. Carrier will allocate Capacity among all Shippers for any month for which the Carrier reasonably determines that the aggregate volume of Crude Petroleum that all Shippers nominate to all Destinations in a Pipeline Segment exceeds Capacity. Proration will be applied separately to each Pipeline Segment where a need for prorating shall arise.
 - 2.2 Availability and Allocation of Capacity to New Shippers. Up to ten (10) percent of Capacity shall be made available to New Shippers and will be prorated among them on a Current Nomination Basis.
 - 2.3 Availability of Capacity to Regular Shippers. After the allocation of the portion of Capacity to New Shippers that is required by paragraph 2.2, the remaining portion of Capacity for that month shall be available to Regular Shippers who have nominated volumes for that month.
 - 2.4 Allocation to each Regular Shipper. Such remaining portion of Capacity shall be allocated among Regular Shippers in proportion to their Base Shipment Percentages. In the event that the volume of Crude Petroleum that would be allocated to a Shipper on the basis of its Base Shipment Percentage is greater than the volume it nominates, the difference between its volume calculated on the basis of its Base Shipment Percentage and its volume nominated will be reallocated among all other Regular Shippers in proportion to their Base Shipment Percentages. Any remaining prorated allocation of Capacity after this reallocation among all Regular Shippers in proportion to their Base Shipment Percentages shall be made available to New Shippers and will be prorated among them on a Current Nomination Basis.
 - 2.5 Basis of allocation: notification. When prorating of Capacity is in effect, Capacity shall be allocated among eligible Shippers on a monthly basis and Carrier shall use reasonable efforts to notify each Shipper entitled to an allocation

of a portion of Capacity of the amount of its allocation no later than the 25th day of the month proceeding the month for which the allocation is made.

- 2.6 Good Faith Nominations. Carrier will accept only good faith Nominations from Shippers and Carrier shall use whatever reasonable means necessary to determine whether Nominations are made in good faith. Shipper has an obligation to cooperate with Carrier inquiries regarding Good Faith Nominations. Good Faith means the non-contingent ability and willingness of Shipper to deliver to Carrier at the Origins specified in the Nomination all of the Barrels tendered during the month for which the Nomination is made.
- 2.7 Failure to use allocated portion of Capacity. If a New Shipper making a Good Faith Nomination fails to deliver, at the Origins specified by it in its Nomination, Crude Petroleum sufficient to fill the portion of Capacity allocated to it and such failure has not been caused by force majeure, Carrier will reduce such Shipper's allocation for the next proration period after the end of the month during which such failure occurred for which such Shipper nominates as a New Shipper by the allocated portion of Capacity not utilized.
- 2.8 Transfer of Base Shipment Percentage or allocated portion of Capacity; use of affiliates. Neither a Shipper's Base Shipment Percentage nor volumes allocated to it during a period when prorationing is in effect shall be assigned, conveyed, loaned, transferred to, or used in any manner by, another Shipper. However, a Shipper's Base Shipment Percentage or its allocation may be transferred as an incident of the bona fide transfer if the Shipper's business or to a successor to the Shipper's business by the operation of law, such as an executor or trustee in bankruptcy. A Shipper may not use an affiliated or cooperating entity to increase its Base Shipment Percentage or its allocated portion of Capacity. All transfers made pursuant to this section shall be irrevocable.
- 2.9 Enhancement of Allocation. In no event will an allocation to a Shipper be used in such a manner that will enhance the allocation of another Shipper beyond the allocation that such Shipper would be entitled to under this policy. Carrier may require written assurances from a responsible officer of Shipper regarding its use of its allocated portion of Capacity stating that Shipper has not violated this policy. In the event any Shipper shall, by any device, scheme or arrangement whatsoever, attempt to transfer all or any part of its allocated portion of Capacity to any other Shipper in violation of this policy, or in the event any Shipper shall attempt to receive and use such portion of Capacity, the portion of Capacity allocated to such Shipper will be reduced in the next month that is subject to prorationing after the date that the violation is discovered by a volume equal to such attempted transfer.

Special Rule 16 Nominations; Minimum Quantity

Crude Petroleum will be transported by Carrier only under a Nomination accepted by Carrier. Any Shipper desiring to tender Crude Petroleum for transportation shall make such Nomination to Carrier in writing on or before 4:15 PM central standard time, the last working day prior to 22nd day of the month preceding the month during which the transportation under the tender is to begin; except that, if space is available for current movement and at the sole discretion of Carrier, a Shipper may tender Crude Petroleum for transportation after 4:15 PM central standard time on the 22nd day of the month preceding the month during which the transportation under the tender is to begin. A "working day" shall be a Monday, Tuesday, Wednesday, Thursday or Friday of a calendar week, except when a Federal holiday falls on such day of the week.

Nominations for the transportation of Crude Petroleum for which Carrier has facilities will be accepted into the pipeline under the tariff in quantities of not less than the following from one Shipper to one Consignee and Destination as operations permit and provided, with respect to Nominations for Common Stream transportation, such Crude Petroleum is of similar quality and characteristics as is being transported from Origin to Destination:

| | Minimum Aggregate Nomination |
|------------------|------------------------------|
| Common Stream | 5,000 barrels per day |
| Segregated Batch | 50,000 barrels |

Before Carrier will accept a Nomination from a new Shipper, such Shipper (i) will comply with Special Rule 18(a); (ii) will demonstrate to Carrier the adequacy of such Shipper's facilities as referenced in Special_Rule 5 and Special Rule 6; and (iii) will provide any other information reasonably requested by Carrier.

Special Rule 17 Application of Rates

Crude Petroleum accepted for gathering and/or transportation shall be subject to the rates in effect on the date of delivery by Carrier, irrespective of the date of the tender.

Special Rule 18 Payment of Carrier Charges

- (A) Prior to becoming a Shipper, a prospective Shipper must submit to Carrier financial information to establish creditworthiness. The type of information from a prospective Shipper requests include but are not limited to: most recent year end financials, 10K reports or other filings with regulatory agencies and bank references. If, in the reasonable opinion of Carrier: (i) Shipper is not creditworthy, or (ii) if an existing Shipper's credit deteriorates, Carrier shall require such Shipper to prepay all transportation and other fees and lawful charges accruing on Crude Petroleum delivered and accepted by Carrier or supply an irrevocable letter of credit from a bank acceptable to Carrier, with terms in a form acceptable to Carrier.
- (B) The Shipper shall pay all transportation and other fees and lawful charges accruing on Crude Petroleum delivered to and accepted by Carrier for shipment by the due date stated in Carrier's invoice.
- (C) If charges are not paid by the due date stated on the invoice, Carrier shall assess finance charges on the entire past due balance (including principal and accumulated but unpaid finance charges) until paid in full, at a rate equal to 125% of the prime rate of interest as reported in the Wall Street Journal as of first of the month in which the charges are due or the maximum finance rate allowed by applicable law, whichever is less.

- (D) Carrier reserves the right to withhold an amount of Crude Petroleum belonging to Shipper from delivery that would be sufficient to cover all unpaid charges due to Carrier from Shipper until all such unpaid charges have been paid. Furthermore, Carrier shall retain a perfected possessory lien under Chapter 9 of the Uniform Commercial Code, as applicable, on an amount of a Shipper's Crude Petroleum in Carrier's possession sufficient to secure payment of any and all amounts owed by such Shipper to Carrier. Carrier reserves the right to set-off any such charges against any monies owed to Shipper by Carrier or any Crude Petroleum of Shipper in Carrier's custody. If said charges remain unpaid ten (10) days after the due date therefor, Carrier shall have the right, through an agent, to sell such Crude Petroleum at public auction, on any day not a legal holiday, in not less than forty-eight (48) hours after publication of notice of such sale in a daily newspaper of general circulation published in the town or city where the sale is to be held, stating the time, place of sale, and the quantity and location of Crude Petroleum to be sold. At said sale, Carrier shall have the right to bid, and if the highest bidder, to become the purchaser. From the proceeds of said sale, Carrier will pay itself the transportation and all other lawful charges, including expenses incident to said sale, and the balance remaining, if any, shall be held for Shipper or whomsoever may be lawfully entitled thereto.

