

~~W.F.H.~~ **TEXACO** Anacortes, Washington 98221, March 29, 1966

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1966

Vice Pres	REFINING	Supr. E. R.
	HOUSTON OFFICE	
Gen. Mgr.	MAR 31 1966	Supr. P & P
Supr. C & S		Supr. E. C.

AIR MAIL

Mr. J. R. Lemmer

Houston, Texas

This is a reply to your memorandum of 3-23-66, above subject.

We apologize for the inaccuracies that have appeared in Form R-1211-E, particularly the Steam, Power and Water distribution. Our engineers make estimates of SP&W consumption based on what they consider a representative week's running inasmuch as the day-by-day clerical tabulations have been eliminated. Some inaccuracies may result. We also point out that Form R-1503 as calculated and printed by the computer contains inaccuracies in yields, particularly on the Polymerization and Alkylation Units which are at "the end of the line".

It appears the R-1503 estimate of Polymer gasoline production should have been 364,000 barrels rather than 516,058 barrels. Our estimate of fuel consumed for polymerization appears to be reasonable when based on the data available for preparing the estimate, although the estimate for 1965 might have been a little high.

The estimate of 53,000 pounds of Poly Catalyst was definitely too low; an estimate of 120,000 pounds would probably be more accurate. There has been considerable improvement in catalyst consumption in the last year or so and we think an estimate of 120,000 pounds would be reasonable.

We have reworked the purchased power section of the steam, power and water distribution and submit the following if you wish to incorporate it in Form R-1211-E.

Unit	Purchased Power Amount
VPS	27,200
BDU	21,000
FCCU	66,800
Poly	20,000
CRU	14,300
Alky	16,700
HTU	33,200
Shipping	7,500
RP&S	28,700

WA-TEX 008911

WA-TEX008911

Mr. J. R. Lemmer

- 2 -

2-29-66

<u>Unit</u>	<u>Purchased Power Amount</u>
BS&W	1,900
Waste Oil	500
Total	237,800
Indirect	47,800
GRAND TOTAL	285,600

G. V. Carroll
G. V. CARROLL *EM*

WWC-JPE

WA-TEX 008912

WA-TEX008912

Miscellaneous - Fuel Only (1)
 Purchased Power
 Purchased Water
 Purchased Utilities in Auxiliaries
 Chemicals

Acid
 Hydrobon Catalyst
 Other Catalyst
 Chemicals - Auxiliaries
 Other Chemicals

Total Chemicals
 Royalties (Running Royalties)
 TOTAL DIRECT VARIABLE CHARGES

SEMI-VARIABLE CHARGES
 Operators - (ex T&I)
 Test and Inspection - Labor
 Maintenance - Labor
 Test and Inspection-Contract Work
 Maintenance - Contract Work
 Test and Inspection - Material
 Maintenance - Material
 Employee Benefits
 Indirect Plant - Labor
 Indirect Plant - Other
 Steam - Charges Other Than Fuel
 Power - Charges Other Than Fuel & Purch. Power
 Water - Charges Other Than Fuel & Purch. Water
 Auxiliaries-Other Than Fuel, Chemicals & Purch. Util.
 Miscellaneous - Other
 Rentals and Royalties

TOTAL SEMI-VARIABLE CHARGES

NON-VARIABLE CHARGES
 Depreciation
 Insurance & Taxes Related to Investment
 General Office and General Overhead & Past Serv. Pens.
 Auxiliaries (Excl)
 Rentals and Royalties

TOTAL NON-VARIABLE CHARGES

TOTAL EXPENSE

Notes: (1) Credit For Fuel Only in Steam Produced from CO and Waste Heat Boilers;
 Fluid Catalytic Cracking 485,816 Barrels @ \$1.00
 TOTAL Crude Refining Expense 485,816 Barrels @ \$1.00

The estimated divisor represents charge to unit; except for Polymerization, which is based on true Polymer production; and Alkylation, which is based on total Alkylate production.

VPS not scheduled for T&I in 1964.

JRL-EJ
 6-1-64

M-580-11

Standard Expenses 18
Puget Sound Plant
Year 1966

WA-TEX 008914

WA-TEX008914

~~SECRET~~
MEMORANDUM LETTER

INSTRUCTIONS - CANCELS LETTER(S) OF
PERMANENT ☐ ROUTINE ☐

SIGNED BY _____
TEMPORARY ☐

FORM 5-45 1-62-31M PADS

Mr.

By Mail
J. R. Lemmer

Vice Pres.	REFINING	Sup. P & P
	HOUSTON OFFICE	
Gen. Mgr.	JUN 8 1966	Supr. E. C.
Sup.		

Emacortes, Wash 6-3 1966
(Location) (Date)

Form R-1211-E

Estimated Operating Expenses - 1966
(Subject)

We have checked the differences called to our attention in your Memorandum of 5-31-66, above subject, and submit the following to be used in place of the figures shown:

1966
Average Steam Cost Per M Pounds \$.4093
Average Water Cost Per M Gallons \$.2447

Yours very truly,

If letter requires reply prepare in triplicate, forwarding original and duplicate, and retain copy.

lowe

By _____

Make explanation below. Return original. Retain duplicate.

MEMORANDUM LETTER

INSTRUCTIONS—CANCELS LETTER(S) OF _____

SIGNED BY _____

FORM 5-45 1-62-31M PADS

☒ PERMANENT

☐ ROUTINE

☐ TEMPORARY

Mr.

By mail
J. R. Lemmer

Houston

Amacortes, Wash

(Location)

6-3

(Date)

1966

Form R-1211-E

(Subject)

Estimated Operating Expenses - 1966

We have checked the differences called to our attention in your memorandum of 5-31-66, above subject, and submit the following to be used in place of the figures shown:

1966

Average Steam Cost Per M. Pounds \$.4093

Average Water Cost Per M. Gallons \$.2447

Yours very truly,

Signed: G. V. CARROLL

If letter requires reply prepare in triplicate, forwarding original and duplicate, and retain copy.

WVC

By _____

Make explanation below. Return original. Retain duplicate.

EH
Houston, Texas 77052, May 31, 1966

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1966

REFINING HOUSTON OFFICE	
VICE PRES.	
GEN. MGR.	
SUPVR. COST & ST.	2
SUPRV. EMP. REL.	
Suprv. Pnce. & Prod.	
SUPRV. EXP. CONT.	

MEMORANDUM

Mr. G. V. Carroll
Anacortes, Washington

Please refer to Exhibit 3 of subject form and reported average steam cost of \$.2629 per M pounds, and average water cost of \$.0589 per M gallons.

Steam cost in 1964 was \$.492 per M pounds, and water cost was \$.310 per M gallons as extracted from Exhibit 4 of the 1964 report and summarized under the Steam and Water Department sections of the "Analysis" summary of your copy of R-1211-F.

We will appreciate your checking these differences and advising promptly as we are holding up issuance of the 1966 R-1211-F pending receipt of your reply.

J. R. LEMMER

EHF-NLM

WA-TEX 008917

WA-TEX008917

TEXACO

WFT

Anacortes, Washington 98221, February 23, 1966

3-21-66
checked against
Budget (within
close limits)
HJR

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1966

AIR MAIL

PERSONAL

MEMORANDUM

Mr. J. R. Lemmer

Houston, Texas

Vice Pres	REFINING	Supr. E. R.
	HOUSTON OFFICE	
Gen. Mgr.	FEB 28 1966	Supr. P & P
Supr. C. & S.		Supr. E. C.

