

PLAINTIFF'S EXHIBIT

TEX-38

W-580-12 - STANDARD EXPENSES 18
PUGET SOUND PLANT
YEAR - 1967

WA-TEX 008960

WA-TEX008960

STANDARD EXPENSES

UNIT

PLANT PROJECT SOUND

YEAR 1963

	POLYMERIZATION	CATALYTIC REFORMING	ALKYLATION	HYDROTREATING	STARTING & SHIPPING
ESTIMATED DIVISOR - Barrels	5149.0101	3124.0020	990.0000	14034.0000	24000.0000
CAPACITY - Barrels	30115.000	29200.000	100000.000		125.000
Direct Variable Charges					
Fuel @ \$1.00					
Direct Fuel		150.142		201.000	
Fuel in Steam, Power & Water		100.000	11.000	12.000	71.000
Fuel in Power					
Fuel in Water					
Fuel in Auxiliaries					
Total Fuel		250.142	11.000	12.000	71.000
Miscellaneous - Fuel Only (1)		10.000	10.000		
Purchased Power		10.000	10.000		
Purchased Water		10.000	10.000		
Purchased Utilities in Auxiliaries					
Chemicals					
Field					
Hydrogen Catalyst					
Other Catalyst					
Chemicals - Auxiliaries					
Other Chemicals					
Total Chemicals					
Royalties (Royalty Royalties)					
TOTAL DIRECT VARIABLE CHARGES					
SEMI-VARIABLE CHARGES					
Operations - (ex Test)					
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 - Charge Other Than Fuel & Power Utilities					
Power - Charge Other Than Fuel & Power					
Water - Charge Other Than Fuel & Power					
Auxiliaries - Other Than Fuel, Chemicals & Purch. Util.					
Miscellaneous - Other					
Residuals and Royalties					
TOTAL SEMI-VARIABLE CHARGES					
TOTAL VARIABLE & SEMI-VARIABLE CHARGES					
NON-VARIABLE CHARGES					
Participation					
Royalties & Taxes Related to Investment					
General Office and General Overhead					
Auxiliaries (FROH)					
Residuals and Royalties					
TOTAL NON-VARIABLE CHARGES					
TOTAL EXPENSE					

Notes (1)