Special Rule 19 Liability of Carrier

- (A) Carrier shall not be liable for any delay in delivery of or any loss of Crude Petroleum caused by acts of God, acts of government, acts of terrorists, storm, flood, extreme weather, fire, explosion, by acts of war, terrorism, quarantine, authority of law, by breakdown or accident to machinery or equipment, or by act of default of Shipper or Consignee resulting from any other cause reasonably beyond the control of Carrier and not due to the negligence of Carrier, whether similar or dissimilar to the causes herein enumerated. Any such loss shall be apportioned by Carrier to each Shipper of Crude Petroleum in the proportion to Shipper's total volume transported in the calendar month in which such loss occurs. Shipper shall be entitled to receive only that portion of its Crude Petroleum remaining after deducting such Shipper's proportion of such loss, as above determined. Carrier shall prepare and submit a statement to each Shipper showing the apportionment of any such loss of Crude Petroleum.
- (B) To the maximum extent permitted by law, Shipper shall release, indemnify, defend and hold harmless Carrier, its Affiliates and its Representatives from and against all actions, claims, cause of action, costs, demands, obligations, losses, lawsuits, liabilities, fines, penalties, damages and expenses (including court costs, defense costs and reasonable attorneys' fees and expenses) of any kind or character arising from or related to: (1) the negligent or willful acts or omissions on the part of Shipper, its employees, agents or contractors (including, but not limited to, any contractors transporting products(s) to or from any location on Carrier's System); and/or (2) liability arising from the chemical characteristics of Crude Petroleum, except to the extent such liability arises from Carrier's negligence.

Special Rule 20 Scheduling of Delivery

When Shippers request delivery from the pipeline at a Destination of a volume of Crude Petroleum greater than can be immediately delivered, Carrier shall schedule delivery. Carrier shall not be liable for any delay in delivery resulting from such scheduling of delivery.

Special Rule 21 Pipage Agreement

Separate agreements in accordance with this tariff and these regulations covering further details will be required by Carrier before any duty for transportation shall arise.

Special Rule 22 Establishment of Grades

Carrier will from time to time determine which grades of Crude Petroleum it will regularly transport as a Common Stream and as a Segregated Batch between particular Origins and Destinations on its pipelines.

Common Stream grades are:

| Grade | Minimum API Gravity | Maximum API Gravity |
|-----------------|---------------------|------------------------------|
| Crude Oil | | Less than or equal to 45 API |
| Light Crude Oil | Greater than 45 API | Less than or equal to 55 API |
| Condensate | Greater than 55 API | |

Segregated grades are:

| Grade | Minimum API Gravity | Maximum API Gravity |
|----------------------|---------------------|------------------------------|
| Processed Condensate | Greater than 40 API | Less than or equal to 60 API |

Special Rule 23 Processed Condensate Export

For avoidance of doubt, Carrier is not the exporter of Processed Condensate transported through the pipeline and is not responsible for compliance with any applicable law with respect to the export of Processed Condensate.

Special Rule 24 Bi-Directional Routing

- (A) Carrier's system is designed and intended to provide transportation service in a westward direction from Koch Pipeline Pettus Station, Bee County, Texas to Corpus Christi North Beach, Nueces County, Texas ("Pettus – CCNB Segment"). The terms of service and rate transportation movement are set forth in this tariff.
- (B) Carrier does, however, have the capability to temporarily reverse the flow to offer transportation service in an eastwards direction using a section of its pipeline extending between Pawnee Station, Live Oak County, Texas and Koch Pipeline Pettus Station ("Pawnee – Pettus Segment").
- (C) A Shipper desiring to make a westward shipment on the Pettus – CCNB Segment in a month should submit a Nomination for such service in accordance with Special Rule 16 of this tariff. A Shipper desiring to make an eastward shipment on the Pawnee – Pettus Segment in a month should submit a Nomination for such service in accordance with Special Rule 16, and specify that the requested shipment will need bi-directional service under this Special Rule 24.
- (D) Following the receipt of all such Nomination for service, Carrier will make a determination as to whether it can temporarily reverse part of the Pettus – CCNB Segment during the requested month in order to offer eastward transportation services on the Pawnee – Pettus Segment, in addition to offering the primary westward transportation services on the Pettus – CCNB Segment. Carrier will consider, among other things, the following factors when determining whether to reverse part of the Pettus – CCNB Segment: the level of Nominations received for westward transportation service on the Pettus – CCNB Segment, the level of Nominations received for eastward transportation service on the Pawnee – Pettus Segment, and the expense that will be required to perform the reversal of part of the Pettus – CCNB Segment. Carrier will reverse part of the Pettus – CCNB Segment in a given month only when and to the extent that all volumes of Crude Petroleum nominated for westward transportation service on the Pettus - CCNB Segment can be accepted by Carrier without prorationing and there is sufficient remaining capacity to provide temporary eastward transportation service on the Pawnee – Pettus Segment.
- (E) Carrier will notify all interested parties no later than the 27th day of the month preceding the month of transportation as to whether Carrier will temporarily reverse part of the Pettus - CCNB Segment during the requested month and offer transportation service in an eastward direction on the Pawnee – Pettus Segment, in addition to offering the primary westward transportation services on the Pettus - CCNB Segment.

EXHIBIT A

GRAVITY BANKS AND SULFUR BANKS EXAMPLE CALCULATION

| LOCATION | SHIPPER | BBL'D RECEIVED | Tested % SULFUR | API GRAV | EXHIBIT D | Adjusted | EXHIBIT C | EXHIBIT B | BBL'S | BBL'S |
|---------------|---------|-------------------|-----------------------|-------------|----------------------|-------------|----------------|-----------------|---------------------------|-------------------------|
| | | | | | RATIO TO 35.5 WT. | % SULFUR | SULFUR DIFF | GRAVITY DIFF | REC'D x SULFUR DIFF | REC'D x GRAV DIFF |
| JONES LEASE | A | 155,000.00 | 0.20 | 45.0 | 0.94614 | 0.19 | 1.19 | \$5.10 | 184,450.00 | 790,500.00 |
| ABC TRUCK ACT | B | 165,341.60 | 0.30 | 36.0 | 0.99702 | 0.30 | 1.30 | \$5.02 | 214,944.08 | 830,014.83 |
| SMITH LEASE | C | 82,658.40 | 0.40 | 30.0 | 1.03416 | 0.41 | 1.41 | \$4.25 | 116,548.34 | 351,298.20 |
| | | <u>403,000.00</u> | | | | | | | <u>515,942.42</u> | <u>1,971,813.03</u> |

COMMON STREAM WEIGHTED AVERAGE GRAVITY VALUE: 1,971,813.03/403,000 = 4.892836308
COMMON STREAM WEIGHTED AVERAGE SULFUR VALUE: 515,942.42/403,000 = 1.280254154

| | | | | |
|---------------|-----------|--|----------|----------------------|
| JONES LEASE | SHIPPER A | WEIGHTED AVERAGE GRAVITY VALUE: 790,500.00/155,000 = | 5.10 | |
| | | CALCULATION: (4.892836308 - 5.10) x 155,000 = | | (\$32,110.37) |
| | | WEIGHTED AVERAGE SULFUR VALUE: 184,450.00/155,000 = | 1.19 | |
| | | CALCULATION: (1.19 - 1.280254154) x 155,000 = | | (\$13,989.39) |
| | | CURRENT MONTH QUALITY BANK AMOUNT: | | <u>(\$46,099.77)</u> |
| ABC TRUCK ACT | SHIPPER B | WEIGHTED AVERAGE GRAVITY VALUE: 830,014.83/165,341.6 = | 5.02 | |
| | | CALCULATION: (4.892836308 - 5.02) x 165,341.6 = | | (\$21,025.45) |
| | | WEIGHTED AVERAGE SULFUR VALUE: 214,944.08/165,341.6 = | 1.30 | |
| | | CALCULATION: (1.30 - 1.280254154) x 165,341.6 = | | \$3,264.81 |
| | | CURRENT MONTH QUALITY BANK AMOUNT: | | <u>(\$17,760.64)</u> |
| SMITH LEASE | SHIPPER C | WEIGHTED AVERAGE GRAVITY VALUE: 351,298.20/82,658.4 = | 4.25 | |
| | | CALCULATION: (4.892836308 - 4.25) x 82,658.4 = | | \$53,135.82 |
| | | WEIGHTED AVERAGE SULFUR VALUE: 116,548.34/82,658.4 = | 1.41 | |
| | | CALCULATION: (1.41 - 1.280254154) x 82,658.4 = | | \$10,724.58 |
| | | CURRENT MONTH QUALITY BANK AMOUNT: | | <u>\$63,860.40</u> |
| | | | BANK SUM | \$0.00 |

