



STATE BOARD OF EQUALIZATION

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Executive Secretary

March 28, 1979

No. 79/63

TO COUNTY ASSESSORS:

1979 PETROLEUM PRODUCTS VALUE SCHEDULE

Enclosed are copies of the 1979 Petroleum Products Value Schedule issued pursuant to Rule 31, Petroleum Products Value Schedule.

The values shown in the schedule are for three locations--refineries, terminals located at points other than refineries, and bulk plants.

The enclosed "Construction of Petroleum Products Value Schedule" indicates the products included in the schedule, definitions of locations, trade level and value basis, schedule construction, and support of the 16.8 percent gross profit discount factor used at the refinery trade level.

The values contained in these schedules have been derived from many man-hours of data collection and analysis. We believe they represent a fair portrayal of the petroleum products market consistent with our concept of market value. If you find instances in which these values apparently do not reflect actual market conditions, please let us know. We welcome your suggestions, comments, and any and all facts which will be helpful to us in future publications of this schedule.

We might point out that the values contained in the enclosed schedule are for your use in appraising petroleum products. The publication of this schedule is not intended to relieve taxpayers of their requirement of reporting inventory costs on the property statements.

Copies of this letter and enclosed schedule have been mailed to interested taxpayers.

Sincerely,

A handwritten signature in cursive script that reads "Verne Walton".

Verne Walton, Chief  
Assessment Standards Division

VW:do  
Enclosure

1979  
PETROLEUM PRODUCTS  
VALUE SCHEDULE

ASSESSMENT STANDARDS DIVISION  
PROPERTY TAX DEPARTMENT  
CALIFORNIA STATE BOARD OF EQUALIZATION  
MARCH 1979

PLATT'S OILGRAM

1979 ONE-DAY AVERAGE OF HIGH AND LOW QUOTE - WEST COAST REFINERIES

(\$ Per Unit)

<u>Product</u>	<u>February 20, 1979</u>		
	<u>Low</u>	<u>High</u>	<u>Average</u>
Premium - (gal.)	\$ .4967	\$ .5110	\$ .5038
Regular - (gal.)	.4567	.4710	.4638
Lead-free - (gal.)	.4900	.5050	.4975
PS 200 - Diesel (gal.)	.3735	.3825	.3780
#6 Fuel Oil - 3% Sulfur (bbls.)	9.90	10.10	10.00

1979 PETROLEUM PRODUCTS<sup>1/</sup> UNIT VALUES - REFINERIES

<u>Product</u>	<u>Grade</u>	<u>Source of Unit Value</u>	<u>Selling Price</u>	<u>Value @ 83.2% of Selling Price</u>
Aviation Gasoline	100-145 Octane	##	\$ .5955 gal.	\$ .4955 gal.
	73- 99 Octane	##	.5455 gal.	.4539 gal.
Motor Gasoline	Premium	Platt's Oilgram	.5038 gal.	.4192 gal.
	Regular	Platt's Oilgram	.4638 gal.	.3859 gal.
	Lead-free	Platt's Oilgram	.4975 gal.	.4139 gal.
	Other #	94% of Regular	--	.3627 gal.
Kerosine		##	.4480 gal.	.3727 gal.
Solvent		##	.4870 gal.	.4052 gal.
Jet Fuel - JP-4 (Military)		##	.3659 gal.	.3044 gal.
Jet Fuel - JP-5 (Commercial)		##	.4337 gal.	.3608 gal.
Stove Oil	PS 100	##	.4472 gal.	.3721 gal.
Diesel Oil	PS 200	Platt's Oilgram	.3780 gal.	.3145 gal.
Light Fuel Oil - Low Sulfur	PS 300	##	16.04 bbl.	13.35 bbl.
Light Fuel Oil - High Sulfur	PS 300	##	11.87 bbl.	9.88 bbl.
Heavy Fuel Oil #6 - 3% Sulfur		Platt's Oilgram	10.00 bbl.	8.32 bbl.
Asphalt (5.5 bbls. equals one short ton)		##	14.68 bbl. 80.73 ton	12.21 bbl. 67.17 ton
Coke (5.0 bbls. equals one short ton)		##	4.00 bbl. 20.00 ton	3.33 bbl. 16.64 ton
Automotive Lub. Oil	Bulk	##	1.0938 gal.	.9100 gal.
	Packaged	##	1.5657 gal.	1.3027 gal.
Industrial Lub. Oil	Bulk	##	1.0186 gal.	.8475 gal.
	Packaged	##	1.2281 gal.	1.0218 gal.
Grease	Packaged	##	.3509 lb.	.2919 lb.
Wax (280 lb. equals one bbl.)	Bulk	##	.1250 lb. 35.00 bbl.	.1040 lb. 29.12 bbl.