We are submitting herewith Estimated Crude Refining Expenses, Form R-1211-E. Exhibits 1, 2, 3 and 4.

The activities shown on the attached statement are in agreement with those shown in the Annual Budget, Form R-1259, as submitted except, Labor was increased by \$88,490 and Contract Work was increased by \$18,200 because of the 4 1/2% wage increase which became effective after the budget was submitted. No new equipment is to start up and none of the present equipment is to be shut down during the year.

The following is a breakdown of expenses included under Miscellaneous Expense:

FCCU - Credit for Steam	(894,700)	
Sub-total Direct Plant		\$ (894,700)
Charge Steam Dept. for above item	894,700	
Purchased Power	285,600	
Purchased Water	117,200	
Total SP&W		1,297,500
Vacation Pay	149,500	
A&S Benefits	25,510	
Telephone	13,100	
Telegraph	2,400	
Contributions & Donations	200	
Memberships & Subscriptions	30	
Postage	1,300	
Traveling & Personal	8,000	
All Other Expense	9,370	
Marine Dept-Rentals & Services	(11,200)	
Sales Dept.-Electric Sign	(800)	
Rentals	6,315	
Sub-total Indirect		203,725
Grand Total Miscellaneous Expense		\$606,525

Included in Material Operating is an estimate of \$6,980 for Printing and Stationery and excluded from Material Operating is an estimate of \$3,000 for Hydrogen which has been included with Chemicals.

WA-TEX 008918

WA-TEX008918

Mr. J. R. Lemmer

- 2 -

2-23-66

Labor costs are based on the following manpower:

	<u>No. Men</u>	<u>Cost</u>
Calendar Personnel & Other Staff	6	0
Construction & Outside Charges	4	31,400
Plant Expense - Form R-1259	258	2,054,730
Total Labor	268	2,086,130
Less: Vacation Pay		149,500
A&S Benefits		25,510
Construction & Outside		31,400
Labor Distributed on Form R-1211-E as Labor		1,879,720

The following is a breakdown of the component costs used in pricing out steam produced from CO and waste heat boilers:

	<u>FCCU</u>
M Lbs. Steam	2,211,000
BTU's/Lb.	1,326
MM BTU's	2,932,000
Total Steam Cost basis Unit Cost previous report	.30516
Credit for Steam	\$ 894,700

Component Costs:

Labor	199,071
Material	28,809
Contract Work	626
Fuel-Bbls.	427,747
Fuel-Cost	629,332
Transfers of Steam	(14,315)
Transfers from Power	39,725
Transfers from Water	11,452
	\$ 894,700


G. V. CARROLL

WWC-JPE

JRL(2)

LHB (Bookkeeping)

Attachments

WA-TEX 008919

WA-TEX008919

PLANT LABOR AND CONTRACT WORK
ESTIMATED OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Activities Barrels	LABOR				Contract Work		
		Operators-Ex. Number Employees	I&T \$ Amt.	Maint. \$ Amt.	Total \$ Amt.	I&T	Maint.	Total
1	VPS	14.0	110,500	58,100	168,600		43,400	43,400
2	Decarbonizer	(1)		26,700	26,700		5,300	5,300
3	PCCU	18.0	148,400	79,300	227,700		6,700	6,700
4	Poly (Bbls. Polymer)	7.0	56,400	34,000	90,400		5,300	5,300
5	Catalytic Reforming	7.0	56,400	23,700	80,100		5,500	5,500
6	Alkylation (Bbls. Alkylate)	7.0	56,600	30,800	87,400		9,500	9,500
7	Hydrotreating	7.0	56,400	13,500	69,900	37,600	5,500	43,100
8	Shipping Bulk	(2)		33,800	33,800		6,700	6,700
9	RP&S	20.0	195,300	81,400	276,700		36,100	36,100
10	IS&W	0.5	3,800		3,800			
11	Waste Oil Recovery	0.5	3,800		3,800			
12	Total Direct	81.0	687,600	381,300	1,068,900	325,000	124,000	449,000
13	S.P. & W.	13.0	98,200	115,400	213,600		2,100	2,100
14	Indirect Plant	14.0(3)	113,700	409,520	523,220		28,800	28,800
15	GRAND TOTAL	108.0	899,500	906,220	1,805,720	325,000	154,900	479,900

- (1) Operated by VPS Personnel
(2) Included in RP&S Dock Forces
(3) Includes 13 from Laboratory and 1 from Effluent Treating

GVC-JPE 2-23-66

JRL (2)

LHB (Bookkeeping)

* PSL memo GVC → JRL 3-29-66

1000 96
11/11/66

MATERIAL, MISCELLANEOUS EXPENSE AND FUEL CONSUMED
ESTIMATED OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Material		Misc. Expense	Fuel Consumed		
	I&T	Maint.		Total Gas Std. Bbls.	Liquid Std. Bbls.	Total Fuel Amount
1 VPS		26,500		426,759	10,058	797,700
2 Decarbonizer		17,100		21,554	0	39,600
3 FCCU	225,000	62,800		60,300	60,300	177,400
4 Poly (Bbls. Polymer)		18,400	(894,700)*	-	-	-
5 Catalytic Reforming		19,200		199,729	21,554	390,100
6 Alkylation (Bbls. Alkylate)		14,900		-	0	-
7 Hydrotreating	8,000	19,400		241,399	-	440,500
8 Shipping Bulk		11,200		-	-	-
9 RP&S		58,100		-	-	-
10 RS&W		900		-	-	-
11 Waste Oil Recovery		900		-	-	-
12 Total Direct	233,000	249,400	(894,700)	949,741	91,912	1,845,300
13 SP&W		44,600	1,297,500	196,022	196,225	577,100
14 Indirect Plant		187,250	203,725	3,000	-	5,305
15 GRAND TOTAL	233,000	481,250	606,525	1,148,763	288,137	2,427,705

Gas Produced	Std. Bbls.	\$/Bbl.	Amount
Liquid Fuel	1,123,263	1.820	2,044,338
Purchased Gas	288,137	1.107	319,087
TOTALS	25,500	2.521	64,280
	1,436,900	1.690	2,427,705

GVC-JPE 2-23-66

JRL (2)

LHB (Bookkeeping)

* Indirect (29,337) Fuel

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING-OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Chemical	V.P.S.		F.C.C.U.		Poly		Alkylation	
		Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
1	Acid, Alky Sulfuric-Tons	585	1,300					8,740	205,600
2	Anti-Foam DG-200-Lbs.								
3	Catalyst: -								
4	HDS-2 Hydrotreater-Lbs.								
5	Davison F-1-13-Tons			1299.8	447,600				
6	UOP #1 Poly-Lbs.								
7	UOP-R-5 Platinum-Lbs.								
8	Caustic Soda - Lbs.			156,000	4,800				
9	Monoethanolamine-Lbs.					147,000	4,400	78,500	2,300
10	Malco 537-D-Gals.	4,890	11,400			33,000	9,400		
11	Sodium Chloride - Lbs.					15,000	200	263,000	4,000
12	Hydrogen - Cu. Ft.								
13	TOTAL		12,700		452,400		28,700		211,900