**EXHIBIT B - ADJUSTMENT AUTHORIZATION TABLES OF DIFFERENTIALS FOR USE IN DETERMINING
ADJUSTMENTS FOR DIFFERENCE IN GRAVITY OF CRUDE PETROLEUM**

| API GRAVITY | DIFF. PER BBL | API GRAVITY | DIFF. PER BBL | API GRAVITY | DIFF. PER BBL | API GRAVITY | DIFF. PER BBL |
|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| 10.0 | 1.250 | 16.0 | 2.150 | 22.0 | 3.050 | 28.0 | 3.950 |
| 10.1 | 1.265 | 16.1 | 2.165 | 22.1 | 3.065 | 28.1 | 3.965 |
| 10.2 | 1.280 | 16.2 | 2.180 | 22.2 | 3.080 | 28.2 | 3.980 |
| 10.3 | 1.295 | 16.3 | 2.195 | 22.3 | 3.095 | 28.3 | 3.995 |
| 10.4 | 1.310 | 16.4 | 2.210 | 22.4 | 3.110 | 28.4 | 4.010 |
| 10.5 | 1.325 | 16.5 | 2.225 | 22.5 | 3.125 | 28.5 | 4.025 |
| 10.6 | 1.340 | 16.6 | 2.240 | 22.6 | 3.140 | 28.6 | 4.040 |
| 10.7 | 1.355 | 16.7 | 2.255 | 22.7 | 3.155 | 28.7 | 4.055 |
| 10.8 | 1.370 | 16.8 | 2.270 | 22.8 | 3.170 | 28.8 | 4.070 |
| 10.9 | 1.385 | 16.9 | 2.285 | 22.9 | 3.185 | 28.9 | 4.085 |
| 11.0 | 1.400 | 17.0 | 2.300 | 23.0 | 3.200 | 29.0 | 4.100 |
| 11.1 | 1.415 | 17.1 | 2.315 | 23.1 | 3.215 | 29.1 | 4.115 |
| 11.2 | 1.430 | 17.2 | 2.330 | 23.2 | 3.230 | 29.2 | 4.130 |
| 11.3 | 1.445 | 17.3 | 2.345 | 23.3 | 3.245 | 29.3 | 4.145 |
| 11.4 | 1.460 | 17.4 | 2.360 | 23.4 | 3.260 | 29.4 | 4.160 |
| 11.5 | 1.475 | 17.5 | 2.375 | 23.5 | 3.275 | 29.5 | 4.175 |
| 11.6 | 1.490 | 17.6 | 2.390 | 23.6 | 3.290 | 29.6 | 4.190 |
| 11.7 | 1.505 | 17.7 | 2.405 | 23.7 | 3.305 | 29.7 | 4.205 |
| 11.8 | 1.520 | 17.8 | 2.420 | 23.8 | 3.320 | 29.8 | 4.220 |
| 11.9 | 1.535 | 17.9 | 2.435 | 23.9 | 3.335 | 29.9 | 4.235 |
| 12.0 | 1.550 | 18.0 | 2.450 | 24.0 | 3.350 | 30.0 | 4.250 |
| 12.1 | 1.565 | 18.1 | 2.465 | 24.1 | 3.365 | 30.1 | 4.265 |
| 12.2 | 1.580 | 18.2 | 2.480 | 24.2 | 3.380 | 30.2 | 4.280 |
| 12.3 | 1.595 | 18.3 | 2.495 | 24.3 | 3.395 | 30.3 | 4.295 |
| 12.4 | 1.610 | 18.4 | 2.510 | 24.4 | 3.410 | 30.4 | 4.310 |
| 12.5 | 1.625 | 18.5 | 2.525 | 24.5 | 3.425 | 30.5 | 4.325 |
| 12.6 | 1.640 | 18.6 | 2.540 | 24.6 | 3.440 | 30.6 | 4.340 |
| 12.7 | 1.655 | 18.7 | 2.555 | 24.7 | 3.455 | 30.7 | 4.355 |
| 12.8 | 1.670 | 18.8 | 2.570 | 24.8 | 3.470 | 30.8 | 4.370 |
| 12.9 | 1.685 | 18.9 | 2.585 | 24.9 | 3.485 | 30.9 | 4.385 |
| 13.0 | 1.700 | 19.0 | 2.600 | 25.0 | 3.500 | 31.0 | 4.400 |
| 13.1 | 1.715 | 19.1 | 2.615 | 25.1 | 3.515 | 31.1 | 4.415 |
| 13.2 | 1.730 | 19.2 | 2.630 | 25.2 | 3.530 | 31.2 | 4.430 |
| 13.3 | 1.745 | 19.3 | 2.645 | 25.3 | 3.545 | 31.3 | 4.445 |
| 13.4 | 1.760 | 19.4 | 2.660 | 25.4 | 3.560 | 31.4 | 4.460 |
| 13.5 | 1.775 | 19.5 | 2.675 | 25.5 | 3.575 | 31.5 | 4.475 |
| 13.6 | 1.790 | 19.6 | 2.690 | 25.6 | 3.590 | 31.6 | 4.490 |
| 13.7 | 1.805 | 19.7 | 2.705 | 25.7 | 3.605 | 31.7 | 4.505 |
| 13.8 | 1.820 | 19.8 | 2.720 | 25.8 | 3.620 | 31.8 | 4.520 |
| 13.9 | 1.835 | 19.9 | 2.735 | 25.9 | 3.635 | 31.9 | 4.535 |
| 14.0 | 1.850 | 20.0 | 2.750 | 26.0 | 3.650 | 32.0 | 4.550 |
| 14.1 | 1.865 | 20.1 | 2.765 | 26.1 | 3.665 | 32.1 | 4.565 |
| 14.2 | 1.880 | 20.2 | 2.780 | 26.2 | 3.680 | 32.2 | 4.580 |
| 14.3 | 1.895 | 20.3 | 2.795 | 26.3 | 3.695 | 32.3 | 4.595 |
| 14.4 | 1.910 | 20.4 | 2.810 | 26.4 | 3.710 | 32.4 | 4.610 |
| 14.5 | 1.925 | 20.5 | 2.825 | 26.5 | 3.725 | 32.5 | 4.625 |
| 14.6 | 1.940 | 20.6 | 2.840 | 26.6 | 3.740 | 32.6 | 4.640 |
| 14.7 | 1.955 | 20.7 | 2.855 | 26.7 | 3.755 | 32.7 | 4.655 |
| 14.8 | 1.970 | 20.8 | 2.870 | 26.8 | 3.770 | 32.8 | 4.670 |
| 14.9 | 1.985 | 20.9 | 2.885 | 26.9 | 3.785 | 32.9 | 4.685 |
| 15.0 | 2.000 | 21.0 | 2.900 | 27.0 | 3.800 | 33.0 | 4.700 |
| 15.1 | 2.015 | 21.1 | 2.915 | 27.1 | 3.815 | 33.1 | 4.715 |
| 15.2 | 2.030 | 21.2 | 2.930 | 27.2 | 3.830 | 33.2 | 4.730 |
| 15.3 | 2.045 | 21.3 | 2.945 | 27.3 | 3.845 | 33.3 | 4.745 |
| 15.4 | 2.060 | 21.4 | 2.960 | 27.4 | 3.860 | 33.4 | 4.760 |
| 15.5 | 2.075 | 21.5 | 2.975 | 27.5 | 3.875 | 33.5 | 4.775 |
| 15.6 | 2.090 | 21.6 | 2.990 | 27.6 | 3.890 | 33.6 | 4.790 |
| 15.7 | 2.105 | 21.7 | 3.005 | 27.7 | 3.905 | 33.7 | 4.805 |
| 15.8 | 2.120 | 21.8 | 3.020 | 27.8 | 3.920 | 33.8 | 4.820 |
| 15.9 | 2.135 | 21.9 | 3.035 | 27.9 | 3.935 | 33.9 | 4.835 |