# Distillates at the stage just prior to blending in tetraethyl lead are to be graded as "Other" motor gasoline.

## Developed from data and invoices supplied by the petroleum companies from their records.

1/ Values of products not listed are to be determined from the books and records of the petroleum companies.

# 1979 PETROLEUM PRODUCTS<sup>1/</sup> UNIT VALUES

## TERMINALS

(\$ Per Gallon)

County or Area within	TERMINAL VALUE INCLUDING FREIGHT																FREIGHT <sup>2/</sup>				
	Aviation Gasoline		Motor Gasoline			Kerosine	Solvent	Jet Fuel		Stove Oil	Diesel	Automotive Lube Oil		Industrial Lube Oil		Grease Packaged (Per Pound)	Wax Bulk (Per Pound)	Gasoline, Jet Fuel, Stove and Diesel Oils	Kerosine and Solvent	Lub. Oils	Grease (Per Pound)
	100-145 Octane	73-99 Octane	Premium	Regular	Lead Free			JP-4	JP-5			Bulk	Packaged	Bulk	Packaged						
Alameda	.4966	.4550	.4203	.3870	.4150	.4118	.4443	.3055	.3619	.3732	.3156	.9604	1.3531	.8979	1.0722	.2982	.1103	.0011	.0391	.0504	.0063
Butte	.5006	.4590	.4243	.3910	.4190	.4403	.4728	.3095	.3659	.3772	.3196	.9972	1.3899	.9347	1.1090	.3028	.1149	.0051	.0676	.0872	.0109
Contra Costa	.4969	.4553	.4206	.3873	.4153	.4087	.4412	.3058	.3622	.3735	.3159	.9564	1.3491	.8939	1.0682	.2977	.1098	.0014	.0360	.0464	.0058
Fresno	.4987	.4571	.4224	.3891	.4171	.4266	.4591	.3076	.3640	.3753	.3177	.9796	1.3711	.9121	1.0914	.3006	.1127	.0032	.0539	.0696	.0087
Humboldt	.5084	.4668	.4321	.3988	.4268	.4638	.4963	.3173	.3737	.3850	.3274	1.0276	1.4203	.9651	1.1394	.3066	.1187	.0129	.0911	.1176	.0147
Imperial	.5036	.4620	.4273	.3940	.4220	.4521	.4846	.3125	.3689	.3802	.3226	1.0124	1.4051	.9499	1.1242	.3047	.1168	.0081	.0794	.1024	.0128
Los Angeles	.4969	.4553	.4206	.3873	.4153	.4087	.4412	.3058	.3622	.3735	.3159	.9564	1.3491	.8939	1.0682	.2977	.1098	.0014	.0360	.0464	.0058
Los Angeles Airport	.4964	.4548	.4201	.3868	.4148	.4062	.4387	.3053	.3617	.3730	.3154	.9532	1.3443	.8907	1.0650	.2973	.1094	.0009	.0335	.0432	.0054
Orange	.4966	.4550	.4203	.3870	.4150	.4124	.4449	.3055	.3619	.3732	.3156	.9612	1.3539	.8987	1.0730	.2983	.1104	.0011	.0397	.0512	.0064
Sacramento	.4976	.4560	.4213	.3880	.4160	.4242	.4567	.3065	.3629	.3742	.3166	.9764	1.3691	.9139	1.0882	.3002	.1123	.0021	.0515	.0664	.0083