WA-TEX 008961

WA-TEX008961

UNIT
PLANT PUGSET SOUND PLANT
YEAR 1967

	TOTAL REFINING	GRADE EXPENSE	VAC PIPE	DECARBON ITEM	WASTE OIL RECOVERY	FCCU
ESTIMATED DIVISION - Barrels	21,833,416.0		1,041,710.0			1,041,710.0
CAPACITY - Barrels	21,170,000.0		2,117,000.0			2,117,000.0
Direct Variable Charges						
Fuel @ \$1.10	24,466	10,000,000.0	1,015	2,029,012	2,721,144	1,015
Fuel in Steam, Power & Water	2,015	76,110.0	1,000	1,355,000	1,710,000	1,000
Fuel in Power						
Fuel in Water						
Fuel in Auxiliaries						
Total Fuel	26,481	10,076,110.0	2,015	3,384,012	4,431,144	2,015
Miscellaneous - Fuel Oil (1)	1,020	4,222,224.0	1,020	5,007,224		1,020
Purchased Power	1,111	2,370,000.0	1,111	2,510,000	2,210,000	1,111
Purchased Water	1,005	1,124,900.0	1,005	1,227,000	1,000,000	1,005
Purchased Utilities in Auxiliaries	1,001	2,370,000.0	1,001	2,370,000	2,370,000	1,001
Chemicals						
Acid	1,114	1,170,000.0	1,114			1,114
Hydrocarbon Catalyst						
Other Catalyst	1,020	4,222,224.0	1,020			1,020
Chemicals - Auxiliaries						
Other Chemicals	1,005	1,124,900.0	1,005	1,227,000		1,005
Total Chemicals	2,119	5,394,900.0	2,119	1,227,000		2,119
Royalties (Running Royalties)						
TOTAL DIRECT VARIABLE CHARGES	31,114	21,515,545.0	3,134	13,741,216		3,134
SEMI-VARIABLE CHARGES						
Operators - (ex T&I)	1,015	7,120,000.0	1,015	1,029,000	3,300,000	1,015
Test and Inspection - Labor	1,015	8,200,000.0	1,015	1,510,000		1,015
Maintenance - Labor	1,015	4,200,000.0	1,015	6,350,000		1,015
Test and Inspection - Contract Work	1,015	3,140,000.0	1,015	6,420,000		1,015
Maintenance - Contract Work	1,015	2,710,000.0	1,015	3,800,000		1,015
Test and Inspection - Material	1,015	2,510,000.0	1,015	2,510,000		1,015
Maintenance - Material	1,015	3,510,000.0	1,015	2,510,000		1,015
Employee Benefits	1,015	4,300,000.0	1,015	2,510,000	1,000,000	1,015
Indirect Plant - Labor	1,015	5,510,000.0	1,015	2,510,000	1,000,000	1,015
Indirect Plant - Other	1,015	4,610,000.0	1,015	2,510,000	1,000,000	1,015
Steam - Charges Other Than Fuel, Electricity, Heat	1,015	5,010,000.0	1,015	2,510,000	3,000,000	1,015
Power - Charges Other Than Fuel, Electricity, Heat						
Water - Charges Other Than Fuel, Electricity, Heat						
Auxiliaries - Other Than Fuel, Chemicals & Purch. Util.						
Benefits and Royalties						
TOTAL SEMI-VARIABLE CHARGES	11,065	56,270,000.0	11,065	27,490,000	10,300,000	11,065
TOTAL VARIABLE & SEMI-VARIABLE CHARGES	42,179	77,785,545.0	14,199	41,231,216	14,730,000	14,199
NON-VARIABLE CHARGES						
Depreciation						
Insurance & Taxes Related to Investment						
General Office and General Overhead						
Auxiliaries (F&OH)						
Benefits and Royalties						
TOTAL NON-VARIABLE CHARGES						
TOTAL EXPENSE						

Note: (1) CREDIT FOR FUEL OXY IN STEAM PRODUCED FROM CO AND WASTE HEAT BOILERS
FLUID CATALYTIC CRACKING 427,757 BARRELS @ \$1.00
TOTAL 427,757 BARRELS @ \$1.00

T E X A C O

Anacortes, Washington 98221, February 16, 196

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1967

AIR MAIL

PERSONAL AND
CONFIDENTIAL

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 \$80,800 and Contract Work was increased by \$19,000 because of the 14¢/hr. wage increase which became effective 1-1-67 and the 12½¢ per hour increase granted to craftsmen effective 9-5-66 and which was too late to be included in the budget. 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	\$ (896,600)	
Sub-Total Direct Plant		\$ (896,600)
Charge Steam Dept. for above item	896,600	
Purchased Power	286,400	
Purchased Water	119,200 x	
Total SP&W		1,302,200
Vacation Pay	147,000	
A&S Benefits	29,000	
Telephone	11,500	
Telegraph	2,500	
Contributions & Donations	100	
Memberships & Subscriptions	30	
Postage	1,400	
Traveling & Personal	6,800	
All Other Expenses	11,870	
Marine Dept. Services	(1,300)	
Sales Dept. - Electric Sign & Services	(3,800)	
Rentals	5,700	
Sub-total Indirect		210,800
Grand Total Miscellaneous Expense		616,400

WA-TEX 008963

WA-TEX008963

Mr. J. R. Lemmer

- 2 -

2-16-66

Included in Material Operating is an estimate of \$3,400.00 for Printing & Stationery and excluded from Material Operating is an estimate of \$3,000.00 for Hydrogen which has been included with Chemicals.