EXHIBIT B (CONTINUED)

ADJUSTMENT AUTHORIZATION TABLES OF DIFFERENTIALS FOR USE IN DETERMINING
ADJUSTMENTS FOR DIFFERENCE IN GRAVITY OF CRUDE PETROLEUM

| API GRAVITY | DIFF. PER BBL | API GRAVITY | DIFF. PER BBL | API GRAVITY | DIFF. PER BBL | API GRAVITY | DIFF. PER BBL |
|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| 34.0 | 4.850 | 40.0 | 5.100 | 46.0 | 4.950 | 52.0 | 4.050 |
| 34.1 | 4.865 | 40.1 | 5.100 | 46.1 | 4.935 | 52.1 | 4.035 |
| 34.2 | 4.880 | 40.2 | 5.100 | 46.2 | 4.920 | 52.2 | 4.020 |
| 34.3 | 4.895 | 40.3 | 5.100 | 46.3 | 4.905 | 52.3 | 4.005 |
| 34.4 | 4.910 | 40.4 | 5.100 | 46.4 | 4.890 | 52.4 | 3.990 |
| 34.5 | 4.925 | 40.5 | 5.100 | 46.5 | 4.875 | 52.5 | 3.975 |
| 34.6 | 4.940 | 40.6 | 5.100 | 46.6 | 4.860 | 52.6 | 3.960 |
| 34.7 | 4.955 | 40.7 | 5.100 | 46.7 | 4.845 | 52.7 | 3.945 |
| 34.8 | 4.970 | 40.8 | 5.100 | 46.8 | 4.830 | 52.8 | 3.930 |
| 34.9 | 4.985 | 40.9 | 5.100 | 46.9 | 4.815 | 52.9 | 3.915 |
| 35.0 | 5.000 | 41.0 | 5.100 | 47.0 | 4.800 | 53.0 | 3.900 |
| 35.1 | 5.000 | 41.1 | 5.100 | 47.1 | 4.785 | 53.1 | 3.885 |
| 35.2 | 5.000 | 41.2 | 5.100 | 47.2 | 4.770 | 53.2 | 3.870 |
| 35.3 | 5.000 | 41.3 | 5.100 | 47.3 | 4.755 | 53.3 | 3.855 |
| 35.4 | 5.000 | 41.4 | 5.100 | 47.4 | 4.740 | 53.4 | 3.840 |
| 35.5 | 5.000 | 41.5 | 5.100 | 47.5 | 4.725 | 53.5 | 3.825 |
| 35.6 | 5.000 | 41.6 | 5.100 | 47.6 | 4.710 | 53.6 | 3.810 |
| 35.7 | 5.000 | 41.7 | 5.100 | 47.7 | 4.695 | 53.7 | 3.795 |
| 35.8 | 5.000 | 41.8 | 5.100 | 47.8 | 4.680 | 53.8 | 3.780 |
| 35.9 | 5.000 | 41.9 | 5.100 | 47.9 | 4.665 | 53.9 | 3.765 |
| 36.0 | 5.020 | 42.0 | 5.100 | 48.0 | 4.650 | 54.0 | 3.750 |
| 36.1 | 5.020 | 42.1 | 5.100 | 48.1 | 4.635 | 54.1 | 3.735 |
| 36.2 | 5.020 | 42.2 | 5.100 | 48.2 | 4.620 | 54.2 | 3.720 |
| 36.3 | 5.020 | 42.3 | 5.100 | 48.3 | 4.605 | 54.3 | 3.705 |
| 36.4 | 5.020 | 42.4 | 5.100 | 48.4 | 4.590 | 54.4 | 3.690 |
| 36.5 | 5.020 | 42.5 | 5.100 | 48.5 | 4.575 | 54.5 | 3.675 |
| 36.6 | 5.020 | 42.6 | 5.100 | 48.6 | 4.560 | 54.6 | 3.660 |
| 36.7 | 5.020 | 42.7 | 5.100 | 48.7 | 4.545 | 54.7 | 3.645 |
| 36.8 | 5.020 | 42.8 | 5.100 | 48.8 | 4.530 | 54.8 | 3.630 |
| 36.9 | 5.020 | 42.9 | 5.100 | 48.9 | 4.515 | 54.9 | 3.615 |
| 37.0 | 5.040 | 43.0 | 5.100 | 49.0 | 4.500 | 55.0 | 3.600 |
| 37.1 | 5.040 | 43.1 | 5.100 | 49.1 | 4.485 | | |
| 37.2 | 5.040 | 43.2 | 5.100 | 49.2 | 4.470 | | |
| 37.3 | 5.040 | 43.3 | 5.100 | 49.3 | 4.455 | | |
| 37.4 | 5.040 | 43.4 | 5.100 | 49.4 | 4.440 | | |
| 37.5 | 5.040 | 43.5 | 5.100 | 49.5 | 4.425 | | |
| 37.6 | 5.040 | 43.6 | 5.100 | 49.6 | 4.410 | | |
| 37.7 | 5.040 | 43.7 | 5.100 | 49.7 | 4.395 | | |
| 37.8 | 5.040 | 43.8 | 5.100 | 49.8 | 4.380 | | |
| 37.9 | 5.040 | 43.9 | 5.100 | 49.9 | 4.365 | | |
| 38.0 | 5.060 | 44.0 | 5.100 | 50.0 | 4.350 | | |
| 38.1 | 5.060 | 44.1 | 5.100 | 50.1 | 4.335 | | |
| 38.2 | 5.060 | 44.2 | 5.100 | 50.2 | 4.320 | | |
| 38.3 | 5.060 | 44.3 | 5.100 | 50.3 | 4.305 | | |
| 38.4 | 5.060 | 44.4 | 5.100 | 50.4 | 4.290 | | |
| 38.5 | 5.060 | 44.5 | 5.100 | 50.5 | 4.275 | | |
| 38.6 | 5.060 | 44.6 | 5.100 | 50.6 | 4.260 | | |
| 38.7 | 5.060 | 44.7 | 5.100 | 50.7 | 4.245 | | |
| 38.8 | 5.060 | 44.8 | 5.100 | 50.8 | 4.230 | | |
| 38.9 | 5.060 | 44.9 | 5.100 | 50.9 | 4.215 | | |
| 39.0 | 5.080 | 45.0 | 5.100 | 51.0 | 4.200 | | |
| 39.1 | 5.080 | 45.1 | 5.085 | 51.1 | 4.185 | | |
| 39.2 | 5.080 | 45.2 | 5.070 | 51.2 | 4.170 | | |
| 39.3 | 5.080 | 45.3 | 5.055 | 51.3 | 4.155 | | |
| 39.4 | 5.080 | 45.4 | 5.040 | 51.4 | 4.140 | | |
| 39.5 | 5.080 | 45.5 | 5.025 | 51.5 | 4.125 | | |
| 39.6 | 5.080 | 45.6 | 5.010 | 51.6 | 4.110 | | |
| 39.7 | 5.080 | 45.7 | 4.995 | 51.7 | 4.095 | | |
| 39.8 | 5.080 | 45.8 | 4.980 | 51.8 | 4.080 | | |
| 39.9 | 5.080 | 45.9 | 4.965 | 51.9 | 4.065 | | |

For API GRAVITY values above 55.0° API the differential continues to decline 0.015/bbl. per 0.1° API GRAVITY.