San Bernardino																					
Barstow	.4991	.4575	.4228	.3895	.4175	.4341	.4666	.3080	.3644	.3757	.3181	.9892	1.3819	.9267	1.1010	.3018	.1139	.0036	.0614	.0792	.0099
San Bernardino Airport																					
Colton	.4971	.4555	.4208	.3875	.4155	.4198	.4523	.3060	.3624	.3737	.3161	.9708	1.3635	.9083	1.0826	.2995	.1116	.0016	.0471	.0608	.0076
San Diego	.4984	.4568	.4221	.3888	.4168	.4316	.4641	.3073	.3637	.3750	.3174	.9860	1.3767	.9235	1.0978	.3014	.1135	.0029	.0589	.0760	.0095
San Francisco	.4966	.4550	.4203	.3870	.4150	.4173	.4498	.3055	.3619	.3732	.3156	.9676	1.3603	.9051	1.0794	.2991	.1112	.0011	.0446	.0576	.0072
San Joaquin	.4973	.4557	.4210	.3877	.4157	.4198	.4523	.3062	.3626	.3739	.3163	.9708	1.3635	.9083	1.0826	.2995	.1116	.0018	.0471	.0608	.0076
San Luis Obispo	.4980	.4564	.4217	.3884	.4164	.4341	.4666	.3069	.3633	.3746	.3170	.9892	1.3819	.9267	1.1010	.3018	.1139	.0025	.0614	.0792	.0099
San Mateo	.4966	.4550	.4203	.3870	.4150	.4124	.4449	.3055	.3619	.3732	.3156	.9612	1.3539	.8987	1.0730	.2983	.1104	.0011	.0397	.0512	.0064
Santa Barbara	.4973	.4557	.4210	.3877	.4157	.4124	.4449	.3062	.3626	.3739	.3163	.9612	1.3539	.8987	1.0730	.2983	.1104	.0018	.0397	.0512	.0064
Santa Clara	.4970	.4554	.4207	.3874	.4154	.4217	.4542	.3059	.3623	.3736	.3160	.9732	1.3659	.9107	1.0850	.2998	.1119	.0015	.0490	.0632	.0079
Sonoma	.4984	.4568	.4221	.3888	.4168	.4198	.4523	.3073	.3637	.3750	.3174	.9860	1.3767	.9083	1.0826	.2995	.1116	.0029	.0471	.0608	.0076
Ventura	.5022	.4606	.4259	.3926	.4206	.4266	.4591	.3111	.3675	.3788	.3212	.9796	1.3723	.9171	1.0914	.3006	.1127	.0067	.0539	.0696	.0087
Yolo	.4976	.4560	.4213	.3880	.4160	.4266	.4591	.3065	.3629	.3742	.3166	.9796	1.3723	.9171	1.0914	.3006	.1127	.0021	.0539	.0696	.0087

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- 1/ The terminal values of the products listed are the refinery values plus the applicable freight charges to the terminal; do not add freight charges to the listed values.
- 2/ For those products not listed, use refinery values plus the lubricating oil freight charge which may be converted to per barrel charge at the rate of 42 gallons per barrel, unless the product is moved by pipeline, in which case the gasoline freight rate should be used.