47,600

See in
for 3-29-66

AVC-JPE 2-23-66

JRL(2)

LHB (Bookkeeping)

STEAM, POWER, & WATER EXPENSES
ESTIMATED OPERATING EXPENSES - YEAR
PUGET SOUND PLANT

Line No.	Barrels	Amount	Purchased Power	Purchased Water	Other Cost	Total SP&W	Total Plant
1 VES	133,100	195,800	29,500	22,100	85,300	323,700	1,372,600
2 Decarbonization	65,700	96,700	25,900	3,800	42,100	168,500	257,200
3 FCCU	255,900	376,300	44,600	36,700	164,000	621,500	1,223,200
4 Polymerization	63,300	93,100	17,900	15,300	40,600	166,900	309,700
5 Catalytic Reforming	16,700	24,600	12,000	8,900	10,700	56,200	595,500
6 Alkylation	118,300	174,000	4,200	11,500	75,800	265,500	589,200
7 Hydrotreating	10,900	16,100	40,800	11,800	7,000	75,700	677,300
8 Shipping Bulk	4,600	6,800	10,800	400	3,000	21,000	72,700
9 RP&S	67,800	99,700	38,200	1,700	43,400	183,000	559,500
10 E&W	4,600	6,800	2,300	600	3,000	12,700	37,400
11 Waste Oil Recovery	7,700	11,400	500	600	5,000	17,000	21,700
12 Total	748,600	1,101,300	217,200	113,400	479,900	1,911,800	5,696,600
13 S.P. & W.					(2,134,900)		0,000
14 Indirect Plant	71,394	105,132	68,400	3,800	45,768	223,100	1,171,400
15 GRAND TOTAL	819,994	1,206,432	285,600	117,200	525,668	0,000	6,867,400

6,886,300

WA-TEX 008923

WA-TEX008923

Changes based
PSP Ltr
G&S JPL 7/29/66

51247
427747
376500
000000
000000
000000

906
906
906

STEAM, POWER & WATER EXPENSES
ESTIMATED OPERATING EXPENSES YEAR 1966
PUGET SOUND PLANT

Distribution	Steam	Power	Water	Total
Fuel - Barrels	814,135		5,859	819,994
Fuel - Cost	1,197,813		8,619	1,206,432
Purch. - Power	36,139	187,897	61,504	285,600
Purch. - Water	10,323		106,877	117,200
Other Cost	462,161	2,500	61,007	525,668
TOTAL COST	1,706,436	190,397	238,067	2,134,900

Avg. Steam Cost / M Lbs. \$.262857
Avg. Power Cost / KW \$.005238
Avg. Water Cost / M Gals. \$.058939

Purchased Utility Rates
* Last Increment of Power / KW \$.000000
Last Increment of Water / M Gal. \$.039000

SP&W Fuel Summary
Total SP&W Fuel From Exhibit II
Plus FCCU Waste Heat Fuel Credit

Barrels	392,247
Barrels	427,747
Barrels	819,994

TOTAL SP&W FUEL TO DISTRIBUTE

* PSP has a power contract based on a peak demand of 8010 KW. No additional payment is required unless demand exceeds 8010 KW, and if demand exceeds 8010 KW the monthly charge will be increased by \$2.31 per KW in excess of 8010.

GVC-JPE 2-23-66

JRL (2)

LHB (Bookkeeping)

TEXACO

73-21-66

PSP
Budget VS R-1211-E ✓
6,678,045

Budget Request

Reductions <7300>

✓ <55,100>

✓ <6400>

✓ <14,100>

✓ <23,300>

Labor Addn - Request Undersates

<106,200>

70,000

Sub-total

<36,200>

4 1/2% - 74,400

✓ - 1150

✓ - 12200

✓ - 6000

✓ 12200

105,950

Sub

69,250

Note:
Acctg. Not In Budget Labor
but incl in R-1211-E Indirect
\$70000 + Labor adj } Not in
or Budget Cuts R-1211-E

TEXACO

3521-66

PS P
Budget No. R-1211-E

Item	Budget	R-1211-E	Budget Order R-1211-E
Alt Labor	\$1,960,600	\$1,879,720	\$81,880
Added WSD			70,000
			11,880
Cwrk Total	459,300	479,900	<20,600>
Labor Share			<19,815>
Material Total	710,000	714,250	<4,250>
Fuel	2,427,705	2,427,705	-0-✓
Chem	756,300	759,300	<3000>
Purch Power			-0-✓
✓ Water			-0-✓

$A \frac{1}{2} \% \text{ per PSD}$ → 106,690 ✓
 105,950 ✓
 740

$A \frac{1}{2} \% \text{ per WSD}$

TEXACO

7/13/66 PSP - R-1211-E \$6,862,400
 R-1259 per TRL 12/27/65 6,742,695
124,705

Note 9-2-65 Request \$6,678,045
 Plus 12/27/65 Adjustments } 64,650
 Less + 4% + 70,000 hrs Labor }
 R-1259 Per TRL \$6,742,695

Per PSP
 9-2-65 Request \$6,678,045
 Min Credit Adj. (9,400)
 \$6,668,645
 Plus 4 1/2% On Plant } 88,490
 18,200
 Adj Total \$6,775,335
 Less 6,742,695
 Δ? 32,640

TEXACO

BP - R-1211-E

#6, 867, 400

Budget

6, 748, 045

~~119, 355~~

Plant sec.

Δ
4 1/2 %

{ 88, 490 }
{ 18, 200 } 106, 690

Orig Request

~~6, 678, 045~~

~~#6, 784, 735~~

#6, 867, 400

- 106, 690

6, 760, 710

Requested 9-2-65

~~6, 678, 045~~

82, 665 ?

(10,000 - 600)

9, 400

~~#7, 065~~

6,867,400
~~6,789,~~

Budget
R-12H-E

6,742,695
~~87,665~~ 85,393

~~6,825,360~~
6,828,088
6,867,400

Math

Calc.

Chem

~~39,312~~
(4,250)

20
(3,000)

TEXACO

\$6,748,045 orig adj. Budget Request

WA-TEX 008930

WA-TEX008930

TEXACO

3-11-65

Pugit Sound

Budget Vs R-1211-E

Item	Budget	R-1211-E	Budget over R-1211-E Δ
Plant Labor	1,937,000	1,855,900	81,100 *
Cook op	80,500	82,900	<2400>
✓ Rpm	118,800	119,100	<300>
✓ Sub-total	2,136,300	2,057,900	78,400.
Material			
Op	324,100	329,300	<5200>
Rpm	272,500	272,500	-0-
sub-total	596,600	601,800	<5200>
Chemicals	902,100 *	902,100	-0-
* By 2200 Hz			
Fuel			
Bbls	1332 774	1332,774	-0-
\$	2127 200	2127 200	-
Unit	1.596	1.596	-
Power	474,800	474,800	-0-
✓ Water	118 300	118 300	-0-
Other	38,800	199,670	<160,870>
✓ Total	6,394,100	6,481,770	<87,670>

* Accounting 87630

WA-TEX 008931

WA-TEX008931

Houston, Texas 77052, March 23, 1966

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1966

AIR MAIL

MEMORANDUM

Mr. G. Carroll
Anacortes, Washington

This will refer to your memorandum of February 23, 1966, transmitting PSP's R-1211 for year 1966.