EXHIBIT C

ADJUSTMENT AUTHORIZATION TABLES OF DIFFERENTIALS FOR USE IN DETERMINING
ADJUSTMENTS FOR DIFFERENCE IN SULFUR CONTENT OF CRUDE PETROLEUM

| PERCENT SULFUR | DIFF. PER BBL | PERCENT SULFUR | DIFF. PER BBL | PERCENT SULFUR | DIFF. PER BBL | PERCENT SULFUR | DIFF. PER BBL | PERCENT SULFUR | DIFF. PER BBL |
|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
| 0.00 | 1.000 | 0.60 | 1.600 | 1.20 | 2.200 | 1.80 | 2.800 | 2.40 | 3.400 |
| 0.01 | 1.010 | 0.61 | 1.610 | 1.21 | 2.210 | 1.81 | 2.810 | 2.41 | 3.410 |
| 0.02 | 1.020 | 0.62 | 1.620 | 1.22 | 2.220 | 1.82 | 2.820 | 2.42 | 3.420 |
| 0.03 | 1.030 | 0.63 | 1.630 | 1.23 | 2.230 | 1.83 | 2.830 | 2.43 | 3.430 |
| 0.04 | 1.040 | 0.64 | 1.640 | 1.24 | 2.240 | 1.84 | 2.840 | 2.44 | 3.440 |
| 0.05 | 1.050 | 0.65 | 1.650 | 1.25 | 2.250 | 1.85 | 2.850 | 2.45 | 3.450 |
| 0.06 | 1.060 | 0.66 | 1.660 | 1.26 | 2.260 | 1.86 | 2.860 | 2.46 | 3.460 |
| 0.07 | 1.070 | 0.67 | 1.670 | 1.27 | 2.270 | 1.87 | 2.870 | 2.47 | 3.470 |
| 0.08 | 1.080 | 0.68 | 1.680 | 1.28 | 2.280 | 1.88 | 2.880 | 2.48 | 3.480 |
| 0.09 | 1.090 | 0.69 | 1.690 | 1.29 | 2.290 | 1.89 | 2.890 | 2.49 | 3.490 |
| 0.10 | 1.100 | 0.70 | 1.700 | 1.30 | 2.300 | 1.90 | 2.900 | 2.50 | 3.500 |
| 0.11 | 1.110 | 0.71 | 1.710 | 1.31 | 2.310 | 1.91 | 2.910 | 2.51 | 3.510 |
| 0.12 | 1.120 | 0.72 | 1.720 | 1.32 | 2.320 | 1.92 | 2.920 | 2.52 | 3.520 |
| 0.13 | 1.130 | 0.73 | 1.730 | 1.33 | 2.330 | 1.93 | 2.930 | 2.53 | 3.530 |
| 0.14 | 1.140 | 0.74 | 1.740 | 1.34 | 2.340 | 1.94 | 2.940 | 2.54 | 3.540 |
| 0.15 | 1.150 | 0.75 | 1.750 | 1.35 | 2.350 | 1.95 | 2.950 | 2.55 | 3.550 |
| 0.16 | 1.160 | 0.76 | 1.760 | 1.36 | 2.360 | 1.96 | 2.960 | 2.56 | 3.560 |
| 0.17 | 1.170 | 0.77 | 1.770 | 1.37 | 2.370 | 1.97 | 2.970 | 2.57 | 3.570 |
| 0.18 | 1.180 | 0.78 | 1.780 | 1.38 | 2.380 | 1.98 | 2.980 | 2.58 | 3.580 |
| 0.19 | 1.190 | 0.79 | 1.790 | 1.39 | 2.390 | 1.99 | 2.990 | 2.59 | 3.590 |
| 0.20 | 1.200 | 0.80 | 1.800 | 1.40 | 2.400 | 2.00 | 3.000 | 2.60 | 3.600 |
| 0.21 | 1.210 | 0.81 | 1.810 | 1.41 | 2.410 | 2.01 | 3.010 | 2.61 | 3.610 |
| 0.22 | 1.220 | 0.82 | 1.820 | 1.42 | 2.420 | 2.02 | 3.020 | 2.62 | 3.620 |
| 0.23 | 1.230 | 0.83 | 1.830 | 1.43 | 2.430 | 2.03 | 3.030 | 2.63 | 3.630 |
| 0.24 | 1.240 | 0.84 | 1.840 | 1.44 | 2.440 | 2.04 | 3.040 | 2.64 | 3.640 |
| 0.25 | 1.250 | 0.85 | 1.850 | 1.45 | 2.450 | 2.05 | 3.050 | 2.65 | 3.650 |
| 0.26 | 1.260 | 0.86 | 1.860 | 1.46 | 2.460 | 2.06 | 3.060 | 2.66 | 3.660 |
| 0.27 | 1.270 | 0.87 | 1.870 | 1.47 | 2.470 | 2.07 | 3.070 | 2.67 | 3.670 |
| 0.28 | 1.280 | 0.88 | 1.880 | 1.48 | 2.480 | 2.08 | 3.080 | 2.68 | 3.680 |
| 0.29 | 1.290 | 0.89 | 1.890 | 1.49 | 2.490 | 2.09 | 3.090 | 2.69 | 3.690 |
| 0.30 | 1.300 | 0.90 | 1.900 | 1.50 | 2.500 | 2.10 | 3.100 | 2.70 | 3.700 |
| 0.31 | 1.310 | 0.91 | 1.910 | 1.51 | 2.510 | 2.11 | 3.110 | 2.71 | 3.710 |
| 0.32 | 1.320 | 0.92 | 1.920 | 1.52 | 2.520 | 2.12 | 3.120 | 2.72 | 3.720 |
| 0.33 | 1.330 | 0.93 | 1.930 | 1.53 | 2.530 | 2.13 | 3.130 | 2.73 | 3.730 |
| 0.34 | 1.340 | 0.94 | 1.940 | 1.54 | 2.540 | 2.14 | 3.140 | 2.74 | 3.740 |
| 0.35 | 1.350 | 0.95 | 1.950 | 1.55 | 2.550 | 2.15 | 3.150 | 2.75 | 3.750 |
| 0.36 | 1.360 | 0.96 | 1.960 | 1.56 | 2.560 | 2.16 | 3.160 | 2.76 | 3.760 |
| 0.37 | 1.370 | 0.97 | 1.970 | 1.57 | 2.570 | 2.17 | 3.170 | 2.77 | 3.770 |
| 0.38 | 1.380 | 0.98 | 1.980 | 1.58 | 2.580 | 2.18 | 3.180 | 2.78 | 3.780 |
| 0.39 | 1.390 | 0.99 | 1.990 | 1.59 | 2.590 | 2.19 | 3.190 | 2.79 | 3.790 |
| 0.40 | 1.400 | 1.00 | 2.000 | 1.60 | 2.600 | 2.20 | 3.200 | 2.80 | 3.800 |
| 0.41 | 1.410 | 1.01 | 2.010 | 1.61 | 2.610 | 2.21 | 3.210 | 2.81 | 3.810 |
| 0.42 | 1.420 | 1.02 | 2.020 | 1.62 | 2.620 | 2.22 | 3.220 | 2.82 | 3.820 |
| 0.43 | 1.430 | 1.03 | 2.030 | 1.63 | 2.630 | 2.23 | 3.230 | 2.83 | 3.830 |
| 0.44 | 1.440 | 1.04 | 2.040 | 1.64 | 2.640 | 2.24 | 3.240 | 2.84 | 3.840 |
| 0.45 | 1.450 | 1.05 | 2.050 | 1.65 | 2.650 | 2.25 | 3.250 | 2.85 | 3.850 |
| 0.46 | 1.460 | 1.06 | 2.060 | 1.66 | 2.660 | 2.26 | 3.260 | 2.86 | 3.860 |
| 0.47 | 1.470 | 1.07 | 2.070 | 1.67 | 2.670 | 2.27 | 3.270 | 2.87 | 3.870 |
| 0.48 | 1.480 | 1.08 | 2.080 | 1.68 | 2.680 | 2.28 | 3.280 | 2.88 | 3.880 |
| 0.49 | 1.490 | 1.09 | 2.090 | 1.69 | 2.690 | 2.29 | 3.290 | 2.89 | 3.890 |
| 0.50 | 1.500 | 1.10 | 2.100 | 1.70 | 2.700 | 2.30 | 3.300 | 2.90 | 3.900 |
| 0.51 | 1.510 | 1.11 | 2.110 | 1.71 | 2.710 | 2.31 | 3.310 | 2.91 | 3.910 |
| 0.52 | 1.520 | 1.12 | 2.120 | 1.72 | 2.720 | 2.32 | 3.320 | 2.92 | 3.920 |
| 0.53 | 1.530 | 1.13 | 2.130 | 1.73 | 2.730 | 2.33 | 3.330 | 2.93 | 3.930 |
| 0.54 | 1.540 | 1.14 | 2.140 | 1.74 | 2.740 | 2.34 | 3.340 | 2.94 | 3.940 |
| 0.55 | 1.550 | 1.15 | 2.150 | 1.75 | 2.750 | 2.35 | 3.350 | 2.95 | 3.950 |
| 0.56 | 1.560 | 1.16 | 2.160 | 1.76 | 2.760 | 2.36 | 3.360 | 2.96 | 3.960 |
| 0.57 | 1.570 | 1.17 | 2.170 | 1.77 | 2.770 | 2.37 | 3.370 | 2.97 | 3.970 |
| 0.58 | 1.580 | 1.18 | 2.180 | 1.78 | 2.780 | 2.38 | 3.380 | 2.98 | 3.980 |
| 0.59 | 1.590 | 1.19 | 2.190 | 1.79 | 2.790 | 2.39 | 3.390 | 2.99 | 3.990 |