BULK PLANTS  
1979 PETROLEUM PRODUCTS UNIT VALUES <sup>1/</sup>  
(\$ Per Gallon)

Product	BULK PLANT VALUE INCLUDING FREIGHT <sup>2/</sup>						
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
<u>Aviation Gasoline</u>							
100 - 145 Octane	\$.6085	\$.6131	\$.6174	\$.6236	\$.6310	\$.6387	\$.6502
73 - 99 Octane	.5585	.5631	.5674	.5736	.5810	.5887	.6002
<u>Motor Gasoline</u>							
Premium	.5168	.5214	.5257	.5319	.5393	.5470	.5585
Regular	.4768	.4814	.4857	.4919	.4993	.5070	.5185
Lead-free	.5105	.5151	.5194	.5256	.5330	.5407	.5522
Jet Fuel - JP-4	.3789	.3835	.3878	.3940	.4014	.4091	.4206
JP-5	.4467	.4513	.4556	.4618	.4692	.4769	.4884
Stove Oil - PS 100	.4622	.4672	.4722	.4793	.4875	.4969	.5099
Diesel Oil - PS 200	.3930	.3980	.4030	.4101	.4183	.4277	.4407
FREIGHT							
Gasoline & Jet Fuel	.0130	.0176	.0219	.0281	.0355	.0432	.0547
Stove & Diesel Oil	.0150	.0200	.0250	.0321	.0403	.0497	.0627

<sup>1/</sup> The bulk plant values of the products listed are the refinery selling prices plus the applicable freight charges to the bulk plant; do not add freight charges to the listed values.

<sup>2/</sup> Refer to page 5 for the location of the counties by zone.

BULK PLANTS

COUNTIES BY ZONE - GASOLINE, JET FUEL, STOVE, & DIESEL OIL<sup>1/</sup>

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Alameda Contra Costa Kern Los Angeles Madera Marin Napa Orange Riverside Sacramento San Joaquin San Mateo Santa Clara Stanislaus Yolo	Butte Fresno Imperial Kings Placer San Bernardino All except Needles Santa Cruz Solano Sonoma Sutter Tulare Yuba El Dorado Glenn San Diego San Benito	Amador Calaveras Colusa Merced Monterey Nevada Tehama Tuolumne Ventura	Humboldt Lake Mariposa Mendocino San Luis Obispo Santa Barbara Shasta	Del Norte Lassen Mono Plumas Sierra Trinity	Inyo San Bernardino - Needles Siskiyou	Modoc

<sup>1/</sup> There are no bulk plants located in Alpine and San Francisco Counties.

BULK PLANTS

1979 PETROLEUM PRODUCTS UNIT VALUES<sup>1/</sup>

(\$ Per Gallon or Per Pound)

Product	BULK PLANT VALUE INCLUDING FREIGHT <sup>2/</sup>							
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Kerosine	\$ .4865	\$ .4935	\$ .5018	\$ .5081	\$ .5139	\$ .5271	\$ .5417	\$ .5518
Solvent	.5255	.5325	.5408	.5471	.5529	.5661	.5807	.5908
Automotive Lub. Oil - Bulk	1.1434	1.1525	1.1525	1.1713	1.1789	1.1958	1.2147	1.2277
Packaged	1.6153	1.6244	1.6302	1.6508	1.6677	1.6866	1.6866	1.6996
Industrial Lub. Oil - Bulk	1.0682	1.0773	1.0831	1.0961	1.1037	1.1206	1.1395	1.1525
Packaged	1.2777	1.2868	1.2926	1.3056	1.3132	1.3301	1.3490	1.2620
Grease (Per Pound) Packaged	.3571	.3582	.3596	.3606	.3615	.3636	.3660	.3676
Wax (Per Pound)	.1312	.1323	.1337	.1347	.1356	.1377	.1401	.1417
FREIGHT								
Kerosine & Solvent - Per Gal.	.385	.0455	.0538	.0601	.0659	.0791	.0937	.1038
Lubricating Oils - Per Gal.	.0496	.0587	.0645	.0775	.0851	.1020	.1209	.1339
Grease - Per Pound	.0062	.0073	.0087	.0097	.0106	.0127	.0151	.0167

<sup>1/</sup> The bulk plant values of the products listed are the refinery selling prices plus the applicable freight charges to the bulk plant; do not add freight charges to the listed values.

<sup>2/</sup> Refer to page 7 for the location of the counties by zone.