In analyzing the subject report for 1966 we note that fuel (SP&W) as well as UOP No. 1 catalyst, required for polymerization in 1966 does not appear consistent with that required for previous years considering true polymer production, as indicated by the following:

Item	1964	1965	1966
Barrels true polymer produced	319,353	397,142	516,058
Barrels of fuel (SP&W) for polymerization	76,193	102,969	63,300
Pounds of UOP No. 1 Catalyst	172,500	198,200	53,000

We also note that the power requirement for alkylation in 1966 apparently has dropped drastically. Whereas the total cost of power decreased by some 40%, the power required for alkylation has apparently decreased some 85% as indicated by the following:

Item	1964	1965	1966
Alkylate production - bbls.	665,873	767,146	702,189
Dollars of purchased power for alkylation	\$ 24,584	\$ 27,820	\$ 4,200

Although there may be some reasons for the items drawn to your attention above, we would appreciate your identification of such reasons. We will then be in a better position to use this data for economic cost studies and other purposes.

J. R. LEMMER

WFH-MLM

WA-TEX 008932

WA-TEX008932

TEXACO

Bbls alkylate

665,873 767,146 702,189
1964 1965 1966

Purch Power for alkyl

(.037) .036 .006
24,584 ~~\$7787~~ \$4200
27,820

Volume Chicago (VPS)

18,870,000 18,367,000 21,493,000
~~18,990,000 21,493,000~~

Total Power Unit

.021 .017 .010
~~\$307,500 325,345 \$285,600~~
388,015 313,350

TEXACO

3-23-66

G. V. Carroll

Remmemo 2/23/66 R-1211E 1966, ~~Re~~
~~Polymerization, Cost of Fuel Steam~~
~~Power, Water & Fuel Values @ #120~~

~~please note~~
 Comparison of Polymerization Cost and
 Activity for last 3 R-1211-E's:

	1964	1965	1966
Bbls True Polymer	510,000	397,142	516,058
Purchased Power	319,353		
Total #	34,125	33,291	10,900

Poly.
 Fuel Barrels (SPW) 76,193 ✓ 102,969 ✓ 63,300 ✓

Catalyst #s Vol #1	172,500 lb.	198,200 lb.	53,000 lb.
" " #	\$50,000	\$57,800	\$14,700
Caustic Soda Lbs	210,000 lbs	158,000 lbs	147,000 lbs
✓ ✓ \$	\$6740	\$5200	\$4400
MEA - #s	40,000	25,000 lbs.	33,000 lbs
✓ \$	\$12000	\$7600	\$9,400
Sodium Chloride #s	3100	13,000	15,000 lbs
✓ ✓ \$	50	200	\$200

WA-TEX 008934

WA-TEX008934

Polymization
Comparison of Estimated Expenses
year 1964, 1965, and 1966

	1964	1965	1966
<i>Activity - Polym</i>			
<i>5-lb. Polymers</i>			
	\$10,000 BALS.	\$9,148 BALS.	\$16,858 BALS.
	\$ Per BAL.	\$ Per BAL.	\$ Per BAL.
	POLYMER	POLYMER	POLYMER
	\$ / YR	\$ / YR	\$ / YR
<i>Fuel C 100 BAL.</i>			
<i>Electricity, Power, & Water</i>			
<i>Purch. Power</i>	218	\$102,964	122
<i>Purch. Water</i>	888	33,291	035
<i>WPP Catalyst</i>	053	12,895	036
<i>Other Chemicals</i>	143	57,800 ⑤	028
<i>SUB-TOTAL (VARIABLE)</i>	013	13,000	028
	181	\$2,192 1/2	243
			\$12,100

SEMI-VARIABLE						
Operator (EX T & I)	159	\$ 55000.	135	\$ 37000.	109	\$ 55400.
T & I - Labor	018	6210.	—	—	—	—
Maintenance Labor	105	36480.	097	38700.	066	34000.
T & I - Contract Work	009	3000.	—	—	—	—
Maintenance "	009	3300.	012	4500.	010	5300.
T & I - Material	006	7000.	—	—	—	—
Maintenance "	014	1810.	016	22400.	136	18400.
S P & W - other Cost	136	47913.	157	62197.	078	40600.

① other Oper, Mnt Routine Repairs.
 ② ORIG. SHOWN AS 319, 303 000S. BY PLANT
 ③ Listed \$ under Acid on R-1211-E, 1965 See Rpt.

- ① other Oper, Plus Puting Repair.
 ② ORIG. SHOWN AS 319,353 BOLS, BY PLANT
 ③ Listed & under Acid on R-1211-E, 1965 Sec Rpt.

WA-TEX 008936

WA-TEX008936

PUGET SOUND 1966

DISTR OF INDIRECT PCT.
IND. PCT.

Amount

	DIRECT LABOR %	FRINGE BENEFITS	LABOR	OTHER INDIRECT	TOTAL	EMPL. BENE TAXES	Amount
VPS	14.71%	\$ 25,814	\$ 77,175	\$ 106,750	\$ 179,789	\$ 37,462	
FCCU	24.90	43,528	130,288	112,690	241,779	63,841	
POLY.	7.91	13,843	41,387	35,998	77,385	20,090	
CRU	7.01	12,268	36,528	3,725	42,511	17,804	
ALKY	7.65	13,388	40,026	34,622	69,612	19,429	
HTU	7.61	13,318	39,817	34,441	69,143	19,328	
S&S (S&H)	27.17	47,150	141,159	122,963	264,122	69,007	
Recarbonizer	2.34	4,091	12,443	19,520	27,410	5,943	
BS&N	.33	578	1,727	1,493	3,806	838	
Waste Oil Recovery	.33	578	1,726	1,494	3,806	838	
TOTAL	100.0%	\$ 1,142,900	\$ 3,175,010	\$ 2,657,570	\$ 6,975,480	\$ 2,532,980	

Info for R-1211 E / Apr '66 EA Exp Exhibit 5

☒ INSURANCE
☒ EMP. BENEF. PENSIONS
☒ AD VALOREM TAXES
☒ MISG. TAXES
☒ INVESTMENT
☒ G.D.F.

PROPERTY	EMPL. BENEF. PENSIONS	AD VALOREM	MISG. TAXES	PAYROLL	G.D.F.
Casper Plant	640 18910 70930	153000	4620	74820	
Los Angeles Plant	6250 365910 192000	105000	36470	220780	
Robertson Plant	26710 150770 19330	55500	232070	97210	
				Fringes	
				Fringes	