EXHIBIT D

RATIO FACTORS FOR SULFUR ADJUSTMENT WEIGHT OF CRUDE BY GRAVITY TO REFERENCE
BASE OF 35.5⁰ API GRAVITY ADJUSTMENT AUTHORIZATION

| API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. |
|-------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|--------------------|
| 10.0 | 1.18044 | 16.0 | 1.13239 | 22.0 | 1.08802 | 28.0 | 1.04706 | 34.0 | 1.00907 | 40.0 | 0.97378 |
| 10.1 | 1.17959 | 16.1 | 1.13168 | 22.1 | 1.08731 | 28.1 | 1.04649 | 34.1 | 1.00850 | 40.1 | 0.97321 |
| 10.2 | 1.17888 | 16.2 | 1.13083 | 22.2 | 1.08661 | 28.2 | 1.04578 | 34.2 | 1.00780 | 40.2 | 0.97264 |
| 10.3 | 1.17803 | 16.3 | 1.13012 | 22.3 | 1.08590 | 28.3 | 1.04507 | 34.3 | 1.00723 | 40.3 | 0.97208 |
| 10.4 | 1.17718 | 16.4 | 1.12927 | 22.4 | 1.08519 | 28.4 | 1.04451 | 34.4 | 1.00666 | 40.4 | 0.97151 |
| 10.5 | 1.17633 | 16.5 | 1.12856 | 22.5 | 1.08448 | 28.5 | 1.04380 | 34.5 | 1.00609 | 40.5 | 0.97094 |
| 10.6 | 1.17548 | 16.6 | 1.12785 | 22.6 | 1.08377 | 28.6 | 1.04323 | 34.6 | 1.00539 | 40.6 | 0.97038 |
| 10.7 | 1.17463 | 16.7 | 1.12700 | 22.7 | 1.08320 | 28.7 | 1.04252 | 34.7 | 1.00482 | 40.7 | 0.96981 |
| 10.8 | 1.17378 | 16.8 | 1.12629 | 22.8 | 1.08249 | 28.8 | 1.04181 | 34.8 | 1.00425 | 40.8 | 0.96924 |
| 10.9 | 1.17307 | 16.9 | 1.12558 | 22.9 | 1.08179 | 28.9 | 1.04125 | 34.9 | 1.00369 | 40.9 | 0.96867 |
| 11.0 | 1.17222 | 17.0 | 1.12473 | 23.0 | 1.08108 | 29.0 | 1.04054 | 35.0 | 1.00298 | 41.0 | 0.96811 |
| 11.1 | 1.17137 | 17.1 | 1.12403 | 23.1 | 1.08037 | 29.1 | 1.03997 | 35.1 | 1.00241 | 41.1 | 0.96754 |
| 11.2 | 1.17052 | 17.2 | 1.12332 | 23.2 | 1.07966 | 29.2 | 1.03926 | 35.2 | 1.00184 | 41.2 | 0.96697 |
| 11.3 | 1.16967 | 17.3 | 1.12247 | 23.3 | 1.07895 | 29.3 | 1.03855 | 35.3 | 1.00128 | 41.3 | 0.96641 |
| 11.4 | 1.16896 | 17.4 | 1.12176 | 23.4 | 1.07824 | 29.4 | 1.03799 | 35.4 | 1.00057 | 41.4 | 0.96584 |
| 11.5 | 1.16811 | 17.5 | 1.12105 | 23.5 | 1.07753 | 29.5 | 1.03728 | 35.5 | 1.00000 | 41.5 | 0.96527 |
| 11.6 | 1.16726 | 17.6 | 1.12020 | 23.6 | 1.07682 | 29.6 | 1.03671 | 35.6 | 0.99943 | 41.6 | 0.96471 |
| 11.7 | 1.16641 | 17.7 | 1.11949 | 23.7 | 1.07612 | 29.7 | 1.03600 | 35.7 | 0.99887 | 41.7 | 0.96414 |
| 11.8 | 1.16570 | 17.8 | 1.11878 | 23.8 | 1.07541 | 29.8 | 1.03544 | 35.8 | 0.99816 | 41.8 | 0.96357 |
| 11.9 | 1.16485 | 17.9 | 1.11793 | 23.9 | 1.07470 | 29.9 | 1.03473 | 35.9 | 0.99759 | 41.9 | 0.96300 |
| 12.0 | 1.16400 | 18.0 | 1.11722 | 24.0 | 1.07413 | 30.0 | 1.03416 | 36.0 | 0.99702 | 42.0 | 0.96244 |
| 12.1 | 1.16315 | 18.1 | 1.11651 | 24.1 | 1.07342 | 30.1 | 1.03345 | 36.1 | 0.99646 | 42.1 | 0.96187 |
| 12.2 | 1.16244 | 18.2 | 1.11580 | 24.2 | 1.07271 | 30.2 | 1.03288 | 36.2 | 0.99589 | 42.2 | 0.96145 |
| 12.3 | 1.16159 | 18.3 | 1.11495 | 24.3 | 1.07201 | 30.3 | 1.03218 | 36.3 | 0.99518 | 42.3 | 0.96088 |
| 12.4 | 1.16074 | 18.4 | 1.11425 | 24.4 | 1.07130 | 30.4 | 1.03161 | 36.4 | 0.99461 | 42.4 | 0.96031 |
| 12.5 | 1.16003 | 18.5 | 1.11354 | 24.5 | 1.07059 | 30.5 | 1.03090 | 36.5 | 0.99405 | 42.5 | 0.95974 |
| 12.6 | 1.15918 | 18.6 | 1.11283 | 24.6 | 1.06988 | 30.6 | 1.03033 | 36.6 | 0.99348 | 42.6 | 0.95918 |
| 12.7 | 1.15833 | 18.7 | 1.11198 | 24.7 | 1.06931 | 30.7 | 1.02962 | 36.7 | 0.99291 | 42.7 | 0.95861 |
| 12.8 | 1.15748 | 18.8 | 1.11127 | 24.8 | 1.06860 | 30.8 | 1.02906 | 36.8 | 0.99220 | 42.8 | 0.95804 |