BULK PLANTS

COUNTIES BY ZONE - KEROSENE, SOLVENT, LUBRICATING OILS, AND GREASES<sup>1/</sup>

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Alameda Contra Costa Kern Los Angeles Marin Napa Orange	Solano Sonoma Tulare	Kings Merced Placer Riverside Sacramento San Bernardino All except Needles San Joaquin San Mateo Santa Barbara Santa Clara Santa Cruz Stanislaus Ventura Yolo	Calaveras El Dorado Fresno Lake Madera Mendocino Monterey San Benito San Diego San Luis Obispo Sutter Tuolumne Yuba	Amador Colusa Glenn Nevada Plumas Mariposa	Butte Imperial Inyo Shasta Sierra Tehama	Humboldt Lassen San Bernardino - Needles Siskiyou Trinity	Del Norte Modoc Mono

<sup>1/</sup> There are no bulk plants located in Alpine and San Francisco Counties.

CONSTRUCTION OF PETROLEUM PRODUCTS VALUE SCHEDULE

The petroleum products value schedule promulgated annually by the State Board of Equalization under Property Tax Rule 31 shall be constructed as follows:

A. PRODUCTS - Products included in the schedule will be:

1. Aviation Gasoline - 100-145 Octane  
- 73- 99 Octane
2. Motor Gasoline - Premium  
- Regular  
- Lead-free  
- Other
3. Kerosine
4. Solvent
5. Jet Fuel - JP-4  
- JP-5
6. Stove Oil - PS 100
7. Diesel Oil - PS 200
8. Light Fuel Oil - Low Sulfur  
- High Sulfur
9. Heavy Fuel Oil - PS 400 - High Sulfur
10. Asphalt
11. Coke
12. Lubricating Oils
13. Greases
14. Wax

B. LOCATIONS - The locations of products included in the schedule are:

1. Refinery - A manufacturing and storage facility where crude oil is converted into finished petroleum products.
2. Terminal - A large capacity bulk storage facility which is supplied by pipeline, barge, or tanker and owned and

operated by the refiner. Terminals are essentially extensions of the refineries.

3. Bulk Plant - A low capacity bulk storage facility which is supplied by tank car, tank truck, or tank truck and trailer. The tanks and inventories are usually owned by an oil company and operated by a commission agent.

C. TRADE LEVELS AND VALUE BASIS

1. Refinery - The value of finished petroleum products is indicated by either (a) the purchase price of purchased crude oil<sup>1/</sup> and the weighted average posted price of self-produced crude oil and natural gasoline, plus the costs of transportation to the refinery and the refinery operating costs including direct labor and all applicable overhead, or (b) the selling price of the finished petroleum products at the refinery location less an appropriate discount for gross profit.<sup>2/</sup>

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<sup>1/</sup> Assumed to be the weighted average posted price for domestic crude and the going price of foreign crude.

<sup>2/</sup> The method of developing the discount is as follows: (a) determine the average number of barrels of the several sources of crude oils and natural gasoline run through the West Coast refineries as reported by the U.S. Bureau of Mines and compute the weighted average cost of a combined barrel of crude oil and natural gasoline by applying the posted price for domestic crude and going price of foreign crude to these quantities; (b) determine the average cost of refining crude oil by reference to Nelson's Refining Index, and add this cost to the average crude oil and natural gasoline cost to obtain the average replacement cost of the finished products from a combined barrel of crude oil and natural gasoline; (c) determine the number of barrels, converted to percentage yields, of each product of West Coast refineries, as reported by the Bureau of Mines, and compute a weighted average selling price per barrel of products by pricing them at Platt's Los Angeles rack quotes (or prices inferred therefrom); (d) divide the average replacement cost of the finished products from a combined barrel of crude oil and natural gasoline by the average selling price, convert the quotient to a percentage, and subtract the result from 100 percent.