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	32,000
Plant Expense - Form R-1259 (Adj.)	255	2,180,000
Total Labor	265	2,212,000
Less: Vacation Pay		147,000
A&S Benefits		29,000
Construction & Outside		32,000
Labor Distributed on Form R-1211-E as Labor		\$2,004,000

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

	<u>FCCU</u>
M Lbs. Steam	2,216,000
BTU's/Lb.	1,326
MM BTU's	2,938,000
Total Steam Cost Basis Unit Cost Previous Report	.30516
Credit for Steam	\$ 896,600
Component Costs:	
Labor	199,571
Material	28,909
Contract Work	626
Fuel - Bbls.	427,747
Fuel - Cost	630,332
Transfers of Steam	(14,315)
Transfers from Power	39,925
Transfers from Water	11,552
	\$ 896,600
<i>Credit misc other</i>	<i>266,268</i>

Signed: G. V. CARROLL

G. V. CARROLL

WWC-JPE

JRL (2)
JFF (Stat. Refg.)

Attachments

ARP

REC

WA-TEX 008964

WA-TEX008964

PLANT LABOR AND CONTRACT WORK
ESTIMATED OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

Line No.	Activities	LABOR				Contract Work		
		Operators-Ex. I&T	I&T	Maint.	Total	I&T	Maint.	Total
	Barrels	Number	\$ Amt.	\$ Amt.	\$ Amt.			
1 VPS	22,617,000	14.0	128,000	15,600	63,500	207,100	8,100	72,300
2 Decarbonizer	9,099,000	18.0	149,000	35,500	24,800	24,800	3,800	3,800
3 FCCU	549,000	7.0	64,000	3,900	89,200	273,700	13,000	163,000
4 Poly (Ebls. Polym.)	3,168,000	7.0	64,000	7,800	39,700	107,600	4,800	21,900
5 Catalytic Reforming	1,190,000	7.0	64,000	10,200	29,700	101,500	3,200	20,300
6 Alky (Ebls. Alkylate)	10,094,000	7.0	64,000	7,800	29,700	103,900	4,300	17,100
7 Hydrotreating	22,411,000	20.0	170,000		39,700	86,700	2,300	28,000
8 Shipping Bulk		0.5	3,800		89,200	39,700	6,000	6,000
9 RP&S		0.5	3,800			259,200	31,600	31,600
10 BS&W						3,800		
11 Waste Oil Recovery						3,800		
12 Total Direct	21,833,000	81.0	710,600	80,800	420,400	1,211,800	77,100	364,000
13 S.P. & W.		13.0	104,000		133,900	237,900	2,000	2,000
14 Indirect Plant		(3)14.0	117,000		437,300	554,300	66,000	66,000
15 GRAND TOTAL		108	931,600	80,800	991,600	2,004,000	286,900	432,000

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

GVO-JPE 2-16-67

JRL (2)

JFF (Stat. Refg.)

MATERIAL, MISCELLANEOUS EXPENSE AND FUEL CONSUMED
ESTIMATED OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

Line No.		Material		Misc. Expense	Total Gas		Fuel Consumed	
		I&F	Maint.		Std. Bbls.	Amount	Std. Bbls.	Amount
1	VPS	12,000	44,100		273,010		-24,902	537,050
2	Decarbonizer		22,300		27,314			51,050
3	FOCU	50,000	76,200		98,567		143,028	338,159
4	Poly (Bbls. Polymer)	1,000	26,600	(896,600)			-24,902	266,475
5	Catalytic Reforming	3,500	26,400		128,240			
6	Alky (Bbls. Alkylate)	4,000	19,400		281,029			525,243
7	Hydrotreating	6,000	22,200					
8	Shipping Bulk		26,600					
9	RR&S		68,300					
10	B&SW		1,000					
11	Waste Oil Recovery		1,000					
12	Total Direct	76,500	334,100	(896,600)	808,160		192,832	1,717,977
13	SP&W		79,800	1,302,200	197,133		286,056	676,418
14	Indirect Plant		200,000	210,800	2,999			5,605
15	GRAND TOTAL	76,500	613,900	616,400	1,008,292		478,888	2,400,000