| 12.9 | 1.15677 | 18.9 | 1.11056 | 24.9 | 1.06790 | 30.9 | 1.02835 | 36.9 | 0.99164 | 42.9 | 0.95748 |
| 13.0 | 1.15592 | 19.0 | 1.10985 | 25.0 | 1.06719 | 31.0 | 1.02778 | 37.0 | 0.99107 | 43.0 | 0.95691 |
| 13.1 | 1.15521 | 19.1 | 1.10900 | 25.1 | 1.06648 | 31.1 | 1.02707 | 37.1 | 0.99050 | 43.1 | 0.95648 |
| 13.2 | 1.15436 | 19.2 | 1.10829 | 25.2 | 1.06577 | 31.2 | 1.02651 | 37.2 | 0.98994 | 43.2 | 0.95592 |
| 13.3 | 1.15351 | 19.3 | 1.10758 | 25.3 | 1.06520 | 31.3 | 1.02580 | 37.3 | 0.98937 | 43.3 | 0.95535 |
| 13.4 | 1.15280 | 19.4 | 1.10687 | 25.4 | 1.06449 | 31.4 | 1.02523 | 37.4 | 0.98880 | 43.4 | 0.95478 |
| 13.5 | 1.15195 | 19.5 | 1.10617 | 25.5 | 1.06378 | 31.5 | 1.02452 | 37.5 | 0.98809 | 43.5 | 0.95422 |
| 13.6 | 1.15110 | 19.6 | 1.10532 | 25.6 | 1.06308 | 31.6 | 1.02395 | 37.6 | 0.98753 | 43.6 | 0.95365 |
| 13.7 | 1.15039 | 19.7 | 1.10461 | 25.7 | 1.06251 | 31.7 | 1.02339 | 37.7 | 0.98696 | 43.7 | 0.95308 |
| 13.8 | 1.14954 | 19.8 | 1.10390 | 25.8 | 1.06180 | 31.8 | 1.02268 | 37.8 | 0.98639 | 43.8 | 0.95266 |
| 13.9 | 1.14883 | 19.9 | 1.10319 | 25.9 | 1.06109 | 31.9 | 1.02211 | 37.9 | 0.98583 | 43.9 | 0.95209 |
| 14.0 | 1.14798 | 20.0 | 1.10248 | 26.0 | 1.06038 | 32.0 | 1.02140 | 38.0 | 0.98526 | 44.0 | 0.95152 |
| 14.1 | 1.14713 | 20.1 | 1.10177 | 26.1 | 1.05967 | 32.1 | 1.02084 | 38.1 | 0.98469 | 44.1 | 0.95096 |
| 14.2 | 1.14642 | 20.2 | 1.10106 | 26.2 | 1.05911 | 32.2 | 1.02013 | 38.2 | 0.98412 | 44.2 | 0.95039 |
| 14.3 | 1.14557 | 20.3 | 1.10021 | 26.3 | 1.05840 | 32.3 | 1.01956 | 38.3 | 0.98356 | 44.3 | 0.94982 |
| 14.4 | 1.14486 | 20.4 | 1.09950 | 26.4 | 1.05769 | 32.4 | 1.01899 | 38.4 | 0.98285 | 44.4 | 0.94940 |
| 14.5 | 1.14401 | 20.5 | 1.09880 | 26.5 | 1.05698 | 32.5 | 1.01828 | 38.5 | 0.98228 | 44.5 | 0.94883 |
| 14.6 | 1.14330 | 20.6 | 1.09809 | 26.6 | 1.05641 | 32.6 | 1.01772 | 38.6 | 0.98172 | 44.6 | 0.94826 |
| 14.7 | 1.14245 | 20.7 | 1.09738 | 26.7 | 1.05571 | 32.7 | 1.01715 | 38.7 | 0.98115 | 44.7 | 0.94770 |
| 14.8 | 1.14174 | 20.8 | 1.09667 | 26.8 | 1.05500 | 32.8 | 1.01644 | 38.8 | 0.98058 | 44.8 | 0.94713 |
| 14.9 | 1.14089 | 20.9 | 1.09596 | 26.9 | 1.05443 | 32.9 | 1.01588 | 38.9 | 0.98001 | 44.9 | 0.94670 |
| 15.0 | 1.14018 | 21.0 | 1.09525 | 27.0 | 1.05372 | 33.0 | 1.01517 | 39.0 | 0.97945 | 45.0 | 0.94614 |
| 15.1 | 1.13933 | 21.1 | 1.09454 | 27.1 | 1.05301 | 33.1 | 1.01460 | 39.1 | 0.97888 | 45.1 | 0.94557 |
| 15.2 | 1.13863 | 21.2 | 1.09383 | 27.2 | 1.05245 | 33.2 | 1.01403 | 39.2 | 0.97831 | 45.2 | 0.94500 |
| 15.3 | 1.13777 | 21.3 | 1.09313 | 27.3 | 1.05174 | 33.3 | 1.01332 | 39.3 | 0.97775 | 45.3 | 0.94444 |
| 15.4 | 1.13707 | 21.4 | 1.09242 | 27.4 | 1.05103 | 33.4 | 1.01276 | 39.4 | 0.97718 | 45.4 | 0.94401 |
| 15.5 | 1.13622 | 21.5 | 1.09171 | 27.5 | 1.05046 | 33.5 | 1.01219 | 39.5 | 0.97661 | 45.5 | 0.94344 |
| 15.6 | 1.13551 | 21.6 | 1.09086 | 27.6 | 1.04975 | 33.6 | 1.01148 | 39.6 | 0.97605 | 45.6 | 0.94288 |
| 15.7 | 1.13466 | 21.7 | 1.09015 | 27.7 | 1.04904 | 33.7 | 1.01091 | 39.7 | 0.97548 | 45.7 | 0.94231 |
| 15.8 | 1.13395 | 21.8 | 1.08944 | 27.8 | 1.04848 | 33.8 | 1.01035 | 39.8 | 0.97491 | 45.8 | 0.94189 |
| 15.9 | 1.13324 | 21.9 | 1.08873 | 27.9 | 1.04777 | 33.9 | 1.00964 | 39.9 | 0.97434 | 45.9 | 0.94132 |