2. Terminal - The value of finished petroleum products is the value of the product at the refinery plus costs of transportation from the refinery to the terminal.
3. Bulk Plant - In accordance with Property Tax Rule 10 (Trade Level for Tangible Personal Property), the value of finished petroleum products is indicated by either (a) the selling price of the product at the refinery or terminal to independent bulk plant operators plus the cost of transportation from the refinery or terminal to the bulk plant, assumed to be Platt's Los Angeles rack price quote plus transportation cost, or (b) the net purchase price<sup>3/</sup> paid by the bulk plant operator for product delivered FOB destination.

D. SCHEDULE CONSTRUCTION - In conformity with the foregoing precepts, the 1979 Petroleum Products Value Schedule was constructed on the following basis.

1. The average of the Los Angeles daily rack high and low quote in Platt's Oilgram for February 20, 1979 will determine the refinery selling price for these products:
  - a. Premium Gasoline
  - b. Regular Gasoline
  - c. Lead-free Gasoline
  - d. Diesel Oil - PS 200
  - e. No. 6 Fuel Oil - 3% Sulfur

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<sup>3/</sup> The net selling price excluding state and federal excise taxes and jobber's or distributor's allowance.

2. There are no California quotations in Platt's Oilgram for the other products included in the schedule. The "quotes" for the other products will either be inferred by comparison of these products' prices in other markets as published in Platt's with the prices of 95- or 100-octane gasoline in those same markets or Platt's quotes from those markets, or will be priced from cost and sales data supplied by the petroleum companies from their books and records.
3. The product values at a refinery will be 83.2 percent<sup>4/</sup> of the refinery selling prices as developed pursuant to paragraphs D1 and D2.
4. The product values at a terminal will be the product values at the refinery plus the cost of transportation from the refinery to the terminal.
5. The product values at a bulk plant will be the refinery selling prices as developed pursuant to paragraphs D1 and D2 plus the cost of transportation from the refinery or terminal to the bulk plant.
6. The costs of transportation to each county seat or principal point of distribution for the county will be the published tariffs and the counties will be grouped into zones for gasoline, jet fuel, and stove and diesel oil based on a one-half-cent difference in transportation cost

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<sup>4/</sup> The calculations for the derivation of the discount for refinery gross profit are shown in the appendix.

per gallon of gasoline. The counties are also grouped into zones for kerosine, solvent, lubricating oils, and greases based on a one-half-cent difference in transportation cost per gallon of kerosine.

7. The product values for all products not listed on pages 2 or 3 will be determined by reference to the costs reflected on the books and records of the reporting companies including transportation costs where applicable.

E. REVIEW OF PETROLEUM PRODUCTS VALUE SCHEDULE

1. The Board's Assessment Standards Division will annually review the specifications for construction of the petroleum products value schedule and will, each year, present to the Board its recommendations, if any, for revisions in the specifications.
2. The major oil companies will be requested to supply to the Board's Assessment Standards Division copies of five sales invoices for each of several products at various refineries for a month near the lien date. This information is to be handled in a confidential manner.
3. The Board's Intercounty Equalization Division is directed to obtain from the owner or possessor of petroleum products the quantity, cost per unit as recorded for the refinery trade level or bulk plant trade level, whichever is applicable, and total cost of each product which is included in the schedule and is the subject of appraisal for sample items drawn. This information will be reported to the Board's Assessment Standards Division without identification of the taxpayer and is to be handled in a confidential manner.

4. The Board's Contract Audit Manager, when so requested by an assessor, is directed to obtain from the owner or possessor of petroleum products the quantity, cost per unit as recorded for the refinery trade level or bulk plant trade level, whichever is applicable, and total cost of each product which is included in the schedule and to report such information to the assessor as part of the contract audit report. This information will be reported to the Board's Assessment Standards Division without identification of the taxpayer and is to be handled in a confidential manner.