STANDARD EXPENSES

UNIT

PLANT

YEAR

PUGET SOUND

1965

	TOTAL	CRUDE	VACUUM	PIPE	DECARBON-	35 & W	WASTE OIL	F.C.C.U.	
	REFINING	EXPENSE	STILLING		100%	100%	RECOVERY		
							100%		
ESTIMATED DIVISOR -- Barrels	1367000		1199000					757923	
CAPACITY -- Barrels	1750000		1750000					5721000	
Direct Variable Charges									
Fuel @ \$1.00									
Direct Fuel	148	140400						148	134100
Fuel in Steam	150	142400						150	136800
Fuel in Power									
Fuel in Water	101	9080						101	9140
Fuel in Auxiliaries									
Total Fuel	109	101680						109	101076
Miscellaneous -- Fuel Only (1)	1030	550036						1030	539036
Purchased Power	1020	901340						1020	111010
Purchased Water	1006	114150						1006	114021
Purchased Utilities in Auxiliaries									
Chemicals									
Acid	1010	186300						1010	186300
Hydrogen Catalyst									
Other Catalyst	1034	613425						1034	613425
Chemicals -- Auxiliaries									
Other Chemicals	1010	114000						1010	114000
Total Chemicals	1046	951175						1046	951175
Royalties (Running Royalties)									
TOTAL DIRECT VARIABLE CHARGES	143	141432						143	141432
SEMI-VARIABLE CHARGES									
Operators -- (ex T&I)	136	657200						136	657200
Test and Inspection -- Labor	101	24200						101	24200
Maintenance -- Labor	1014	402800						1014	402800
Test and Inspection -- Contract Work	1014	402800						1014	402800
Maintenance -- Contract Work	1013	402800						1013	402800
Test and Inspection -- Material	101	17000						101	17000
Maintenance -- Material	1016	278800						1016	278800
Employee Benefits									
Indirect Plant -- Labor									
Indirect Plant -- Other									
Steam -- Charges Other Than Fuel	1076	481154						1076	481154
Power -- Charges Other Than Fuel & Purch. Power									
Water -- Charges Other Than Fuel & Purch. Water	1004	2167						1004	2167
Auxiliaries -- Other Than Fuel, Chemicals & Purch. Util.	1004	2167						1004	2167
Miscellaneous -- Other	1010	17000						1010	17000
Royalties and Royalties									
TOTAL SEMI-VARIABLE CHARGES	1010	17000						1010	17000
NON-VARIABLE CHARGES									
Depreciation									
Insurance & Taxes Related to Investment									
General Office and General Overhead									
Auxiliaries (F&OH)									
Royalties and Royalties									
TOTAL NON-VARIABLE CHARGES									
TOTAL EXPENSE									

WA-TEX 008939

Notes (1) CREDIT FOR FUEL ONLY IN STEAM PRODUCED FROM CO AND WASTE HEAT BURNERS

WA-TEX008939

STANDARD EXPENSES

UNIT

PLANT

YEAR

PUGET SOUND

1965

	POLYMERIZATION	CATALYTIC REFORMING	ALKYLATION	HYDROTREATING	STORING AND SHIPPING
ESTIMATED DIVISOR -- Barrels	397.142	2958400	767.146	8437627	11627000
CAPACITY -- Barrels	2401500	2916000	837500	8437627	8437627
Direct Variable Charges					
Fuel @ \$1.00					
Direct Fuel	1257	101873	172	1023	103300
Fuel in Steam	1257	101873	172	1023	103300
Fuel in Power	10074	10074	10074	10074	10074
Fuel in Water	10074	10074	10074	10074	10074
Fuel in Auxiliaries	10074	10074	10074	10074	10074
Total Fuel	1257	101873	172	1023	103300
Miscellaneous -- Fuel Only (1)	1082	28704	1036	1036	1036
Purchased Power	1082	28704	1036	1036	1036
Purchased Water	1082	28704	1036	1036	1036
Purchased Utilities in Auxiliaries	1082	28704	1036	1036	1036
Chemicals					
Acid	1257	101873	172	1023	103300
Hydrogen Catalyst	1257	101873	172	1023	103300
Other Catalyst	1257	101873	172	1023	103300
Chemicals -- Auxiliaries	1257	101873	172	1023	103300
Other Chemicals	1257	101873	172	1023	103300
Total Chemicals	1257	101873	172	1023	103300
Royalties (Running Royalties)	1257	101873	172	1023	103300
TOTAL DIRECT VARIABLE CHARGES	554	177955	479	128527	169331
SEMI-VARIABLE CHARGES					
Operations -- (ex 16)	1257	53700	1070	53700	1070
Test and Inspection -- Labor	1257	53700	1070	53700	1070
Maintenance -- Labor	1257	53700	1070	53700	1070
Test and Inspection -- Contract Work	1257	53700	1070	53700	1070
Maintenance -- Contract Work	1257	53700	1070	53700	1070
Test and Inspection -- Material	1257	53700	1070	53700	1070
Maintenance -- Material	1257	53700	1070	53700	1070
Employee Benefits	1257	53700	1070	53700	1070
Indirect Plant -- Labor	1257	53700	1070	53700	1070
Indirect Plant -- Other	1257	53700	1070	53700	1070
Steam -- Charges Other Than Fuel	1257	53700	1070	53700	1070
Power -- Charges Other Than Fuel & Purch. Power	1257	53700	1070	53700	1070
Water -- Charges Other Than Fuel & Purch. Water	1257	53700	1070	53700	1070
Auxiliaries -- Other Than Fuel, Chemicals & Purch. Util.	1257	53700	1070	53700	1070
Miscellaneous -- Other	1257	53700	1070	53700	1070
Rentals and Royalties	1257	53700	1070	53700	1070
TOTAL SEMI-VARIABLE CHARGES	1257	53700	1070	53700	1070
NON-VARIABLE CHARGES					
Depreciation	1257	53700	1070	53700	1070
Insurance & Taxes Related to Investment	1257	53700	1070	53700	1070
General Office and General Overhead	1257	53700	1070	53700	1070
Auxiliaries (FAOH)	1257	53700	1070	53700	1070
Rentals and Royalties	1257	53700	1070	53700	1070
TOTAL NON-VARIABLE CHARGES	1257	53700	1070	53700	1070
TOTAL EXPENSE	1257	53700	1070	53700	1070

WATSON (1)

WA-TEX 008940

WA-TEX008940

WA-JEX 008941

DSP
THRU June
CRU 1-2/1-10 Heater Kpno
HTU & " 5-6/5-15 Catalyst Regen
AIK 2-27/3-12 Pressure Relief Valves

Inge A Sand
R-1211-F. Bata
1965

$$WSD \neq WFN$$

WA-TEX008941

WA-JEX 008941

WTH
T E X A C O

Anacortes, Washington 98221, February 11, 1965

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
PUGET SOUND PLANT
YEAR 1965

AIR MAIL

PERSONAL

MEMORANDUM

Mr. J. R. Lemmer

Houston, Texas

REFINING	Supr. C.S.
HOUSTON OFFICE	<i>2</i>
FEB 15 1965	Supr. E.R.
Asst. Cr. Asst. to G.M.	Supv. E.C. Supv. P&P

We are submitting herewith Estimated Crude Refining Expenses, Form R-1211-E, Schedules 1, 2, 3, 4 and 6.

The activities shown on the attached statement are in agreement with those shown in the Annual Budget, Form R-1259, as approved. No new equipment is to start up and none of the present equipment is to be shut down during the year.

The following is a breakdown of expenses included under Miscellaneous Expense:

FCCU-Credit for Steam	(1,017,536)	
Subtotal Direct Plant		(1,017,536)
Charge Steam Dept. for above item	1,017,536	
Purchased Power	474,800	
Purchased Water	118,300	
Total SP&W		1,610,636
Vacation Pay	136,700	
A&S Benefits	23,840	
Telephone	13,100	
Telegraph	2,400	
Contributions & Donations	200	
Memberships & Subscriptions	30	
Postage	1,300	
Traveling & Personal	11,300	
All Other Expense	11,770	
Marine Dept.-Rentals & Services	(10,800)	
Sales Dept.-Electric Sign	(800)	
Rentals	8,430	
Subtotal Indirect		197,470
GRAND TOTAL MISCELLANEOUS EXPENSE		790,570

Included in Material Operating is an estimate of \$7,280 for Printing and Stationery, and excluded from Material Operating is an estimate of \$2,200 for Hydrogen which has been included with Chemicals.