EXHIBIT D (CONTINUED)

RATIO FACTORS FOR SULFUR ADJUSTMENT WEIGHT OF CRUDE BY GRAVITY TO REFERENCE
BASE OF 35.5° API GRAVITY ADJUSTMENT AUTHORIZATION

| API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. | API GRAVITY | RATIO TO 35.5° WT. |
|-------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|--------------------|
| 46.0 | 0.94075 | 52.0 | 0.90999 | 58.0 | 0.88108 | 64.0 | 0.85400 | 70.0 | 0.82849 |
| 46.1 | 0.94018 | 52.1 | 0.90943 | 58.1 | 0.88085 | 64.1 | 0.85358 | 70.1 | 0.82807 |
| 46.2 | 0.93976 | 52.2 | 0.90900 | 58.2 | 0.88009 | 64.2 | 0.85315 | 70.2 | 0.82764 |
| 46.3 | 0.93919 | 52.3 | 0.90843 | 58.3 | 0.87966 | 64.3 | 0.85273 | 70.3 | 0.82721 |
| 46.4 | 0.93863 | 52.4 | 0.90801 | 58.4 | 0.87923 | 64.4 | 0.85230 | 70.4 | 0.82679 |
| 46.5 | 0.93806 | 52.5 | 0.90744 | 58.5 | 0.87867 | 64.5 | 0.85188 | 70.5 | 0.82651 |
| 46.6 | 0.93763 | 52.6 | 0.90702 | 58.6 | 0.87824 | 64.6 | 0.85145 | 70.6 | 0.82608 |
| 46.7 | 0.93707 | 52.7 | 0.90645 | 58.7 | 0.87782 | 64.7 | 0.85103 | 70.7 | 0.82566 |
| 46.8 | 0.93650 | 52.8 | 0.90602 | 58.8 | 0.87739 | 64.8 | 0.85046 | 70.8 | 0.82537 |
| 46.9 | 0.93607 | 52.9 | 0.90546 | 58.9 | 0.87697 | 64.9 | 0.85004 | 70.9 | 0.82495 |
| 47.0 | 0.93551 | 53.0 | 0.90503 | 59.0 | 0.87654 | 65.0 | 0.84961 | 71.0 | 0.82452 |
| 47.1 | 0.93494 | 53.1 | 0.90446 | 59.1 | 0.87597 | 65.1 | 0.84918 | 71.1 | 0.82410 |
| 47.2 | 0.93437 | 53.2 | 0.90404 | 59.2 | 0.87555 | 65.2 | 0.84876 | 71.2 | 0.82367 |
| 47.3 | 0.93395 | 53.3 | 0.90361 | 59.3 | 0.87512 | 65.3 | 0.84833 | 71.3 | 0.82325 |
| 47.4 | 0.93338 | 53.4 | 0.90305 | 59.4 | 0.87456 | 65.4 | 0.84791 | 71.4 | 0.82282 |
| 47.5 | 0.93281 | 53.5 | 0.90262 | 59.5 | 0.87413 | 65.5 | 0.84746 | 71.5 | 0.82240 |
| 47.6 | 0.93239 | 53.6 | 0.90206 | 59.6 | 0.87371 | 65.6 | 0.84706 | 71.6 | 0.82197 |
| 47.7 | 0.93182 | 53.7 | 0.90163 | 59.7 | 0.87328 | 65.7 | 0.84663 | 71.7 | 0.82155 |
| 47.8 | 0.93125 | 53.8 | 0.90106 | 59.8 | 0.87286 | 65.8 | 0.84621 | 71.8 | 0.82112 |
| 47.9 | 0.93083 | 53.9 | 0.90064 | 59.9 | 0.87229 | 65.9 | 0.84578 | 71.9 | 0.82084 |
| 48.0 | 0.93026 | 54.0 | 0.90007 | 60.0 | 0.87186 | 66.0 | 0.84536 | 72.0 | 0.82041 |
| 48.1 | 0.92970 | 54.1 | 0.89965 | 60.1 | 0.87144 | 66.1 | 0.84493 | 72.1 | 0.81999 |
| 48.2 | 0.92927 | 54.2 | 0.89922 | 60.2 | 0.87087 | 66.2 | 0.84451 | 72.2 | 0.81956 |
| 48.3 | 0.92870 | 54.3 | 0.89865 | 60.3 | 0.87045 | 66.3 | 0.84408 | 72.3 | 0.81914 |
| 48.4 | 0.92814 | 54.4 | 0.89823 | 60.4 | 0.87002 | 66.4 | 0.84366 | 72.4 | 0.81871 |
| 48.5 | 0.92771 | 54.5 | 0.89766 | 60.5 | 0.86960 | 66.5 | 0.84323 | 72.5 | 0.81828 |
| 48.6 | 0.92714 | 54.6 | 0.89724 | 60.6 | 0.86917 | 66.6 | 0.84281 | 72.6 | 0.81800 |
| 48.7 | 0.92672 | 54.7 | 0.89681 | 60.7 | 0.86875 | 66.7 | 0.84238 | 72.7 | 0.81758 |
| 48.8 | 0.92615 | 54.8 | 0.89624 | 60.8 | 0.86818 | 66.8 | 0.84196 | 72.8 | 0.81715 |
| 48.9 | 0.92558 | 54.9 | 0.89582 | 60.9 | 0.86775 | 66.9 | 0.84153 | 72.9 | 0.81673 |
| 49.0 | 0.92516 | 55.0 | 0.89525 | 61.0 | 0.86733 | 67.0 | 0.84111 | 73.0 | 0.81630 |
| 49.1 | 0.92459 | 55.1 | 0.89483 | 61.1 | 0.86690 | 67.1 | 0.84068 | 73.1 | 0.81602 |
| 49.2 | 0.92403 | 55.2 | 0.89440 | 61.2 | 0.86648 | 67.2 | 0.84026 | 73.2 | 0.81559 |
| 49.3 | 0.92360 | 55.3 | 0.89383 | 61.3 | 0.86591 | 67.3 | 0.83983 | 73.3 | 0.81517 |
| 49.4 | 0.92303 | 55.4 | 0.89341 | 61.4 | 0.86549 | 67.4 | 0.83940 | 73.4 | 0.81474 |
| 49.5 | 0.92261 | 55.5 | 0.89285 | 61.5 | 0.86506 | 67.5 | 0.83898 | 73.5 | 0.81432 |
| 49.6 | 0.92204 | 55.6 | 0.89242 | 61.6 | 0.86464 | 67.6 | 0.83855 | 73.6 | 0.81403 |
| 49.7 | 0.92147 | 55.7 | 0.89199 | 61.7 | 0.86421 | 67.7 | 0.83813 | 73.7 | 0.81361 |
| 49.8 | 0.92105 | 55.8 | 0.89157 | 61.8 | 0.86378 | 67.8 | 0.83770 | 73.8 | 0.81318 |
| 49.9 | 0.92048 | 55.9 | 0.89114 | 61.9 | 0.86322 | 67.9 | 0.83728 | 73.9 | 0.81276 |
| 50.0 | 0.92006 | 56.0 | 0.89057 | 62.0 | 0.86279 | 68.0 | 0.83685 | 74.0 | 0.81233 |
| 50.1 | 0.91949 | 56.1 | 0.89015 | 62.1 | 0.86237 | 68.1 | 0.83643 | 74.1 | 0.81191 |
| 50.2 | 0.91892 | 56.2 | 0.88958 | 62.2 | 0.86194 | 68.2 | 0.83600 | 74.2 | 0.81162 |
| 50.3 | 0.91850 | 56.3 | 0.88916 | 62.3 | 0.86152 | 68.3 | 0.83558 | 74.3 | 0.81120 |
| 50.4 | 0.91793 | 56.4 | 0.88873 | 62.4 | 0.86109 | 68.4 | 0.83515 | 74.4 | 0.81077 |
| 50.5 | 0.91751 | 56.5 | 0.88816 | 62.5 | 0.86067 | 68.5 | 0.83473 | 74.5 | 0.81049 |
| 50.6 | 0.91694 | 56.6 | 0.88774 | 62.6 | 0.86010 | 68.6 | 0.83430 | 74.6 | 0.81006 |
| 50.7 | 0.91651 | 56.7 | 0.88717 | 62.7 | 0.85967 | 68.7 | 0.83388 | 74.7 | 0.80964 |
| 50.8 | 0.91595 | 56.8 | 0.88675 | 62.8 | 0.85925 | 68.8 | 0.83345 | 74.8 | 0.80921 |
| 50.9 | 0.91552 | 56.9 | 0.88632 | 62.9 | 0.85882 | 68.9 | 0.83303 | 74.9 | 0.80879 |
| 51.0 | 0.91495 | 57.0 | 0.88575 | 63.0 | 0.85840 | 69.0 | 0.83260 | | |
| 51.1 | 0.91439 | 57.1 | 0.88533 | 63.1 | 0.85797 | 69.1 | 0.83218 | | |
| 51.2 | 0.91396 | 57.2 | 0.88490 | 63.2 | 0.85755 | 69.2 | 0.83175 | | |
| 51.3 | 0.91339 | 57.3 | 0.88448 | 63.3 | 0.85712 | 69.3 | 0.83147 | | |
| 51.4 | 0.91297 | 57.4 | 0.88391 | 63.4 | 0.85670 | 69.4 | 0.83104 | | |
| 51.5 | 0.91240 | 57.5 | 0.88349 | 63.5 | 0.85613 | 69.5 | 0.83062 | | |
| 51.6 | 0.91198 | 57.6 | 0.88292 | 63.6 | 0.85571 | 69.6 | 0.83019 | | |
| 51.7 | 0.91141 | 57.7 | 0.88249 | 63.7 | 0.85528 | 69.7 | 0.82977 | | |
| 51.8 | 0.91099 | 57.8 | 0.88207 | 63.8 | 0.85485 | 69.8 | 0.82934 | | |
| 51.9 | 0.91042 | 57.9 | 0.88150 | 63.9 | 0.85443 | 69.9 | 0.82892 | | |