WA-TEX 008966

GVC-JPE 2-16-67	Gas Produced	Std. Bbls.	\$/Bbl.	Amount
JRL (2)	Liquid Fuel	945,662	1.82	1,721,105
JFF (Stat. Refg.)	Purchased Gas	478,888	1.076	515,283
		62,630	2.610	163,612
	TOTALS	1,487,180	1.614	\$2,400,000

As compared with 1966 the VPS fuel consumption has gone down and the FCCU has increased but compared to Eagle Point - the fuel units appeared to be in line
 Checking something wrong with poly fuel units or chemicals because of increased burning

WA-TEX008966

STEAM, POWER, & WATER EXPENSES
ESTIMATED OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

Line No.		F U E L		Purchased		Purchased Water	Other Cost	Total SP&M	Total Plant
		Barrels	Amount	Power					
1	YPS	135,600	199,300	25,600		23,800	88,300	337,000	1,396,000
2	Decarbonization	67,800	99,700	22,100		3,500	44,200	169,500	244,300
3	FGU	262,700	386,200	65,700		34,800	176,600	663,300	1,256,400
4	Polymersization	67,800	99,600	21,000		16,700	41,400	178,700	314,100
5	Catalytic Reforming	17,000	24,900	13,500		9,500	11,000	58,900	593,300
6	Alkylation	118,600	174,300	16,900		12,000	77,300	280,500	558,400
7	Hydrotreating	12,700	18,600	32,500		12,000	8,300	71,400	698,000
8	Shipping Bulk	4,200	6,200	7,800		600	3,000	17,600	69,800
9	RP&S	67,600	99,400	29,200		1,800	49,600	180,000	558,400
10	BS&W	4,200	6,200	2,200		600	3,000	12,000	17,400
11	Waste Oil & Recovery	7,900	11,600	500		600	3,000	15,700	20,900
12	TOTAL	766,100	1,126,000	237,000		115,900	505,700	1,984,600	5,727,000
13	S.P. & W.							(2,203,500)	0,000
14	Indirect Plant	81,592	119,900	49,400		3,300	46,300	218,900	1,259,000
15	GRAND TOTAL	847,692	1,245,900	286,400		119,200	552,000	0,000	6,986,000

STEAM, POWER & WATER EXPENSES
ESTIMATED OPERATING EXPENSES YEAR 1967
PUGET SOUND PLANT

Distribution	Steam	Power	Water	Total
Fuel - Barrels	841,758		5,934	847,692
Fuel - Cost	1,235,932		9,968	1,245,900
Purch. - Power	34,368	189,024	63,008	286,400
Purch. - Water	11,920		107,280	119,200
Other Cost	485,752	2,400	63,848	552,000
TOTAL COST	1,767,972	191,424	244,104	2,203,500

Avg. Steam Cost/ M Lbs.
Avg. Power Cost/ KW
Avg. Water Cost/ M Gals.

\$.311022
\$.0049896
\$.231138
\$.000000
\$.039000

Purchased Utility Rates

* Last Increment of Power / KW
Last Increment of Water / M Gal.

SP&W Fuel Summary

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

Barrels 483,189
Barrels 364,503

TOTAL SP&W FUEL TO DISTRIBUTE

Barrels 847,692

* 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-JFE 2-16-67

JRL (2)

JFF (Stat.-Refg.)