APPENDIX

DERIVATION OF REFINERY DISCOUNT FOR GROSS PROFIT

Cost of Crude Oil and Natural Gasoline Plus Refinery Operating Cost

Weighted Average Cost of Crude Oil and Natural Gasoline Run at California Refineries - 1978 (Exhibit 1)	\$11.71 bbl.
Adjusted Average Operating Costs of U. S. Refineries - 1978 (Exhibit 2)	<u>2.46</u> bbl.
Cost of Crude Oil and Natural Gasoline Run at the Refinery Plus Adjusted Average Operating Cost	\$14.17 bbl.

Discount for Refinery Gross Profit

Weighted Average Selling Price Per Barrel for Refined Products Based on 1978 Yield (Exhibit 5)	\$17.04 bbl.
Cost of Crude Oil and Natural Gasoline Run at the Refinery Plus Adjusted Average Operating Cost	\$14.17 bbl.

Calculation of the Discount for Refinery

Gross Profit:

$$100.0\% - \frac{\$14.17}{\$17.04} = 100.0\% - 83.2\% = 16.8\%$$

EXHIBIT 1

WEIGHTED AVERAGE COST OF CRUDE OIL AND NATURAL GASOLINE  
RUN AT CALIFORNIA REFINERIES - 1978

	<u>Percentage of Refinery Run By Source of Crude*</u>	<u>\$/Bbl. With Transportation</u>	<u>\$/Bbl. Weighted Average</u>
California Crude			
- Lower Tier	18.8%	\$ 5.80**	\$ 109.04
- Upper Tier	16.7%	12.33**	205.91
- Stripper	9.8%	11.67**	114.37
Alaska			
- North Slope	27.6%	12.93**	356.87
Alaska and Other			
- Lower Tier	1.9%	6.17**	11.72
- Upper Tier	.2%	11.89**	2.38
Natural Gasoline	.8%	9.04***	7.23
Foreign Crudes			
- Bolivia	.5%	15.75***	7.88
- Brunei	.4%	17.54***	7.02
- Indonesia	17.0%	14.83***	252.11
- Malaysia	1.0%	16.02***	16.02
- Oman	1.3%	15.08***	19.60
- Saudi Arabia	.6%	14.85***	8.91
- United Arab Emirates	<u>3.4%</u>	15.34***	<u>52.16</u>
Total	<u>100.0%</u>		<u>\$1,171.22</u>
Weighted Average Cost of Crude Oil and Natural Gasoline Run at California Refineries		<u>\$1,171.22</u> 100.0%	= \$11.71 bbl.

\*Source - Department of Energy - Energy Data Report for the month of July 1978.

\*\*Source - The cost is based on the latest posted prices plus freight to the refinery.

\*\*\*Source - Current costs delivered to the refinery and various issues of Petroleum Intelligence Weekly, Oil Buyers' Guide, and Platt's Oilgram.

EXHIBIT 2

ADJUSTED AVERAGE OPERATING COSTS OF U.S. REFINERIES  
NELSON INDEX-BASE YEAR 1956\*  
(\$ Per Barrel)

Purchased Fuel	\$ .060
Total Labor	.502
Purchased Power	.021
TEL, Chemicals and Supplies	.205
Maintenance Materials	.066
Insurance and Taxes	.038
Royalties or Research	.030
Depreciation**	<u>.084</u>
Total Average Operating Costs of U.S. Refineries - Base Year 1956	\$1.006
Nelson Refinery Operating Cost Index for the Month of September 1978***	<u>x244.7</u>
Adjusted Average Operating Cost of U.S. Refineries - 1978	(rounded) <u><u>\$2.46</u></u>

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\*Source - Oil and Gas Journal, October 9, 1961, page 119.

\*\*Source - Exhibit 3.

\*\*\*Source - Oil and Gas Journal, February 5, 1979, page 78.