WA-TEX 008942

WA-TEX008942

Mr. J. R. Lemmer

- 2 -

2-11-65

Labor costs are based on the following manpower:

	<u>No. Men</u>	<u>Cost</u>
Calendar Personnel and Other Staff	6	0
Construction and Outside Charges	3	20,000
Plant Expense-Form R-1259	257	2,016,440
Total Labor	<u>266</u>	<u>2,036,440</u>
Less: Vacation Pay		136,700
A&S Benefits		23,840
Construction and Outside		20,000
Labor Distributed on Form R-1211-E as Labor		<u>1,855,900</u>

The following is a breakdown of the component costs used in pricing out steam produced from CO and waste heat boilers:

	<u>FCCU</u>
M Lbs. Steam	2,494,330
BTU's/Lb.	1,323
MM BTU's	3,200,000
Total Steam Cost basis Unit Cost previous report	.31798
Credit for Steam	<u>1,017,536</u>

Component Costs:

Labor	222,230
Material	40,092
Contract Work	712
Fuel-Bbls.	559,036
Fuel-Cost	<u>689,482</u>
Transfers of Steam	(24,421)
Transfers from Power	75,501
Transfers from Water	13,940
	<u>1,017,536</u>

MISC OTHER

328,054

G. V. Carroll
G. V. CARROLL

WWC-JPE

JRL(2)

LHB (Bookkeeping)

Attachments

CONTRACT WORK, MATERIAL & MISCELLANEOUS EXPENSES
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1965
PUGET SOUND PLANT

R-1211-E
Exhibit 2

() Indicates Red Figures

Line No.		C O N T R A C T W O R K					M A T E R I A L					Misl.	
		Operating		Repairs		Total Contract	Operating		Repairs		Expense Estimate		Total Material Expense
		T&I	Other	T&I	Other		T&I	Other					
1	VPS	10,000		20,200	5,200	35,400	1,900	15,200	3,100	12,200		32,400	
2	Decarbonizer				4,800	4,800		11,500		9,400		20,900	
3	FGCU				15,200	15,200		42,300		34,200		76,500(1,017,536)	
4	Poly (BbIs. Polymer)				4,800	4,800		12,400		10,000		22,400	
5	Catalytic Reforming	10,000		6,800	15,200	32,000	500	12,800	4,500	10,600		28,400	
6	Alkylation (Bbl.Alky)	3,700		1,300	4,800	9,800	900	10,100	2,100	8,100		21,200	
7	Hydrotreating	10,000		6,800	4,800	21,600	500	13,000	3,500	10,600		27,600	
8	Shipping Bulk				6,100	6,100		7,500		6,100		13,600	
9	RP&S							39,000		31,700		70,700	
10	BS&W							500		500		1,000	
11	Waste Oil Rec.							600		500		1,100	
12	Total Direct	33,700		35,100	60,900	129,700	3,800	164,900	13,200	133,900		315,800(1,017,536)	
13	SP&W				1,600	1,600		29,800		24,500		54,300 1,610,636	
14	Indirect Plant		49,200		21,500	70,700		130,800		100,900		231,700 197,470	
15	GRAND TOTAL	33,700	49,200	35,100	84,000	202,000	3,800	325,500	13,200	259,300	-	601,800 790,570	

GVC-jFE 2-11-65
JRL(2)
LHB. (Bookkeeping)

WA-TEX 008945

WA-TEX008945

R-1211-E
Exhibit 3

() Indicates Red Figures

CHEMICALS

Line No.	C H E M I C A L S						FUEL CONSUMED					
	Hydrogen		Acid		Catalyst	Other Chemicals	Total	Gas(2)		Liquid	Fuel	Line
	Cu.Ft.	Amount	Tons	Amount	Tons	Amount	Amount	Amount	Std Bbls	Std Bbls	Amount	No.
1 VPS											676,843	1
2 Decarbonizer											30,026	2
3 FCCU											207,342	3
4 Poly (Bbls. Polymer)												4
5 Catalytic Reforming											327,774	5
6 Alkylatlon (Bbls. Alky)												6
7 Hydrotreating,											335,584	7
8 Shipping - Bulk												8
9 RP&S												9
10 BS&W												10
11 Waste Oil Recovery												11
12 Total Direct	156,000	2,200	8026.8	244,100	1395.4	618,800	39,200	904,300	799,200	91,200	1,577,569	12
13 SP&W									58,311	381,063	541,897	13
14 Indirect Plant									3,000		7,734	14
15 GRAND TOTAL	156,000	2,200	8026.8	244,100	1395.4	618,800	39,200	904,300	860,511	472,263	2,127,200	15

(1) See Exhibit 6 for Detail

Gas Consumed, 828,111 bbls. plant production, 32,400 purchased

2 Gas Component of
3 Total Fuel at FCCU used at CO Boiler for Steam Production

* Start-up?
too low for

Note
3.15.65 PSP
GAB says we of
switched to
move of cheap
Catalyst & 1965
Vans = 5.5 Vans
Usage = 365 days
Day 365 tons

Usage =
 Day $\frac{365 \text{ days}}{2007.5 \text{ tons}} / 42$
 $\frac{2007.5 \text{ tons}}{\$250.00} \times \text{Avg Cost}$
 $\frac{\$501.875}{}$

2-11-65

JRL(2)

LHB (Bookkeeping)

WA-TEX 008946

64.7% Prod Gas @ 1.65

29.9% Hi Vis Lgd 1.16

5.4% Purch. Gas 2.50

1,332,774

862,305 @ 1.65 # 1422803

~~398,500~~ @ 1.16 462260

71969 @ 2.50 179,923

2,064,986

319,68
40.54

860,511

71,969 @ 2.50 179,923

~~788,542 @ 1.16 914,709~~

472,263 @ 1.16 547,825

00 L 8 E 1
~~00 L 8 E 1~~
00 L 8 E 1
00 L 8 E 1
00 L 8 E 1

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1965
PUGET SOUND PLANT

P-1211-E
Exhibit 6
Sheet 1 of 2

Line No.	Chemical	V.P.S		F.C.C.V.		POLY		ALKYLATION		HYDROTREATING		RPS	
		Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
1	Acid, Alky Sulfuric							17770000	\$186300				
2	Anti-Foam DC #200	575	\$1500										
3	Catalyst:-												
4	HDS-2 Hydrotreater			2775000	555000					5000	4000		
5	Filtrol-Gr. 800					198200	57800						
6	UOP #1 Poly												
7	UOP-R-5 Platinum												
8	Gaustic Soda			166000	5400	158000	5200	82500	2650				
9	Monoethanolamine					25000	7600						
10	Nalco 537-D	*2300	6300										
11	Sodium Chloride			13000	200	212000	3200			15600	100		295000 \$4500
12	Hydrogen												
13	TOTAL		\$7800		\$560400		\$70800		\$192150		\$4100		\$4500
	* Gallons												