WA-TEX 008968

WA-TEX008968

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1967
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								
2	Anti-Foam DC-200 Lbs.	700	1,500					13,430	319,000
3	Catalyst: -								
4	HDS-2 Hydrotreater - Lbs.								
5	Davison XZ-25 - Tons			797.4	385,000	112,400	30,300		
6	UOP #1 Poly-Lbs.								
7	UOP-R-11 Platinum - Lbs.					134,400	3,900	69,200	2,000
8	Caustic Soda - Lbs.					27,200	8,100		
9	Monocethanamine - Lbs.								
10	DeSal 960	6,110	13,000			14,900	200	345,800	5,400
11	Sodium Chloride - Lbs.								
12	Hydrogen - Cu. Ft.								
13	TOTAL		14,500		388,900		42,500		326,400

Handwritten: \$ 15-700
23

WA-TEX 008969
GVC-JPE 2-16-67
JRL (2)
JFF (Stat. Refg.)

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

LINE No.	CHEMICAL	HYDROTREATING		RP&S		CAT. REFORMING		TOTAL Amount
		Quantity	Amount	Quantity	Amount	Quantity	Amount	
1	Acid, Alky Sulfuric - Tons							319,000
2	Anti-Foam DC-200-Lbs.							1,500
3	Catalyst: -							
4	HDS-2 Hydrotreater - Lbs.	2,400	2,100					2,100
5	Davison XZ-25 - Tons							385,000
6	UOP #1 Poly - Lbs.					18,800	56,400	30,300
7	UOP-R-11 Platinum - Lbs.					69,200	2,000	56,400
8	Caustic Soda - Lbs.							11,800
9	Monoethanolamine - Lbs.							8,100
10	DeSal 960			485,200	7,500			13,000
11	Sodium Chloride - Lbs.	20,000	300			180,000	2,700	13,100
12	Hydrogen - Cu. Ft.							3,000
13	TOTAL							843,300

GVC-JPE 2-16-67

JEL (2)

JFF (Stat. Refg.)

WA-TEX 008970

WA-TEX008970

WPH
T E X A C O

Anacortes, Washington 98221, February 16, 1967

FORM R-1211-E
ESTIMATED OPERATING EXPENSES
YEAR 1967

AIR MAIL

PERSONAL AND
CONFIDENTIAL

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Houston, Texas

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

FCCU - Credit for Steam	\$ (896,600)	
Sub-Total Direct Plant		\$ (896,600)
Charge Steam Dept. for above item	896,600	
Purchased Power	286,400	
Purchased Water	119,200	
Total SP&W		1,302,200
Vacation Pay	147,000	
A&S Benefits	29,000	
Telephone	11,500	
Telegraph	2,500	
Contributions & Donations	100	
Memberships & Subscriptions	30	
Postage	1,400	
Traveling & Personal	6,800	
All Other Expenses	11,870	
Marine Dept. Services	(1,300)	
Sales Dept. - Electric Sign & Services	(3,800)	
Rentals	5,700	
Sub-total Indirect		210,800
Grand Total Miscellaneous Expense		616,400

WA-TEX 008971

WA-TEX008971

Mr. J. R. Lemmer

- 2 -

2-16-66

Included in Material Operating is an estimate of \$3,400.00 for Printing & Stationery and excluded from Material Operating is an estimate of \$3,000.00 for Hydrogen which has been included with Chemicals.

Labor costs are based on the following manpower:

	<u>No. Men</u>	<u>Cost</u>
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Construction & Outside Charges	4	32,000
Plant Expense - Form R-1259 (Adj.)	255	2,180,000
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Less: Vacation Pay		147,000
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Construction & Outside		32,000
Labor Distributed on Form R-1211-E as Labor		\$2,004,000

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MM BTU's	2,938,000
Total Steam Cost Basis Unit Cost Previous Report	.30516
Credit for Steam	\$ 896,600
Component Costs:	
Labor	199,571
Material	28,909
Contract Work	626
Fuel - Bbls.	427,747
Fuel - Cost	630,332
Transfers of Steam	(14,315)
Transfers from Power	39,925
Transfers from Water	11,552
	\$ 896,600


G. V. CARROLL

WWC-JPE

JRL (2)
JFF (Stat. Refg.)