EXHIBIT 3

DEPRECIATION AS AN OPERATING  
COST OF U.S. REFINERIES

Interest on Capitalization as an Operating Cost of U.S. Refineries, Based on <u>Replacement Cost</u> (Base Year 1956)*	\$.103 bbl.
Nelson's "True Cost" Index, (Increasing Capacity--Increasing Complexity) 1932-1956**	122
Interest on Capitalization as an Operating Cost of U.S. Refineries, Based on <u>Original Cost</u>	$$.103 \text{ bbl.} \div 122 = \$.084 \text{ bbl.}$
Depreciation as an Operating Cost of U.S. Refineries <sup>1/</sup>	\$.084 bbl.

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\*Source - Oil and Gas Journal, October 9, 1961, page 119.

\*\*Source - Exhibit 4.

<sup>1/</sup> Depreciation based on original refinery costs is assumed to be the same as interest on capitalization when the latter is factored from a replacement cost basis to an original cost basis. This assumption is based on W. L. Nelson's Guide to Refinery Operating Costs, 1966, pages 7 and 8. On page 8, Nelson states that interest on capitalization is equal to 4 percent of refinery replacement costs. On page 7, he states that depreciation is equal to 4 percent of refinery original costs. The latter implies a 25-year overall life; as a result, the average refinery price index for the 25 years preceding the 1956 base year was employed in converting from replacement to original cost (see Exhibit 4).

EXHIBIT 4

NELSON'S "TRUE COST" INDEX  
(Increasing Capacity--Increasing Complexity)  
CONSTRUCTION COST INDEX\*

<u>Year</u>	<u>Index</u>
1932	157
1933	161
1934	165
1935	159
1936	155
1937	153
1938	150
1939	145
1940	140
1941	134
1942	129
1943	123
1944	117
1945	109
1946	102
1947	97
1948	94
1949	94
1950	93
1951	93
1952	94
1953	95
1954	97
1955	99
1956	<u>100</u>

3,055

Average Index  
1932 through 1956

$$3,055 \div 25 = 122$$

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\*Source - Various publications by W. L. Nelson, Technical Editor and Petroleum Consultant.

EXHIBIT 5

WEIGHTED AVERAGE SELLING PRICE PER BARREL  
FOR REFINED PRODUCTS BASED ON 1978 YIELD

<u>Product</u>	<u>% Yield*</u>	<u>\$/Bbl.***</u>	<u>\$/Bbl. Weighted Average</u>
Motor Gasoline - Premium	11.99	\$21.16	\$ 253.71
- Regular	18.30	19.48	356.48
- Unleaded	15.47	20.89	323.17
Aviation Gasoline - Average	.48	(1) 23.96	11.50
Stove Oil (PS 100)	.84	(1) 18.78	15.77
Diesel Fuel (PS 200)	11.04	15.88	175.32
Kerosine	1.09	(1) 19.63	21.39
Light Fuel (PS 300)	.25	(1) 11.94	2.98
Heavy Fuel (PS 400)	18.03	10.00	180.30
Jet Fuel - JP-4	1.91	(1) 15.37	29.36
- JP-5	7.76	(1) 18.22	141.39
Lubricating Oils	.76	(1) 48.30	36.71
Asphalt	3.72	(1) 14.68	54.61
Coke	3.90	(1) 4.00	60.84
Wax	.12	(1) 35.00	4.20
Miscellaneous	3.66	(2) 10.00	36.60
Consumed Refinery Fuel**	<u>.68</u>	<u>-</u>	<u>-</u>
	<u>100.0%</u>		<u>\$1,704.33</u>

Weighted Average Selling Price in \$/bbl.                       $\frac{\$1,704.33}{100.0\%} = \$17.04$

\*Source - District V Department of Energy - Energy Data Report for the month of July 1978.

\*\*Source - "Consumed Refinery Fuel" is the net difference between consumed refinery fuel of 4.72 percent and refinery gain of <4.04 percent>.

\*\*\*Source - Selling price per barrel is based on Platt's Oilgram for the 20th of February 1979, or, where the prices are not contained in Platt's, the price is as indicated in items one and two below.

(1) Based on selling prices developed from data and invoices supplied by W.O.G.A.

(2) PS 400 Value.