GVG-JPE 2-11-65
JRL(2)✓
LHB(Bookkeeping)

WA-TEX 008949

WA-TEX008949

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1965
PUGET SOUND PLANT

R-1211-E
 Exhibit 6
 Sheet 2 of 2

Line No.	Chemical	CAT. REFORMING		T O T A L	
		Quantity	Amount	Quantity	Amount
1	Acid-Alky Sulfuric			15855319	\$186300
2	Anti-Foam DG#200			575	1500
3	Catalyst/-				
4	HDS-2 Hydrotreater			5000	4000
5	Filtrol Gr.-800			2775000	555000
6	UOP #1 Poly			198200	57800
7	UOP #R-5 Platinum			10800	59800
8	Caustic Soda	10800	\$ 59800	489000	15900
9	Monocethanolamine	82500	2650	25000	7600
10	Malco 537 D			* 2300	6300
11	Sodium Chloride			520000	7900
12	Hydrogen	140400	2100	156000	2200
13	TOTAL		\$ 64550		\$904300

* Gallons

GVC-JFE 2-11-65
 JRL(2)
 LHB (Bookkeeping)

WA-TEX 008950

WA-TEX008950

DETAILED 1
STEAM,
ESTIMATED CRUDE REF.
PUOI

R-1211-E
Exhibit 4
Sheet 1 of 3

DETAILED PLANT DISTRIBUTION OF
STEAM, POWER AND WATER
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1965
PUGET SOUND PLANT

Line No.	MM BTU	S T E A M					Purchased For	
		Fuel Consumed	Purchased Power	Purchased Water	Other Cost	Total Amount	* % K.W. Demand	
		Barrels	Amount	Amount	Amount	Amount		
1 VPS	485,000	96,126	118,555	1,040	50,141	175,414	7.18	
2 Decarbonizer	247,000	48,955	60,378	529	25,536	89,335	9.07	
3 FCCU	1,967,000	389,854	480,823	4,214	203,357	711,428	15.57	
4 Polymerization	514,000	101,873	125,645	1,101	53,140	185,905	6.27	
5 Catalytic Reforming	113,000	22,346	27,622	1,242	11,682	40,869	4.18	
6 Alkylation	665,000	131,801	162,556	1,425	68,751	240,519	7.47	
7 Hydrotreating	49,000	9,712	11,978	105	5,066	17,723	14.30	
8 Shipping Bulk	43,000	8,522	10,511	92	4,445	15,552	3.72	
9 RP&S	470,000	93,153	114,889	1,007	48,591	169,991	13.39	
10 ES&W	43,000	8,522	10,511	92	4,445	15,552	1.82	
11 Waste Oil Recovery	53,000	11,694	14,422	126	6,100	21,339		
12 Total	4,655,000	922,608	1,137,890	9,973	481,254	1,683,627	75.64	
13 SP&W	332,000	65,802	81,156	711	34,324	120,079	23.96	
14 Indirect Plant	4,987,000	988,410	1,219,046	10,684	515,578	1,803,706	100.0	
15 GRAND TOTAL								

* 1965 Power Bills W
based on KW Demand rather

Back Volume
9/1/65

GVC-JPE 2-11-65
JRL/2
LHB (Bookkeeping)

T E X A C O

Anacortes, Washington 98221, February 23, 1966

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1966

AIR MAIL

PERSONAL

MEMORANDUM

Mr. J. R. Lemmer

Houston, Texas

We are submitting herewith Estimated Crude Refining Expenses, Form R-1211-E. Exhibits 1, 2, 3 and 4.

The activities shown on the attached statement are in agreement with those shown in the Annual Budget, Form R-1259, as submitted except, Labor was increased by \$88,490 and Contract Work was increased by \$18,200 because of the 4½% wage increase which became effective after the budget was submitted. No new equipment is to start up and none of the present equipment is to be shut down during the year.

The following is a breakdown of expenses included under Miscellaneous Expense:

FCCU - Credit for Steam	(894,700)	
Sub-total Direct Plant		\$ (894,700)
Charge Steam Dept. for above item	894,700	
Purchased Power	285,600	
Purchased Water	117,200	
Total SP&W		1,297,500
Vacation Pay	149,500	
A&S Benefits	25,510	
Telephone	13,100	
Telegraph	2,400	
Contributions & Donations	200	
Memberships & Subscriptions	30	
Postage	1,300	
Traveling & Personal	8,000	
All Other Expense	9,370	
Marine Dept-Rentals & Services	(11,200)	
Sales Dept.-Electric Sign	(800)	
Rentals	6,315	
Sub-total Indirect		203,725
Grand Total Miscellaneous Expense		\$606,525

Included in Material Operating is an estimate of \$6,980 for Printing and Stationery and excluded from Material Operating is an estimate of \$3,000 for Hydrogen which has been included with Chemicals.

WA-TEX 008952

WA-TEX008952

Mr. J. R. Lemmer

- 2 -

2-23-66

Labor costs are based on the following manpower:

	<u>No. Men</u>	<u>Cost</u>
Calendar Personnel & Other Staff	6	0
Construction & Outside Charges	4	31,400
Plant Expense - Form R-1259	258	2,054,730
Total Labor	268	2,086,130
Less: Vacation Pay		149,500
A&S Benefits		25,510
Construction & Outside		31,400
Labor Distributed on Form R-1211-E as Labor		1,879,720

The following is a breakdown of the component costs used in pricing out steam produced from CO and waste heat boilers:

	<u>FCCU</u>
M Lbs. Steam	2,211,000
BTU's/Lb.	1,326
MM BTU's	2,932,000
Total Steam Cost basis Unit Cost previous report.	.30516
Credit for Steam	\$ 894,700

Component Costs:

Labor	199,071
Material	28,809
Contract Work	626
Fuel-Bbls.	427,747
Fuel-Cost	629,332
Transfers of Steam	(14,315)
Transfers from Power	39,725
Transfers from Water	11,452
	\$ 894,700

Signed: G. V. CARROLL

G. V. CARROLL

WWC-JPE

JRL(2)

LHB (Bookkeeping)

Attachments

PLANT LABOR AND CONTRACT WORK
ESTIMATED OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Activities	L A B O R				Contract Work			
		Operators-Ex. I&T	I&T	Maint.	Total	I&T	Maint.	Total	Total
	Barrels	Number Employees	\$ Amt.	\$ Amt.	\$ Amt.	\$ Amt.	\$ Amt.	\$ Amt.	\$ Amt.
1	VPS	14.0	110,500	58,100	168,600		43,400	43,400	43,400
2	Decarbonizer	(1)		26,700	26,700		5,300	5,300	5,300
3	FCGU	18.0	148,400	56,900	205,300		6,700	6,700	294,100
4	Poly (Bbls. Polymer)	7.0	56,400		56,400		5,300	5,300	5,300
5	Catalytic Reforming	7.0	56,400		56,400		5,500	5,500	5,500
6	Alkylation (Bbls. Alkylate)	7.0	56,600		56,600		9,500	9,500	9,500
7	Hydrotreating	(2)	56,400	17,100	73,500	37,600	5,500	43,100	43,100
8	Shipping Bulk						6,700	6,700	6,700
9	RP&S	20.0	195,300		195,300		36,100	36,100	36,100
10	BS&W	0.5	3,800		3,800				
11	Waste Oil Recovery	0.5	3,800		3,800				
12	Total Direct	81.0	687,600	74,000	761,600	325,000	124,000	449,000	449,000
13	S.P. & W.	13.0	98,200		98,200		2,100	2,100	2,100
14	Indirect Plant	14.0(3)	113,700		113,700		28,800	28,800	28,800
15	GRAND TOTAL	108.0	899,500	74,000	973,500	325,000	154,900	479,900	479,900