Attachments

ARP

REC

WA-TEX 008972

WA-TEX008972

PLANT LABOR AND CONTRACT WORK
ESTIMATED OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

Line No.	Activities	L A B O R						Contract Work		
		Barrels	Operators-Ex. Number	Employees	Ex. I&T \$ Amt.	I&T \$ Amt.	Maint. \$ Amt.	Total \$ Amt.	I&T	Maint. Total
1	VPS	23,617,000	14.0	(1)	128,000	15,600	63,500	207,100	64,200	8,100
2	Decarbonizer						24,800	24,800		3,800
3	FGCU	9,099,000	18.0		149,000	35,500	89,200	273,700	150,000	13,000
4	Poly (Bbls. Polym.)	549,000	7.0		64,000	3,900	39,700	107,600	17,100	4,800
5	Catalytic Reforming	3,168,000	7.0		64,000	7,800	29,700	101,500	17,100	3,200
6	Alky (Bbls. Alkylate)	1,190,000	7.0		64,000	10,200	29,700	103,900	12,800	4,300
7	Hydrotreating	10,094,000	7.0		64,000	7,800	14,900	86,700	25,700	2,300
8	Shipping Bulk	22,411,000(2)	20.0		170,000		39,700	39,700		6,000
9	RP&S		0.5		3,800		89,200	259,200		31,600
10	ES&W		0.5		3,800			3,800		
11	Waste Oil Recovery									
12	Total Direct	21,833,000	81.0		710,500	80,800	420,400	1,211,800	286,900	77,100
13	S.P. & W.		13.0		104,000		133,900	237,900		2,000
14	Indirect Plant		(3)14.0		117,000		437,300	554,300		66,000
15	GRAND TOTAL		108		931,600	80,800	991,600	2,004,000	286,900	145,100
										432,000

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

QVC-JPE 2-16-67

JHL (2)

JFF (Stat. Refg.)

MATERIAL, MISCELLANEOUS EXPENSE AND FUEL CONSUMED
ESTIMATED OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

Line No.	Description	Material		Miscellaneous Expense	Total Gas Std. Bbls.	Fuel Consumed	
		I&T	Maint.			Liquid Std. Bbls.	Total Fuel \$ Amount
1	VPS	12,000	44,100		273,010	24,902	537,050
2	Decarbonizer		22,300		27,314		51,050
3	FOCU	50,000	76,200	(896,600)	98,567	143,028	338,159
4	Poly (Bbls. Polymer)	1,000	26,600				
5	Catalytic Reforming	3,500	26,400		128,240	24,902	266,475
6	Alky (Bbls. Alkylate)	4,000	19,400				
7	Hydrotreating	6,000	22,200		281,029		525,243
8	Shipping Bulk		26,600				
9	RP&S		68,300				
10	BS&W		1,000				
11	Waste Oil Recovery		1,000				
12	Total Direct	76,500	334,100	(896,600)	808,160	192,832	1,717,977
13	SP&W		79,800	1,302,200	197,133	286,056	676,418
14	Indirect Plant		200,000	210,800	2,999		5,605
15	GRAND TOTAL	76,500	613,900	616,400	1,008,292	478,888	2,400,000
				Gas Produced	Std. Bbls.	\$/Bbl.	Amount
				Liquid Fuel	945,662	1.82	1,721,105
				Purchased Gas	478,888	1.076	515,283
					62,630	2.610	163,612
				TOTALS	1,487,180	1.614	\$2,400,000

WA-TEX 008974

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1967
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								
2	Anti-Foam DC-200 Lbs.	700	1,500					13,430	319,000
3	Catalyst: -								
4	HDS-2 Hydrotreater - Lbs.								
5	Davidson XZ-25 - Tons			797.4	385,000				
6	UOP #1 Poly-Lbs.					112,400	30,300		
7	UOP-R-11 Platinum - Lbs.								
8	Caustic Soda - Lbs.			134,400	3,900	134,400	3,900	69,200	2,000
9	Monoethanolamine - Lbs.					27,200	8,100		
10	DeSai 960	6,110	13,000						
11	Sodium Chloride - Lbs.					14,900	200	345,800	5,400
12	Hydrogen - Cu. Ft.								
13	TOTAL		14,500		388,900		42,500		326,400

GVC-JPE 2-16-67

JRL (2)

JFF (Stat. Refg.)