(1) Operated by VPS Personnel
(2) Included in RP&S Dock Forces
(3) Includes 13 from Laboratory and 1 from Effluent Treating

GVC-JPE 2-23-66

JRL (2)

LHB (Bookkeeping)

MATERIAL, MISCELLANEOUS EXPENSE AND FUEL CONSUMED
ESTIMATED OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Material	Total	Misc. Expense	Fuel Consumed		
				Total Gas Std. Bbls.	Liquid Std. Bbls.	Total Fuel Amount
1	VPS					
2	Decarbonizer	26,500		426,759	10,058	797,700
3	FOCU	17,100		21,554	0	39,600
4	Poly (Bbls. Polymer)	62,800	(894,700)	60,300	60,300	177,400
5	Catalytic Reforming	18,400				
6	Alkylation (Bbls. Alkylate)	19,200		199,729	21,554	390,100
7	Hydrotreating	14,900				
8	Shipping Bulk	19,400		241,399	0	440,500
9	RP&S	11,200				
10	BS&W	58,100				
11	Waste Oil Recovery	900				
12	Total Direct	900				
13	SP&W	233,000	(894,700)	949,741	91,912	1,845,300
14	Indirect Plant	44,600	1,297,500	196,022	196,225	577,100
		187,250	203,725	3,000		5,305
15	GRAND TOTAL	233,000	606,525	1,148,763	288,137	2,427,705

	Std. Bbls.	\$/Bbl.	Amount
Gas Produced	1,123,263	1.820	2,044,338
Liquid Fuel	288,137	1.107	319,087
Purchased Gas	25,500	2.521	64,280
TOTALS	1,436,900	1.690	2,427,705

GVC-JPE 2-23-66

JRL (2)

LHB (Bookkeeping)

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING-OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Chemical	V.P.S.		F.O.C.U.		Poly		Alkylation	
		Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
1	Acid, Alky Sulfuric-Tons								
2	Anti-Foam DC-200-Lbs.	585	1,300					8,740	205,600
3	Catalyst: -								
4	HDS-2 Hydrotreater-Lbs.								
5	Davison F-1-13-Tons			1299.8	447,600				
6	UOP #1 Poly-Lbs.					53,000	14,700		
7	UOP-R-5 Platinum-Lbs.								
8	Caustic Soda - Lbs.			156,000	4,800	147,000	4,400	78,500	2,300
9	Monoethanolamine-Lbs.					33,000	9,400		
10	Nalco 537-D-Gals.								
11	Sodium Chloride - Lbs.	4,890	11,400			15,000	200	263,000	4,000
12	Hydrogen - Cu. Ft.								
13	TOTAL		12,700		452,400		28,700		211,900

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JRL(2)

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WA-TEX 008956

WA-TEX008956

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1966
PUGET SOUND PLANT

Line No.	Chemical	HYDROTREATING		RP&S		Cat. Reforming		Total Amount
		Quantity	Amount	Quantity	Amount	Quantity	Amount	
1	Acid, Alky Sulfuric-Tons							205,600
2	Anti-Foam DC-200-Lbs.							1,300
3	Catalyst: -							
4	HDS-2 Hydrotreater-Lbs.	4,062	3,300					3,300
5	Davison F-1-13-Tons							447,600
6	UOP #1 Poly-Lbs.							14,700
7	UOP-R-5 Platinum-Lbs.							39,400
8	Caustic Soda - Lbs.					11,200	39,400	13,800
9	Monoethanolamine-Lbs.					78,500	2,300	9,400
10	Nalco 537-D-Gals.							11,400
11	Sodium Chloride - Lbs.							5,800
12	Hydrogen - Cu. Ft.	20,000	300	370,000	5,600	180,000	2,710	3,000
13	TOTAL		3,600		5,600		44,400	759,300

GVC-JPE 2-23-66

JRL(2)

LHB (Bookkeeping)

STEAM, POWER, & WATER EXPENSES
ESTIMATED OPERATING EXPENSES - YEAR
PUGET SOUND PLANT

Line No.	Barrels	Amount	Purchased Power	Purchased Water	Other Cost	Total SP&W	Total Plant
1 VPS	133,100	195,800	20,500	22,100	85,300	323,700	1,372,600
2 Decarbonization	65,700	96,700	25,900	3,800	42,100	168,500	257,200
3 FCCU	255,900	376,300	44,600	36,700	164,000	621,600	1,223,200
4 Polymerization	63,300	93,100	17,900	15,300	40,600	166,900	309,700
5 Catalytic Reforming	16,700	24,600	12,000	8,900	10,700	56,200	595,500
6 Alkylation	118,300	174,000	4,200	11,500	75,800	265,500	589,200
7 Hydrotreating	10,900	16,100	40,800	11,800	7,000	75,700	677,300
8 Shipping Bulk	4,600	6,800	10,800	400	3,000	21,000	72,700
9 RP&S	67,800	99,700	38,200	1,700	43,400	183,000	559,500
10 BS&W	4,600	6,800	2,300	600	3,000	12,700	17,400
11 Waste Oil Recovery	7,700	11,400		600	5,000	17,000	21,700
12 Total	748,600	1,101,300	217,200	113,400	479,900	1,911,800	5,696,000
13 S.P. & W.					(2,134,900)		0,000
14 Indirect Plant	71,394	105,132	68,400	3,800	45,768	223,100	1,171,400
15 GRAND TOTAL	819,994	1,206,432	285,600	117,200	525,668	0,000	6,867,400

STEAM, POWER & WATER EXPENSES
ESTIMATED OPERATING EXPENSES YEAR 1966
PUGET SOUND PLANT

Distribution	Steam	Power	Water	Total
Fuel - Barrels	814,135		5,859	819,994
Fuel - Cost	1,197,813		8,619	1,206,432
Purch. - Power	36,139	187,897	61,564	285,600
Purch. - Water	10,323		106,877	117,200
Other Cost	462,161	2,500	61,007	525,668
TOTAL COST	1,706,436	190,397	238,067	2,134,900
Avg. Steam Cost / M Lbs.	\$.262857			
Avg. Power Cost / KW		\$.005238		
Avg. Water Cost / M Gals.			\$.058939	
Purchased Utility Rates				
* Last Increment of Power / KW		\$.000000		
* Last Increment of Water / M Gal.			\$.039000	

SP&W Fuel Summary	
Total SP&W Fuel From Exhibit II	Barrels 392,247
Plus FCCU Waste Heat Fuel Credit	Barrels 427,747
TOTAL SP&W FUEL TO DISTRIBUTE	Barrels 819,994

* PSP has a power contract based on a peak demand of 8010 KW. No additional payment is required unless demand exceeds 8010 KW, and if demand exceeds 8010 KW the monthly charge will be increased by \$2.31 per KW in excess of 8010.

WVG-JPE 2-23-66
JRL (2)
LHB (Bookkeeping)