WA-TEX 008975

WA-TEX008975

DETAILED DISTRIBUTION OF CHEMICALS CONSUMED
ESTIMATED CRUDE REFINING OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

LINE No.	CHEMICAL	HYDROTREATING		RP&S		CAT. REFORMING		TOTAL Amount
		Quantity	Amount	Quantity	Amount	Quantity	Amount	
1	Acid, Alky Sulfuric - Tons							319,000
2	Anti-Foam DC-200-Lbs.							1,500
3	Catalyst: -							
4	HDS-2 Hydrotreater - Lbs.	2,400	2,100					2,100
5	Davison XZ-25 - Tons							385,000
6	UOP #1 Poly - Lbs.							30,300
7	UOP-R-11 Platinum - Lbs.					18,800	56,400	56,400
8	Caustic Soda - Lbs.					69,200	2,000	11,800
9	Monocethanolamine - Lbs.							8,100
10	DeSal 960							13,000
11	Sodium Chloride - Lbs.			485,200	7,500			13,100
12	Hydrogen - Cu. Ft.	20,000	300			180,000	2,700	3,000
13	TOTAL		2,400		7,500		61,100	843,300

GVC-JPE 2-16-67

JRL (2)

JTF (Stat. Refg.)

WA-TEX 008976

STEAM, POWER, & WATER EXPENSES
ESTIMATED OPERATING EXPENSES - YEAR 1967
PUGET SOUND PLANT

Line No.		F U E L		Purchased Power	Purchased Water	Other Cost	Total SP&W	Total Plant
		Barrels	Amount					
1	VPS	135,600	199,300	25,600	23,800	88,300	337,000	1,396,000
2	Decarbonization	67,800	99,700	22,100	3,500	44,200	169,500	244,300
3	FCU	262,700	386,200	65,700	34,800	176,600	663,300	1,256,400
4	Polymerization	67,800	99,600	21,000	16,700	41,400	178,700	314,100
5	Catalytic Reforming	17,000	24,900	13,500	9,500	11,000	58,900	593,300
6	Alkylation	118,600	174,300	16,900	12,000	77,300	280,500	558,400
7	Hydrotreating	12,700	18,600	32,500	12,000	8,300	71,400	698,000
8	Shipping Bulk	4,200	6,200	7,800	600	3,000	17,600	69,800
9	RP&S	67,600	99,400	29,200	1,800	49,600	180,000	558,400
10	BS&W	4,200	6,200	2,200	600	3,000	12,000	17,400
11	Waste Oil & Recovery	7,900	11,600	500	600	3,000	15,700	20,900
12	TOTAL	766,100	1,126,000	237,000	115,900	505,700	1,984,600	5,727,000
13	S.P. & W.						(2,203,500)	0,000
14	Indirect Plant	81,592	119,900	49,400	3,300	46,300	218,900	1,259,000
15	GRAND TOTAL	847,692	1,245,900	286,400	119,200	552,000	0,000	6,986,000

WA-TEX 008977

WA-TEX008977

STEAM, POWER & WATER EXPENSES
ESTIMATED OPERATING EXPENSES YEAR 1967
PUGET SOUND PLANT

Distribution	Steam	Power	Water	Total
Fuel - Barrels	841,758		5,934	847,692
Fuel - Cost	1,235,932		9,968	1,245,900
Purch. - Power	34,368	189,024	63,008	286,400
Purch. - Water	11,920		107,280	119,200
Other Cost	485,752	2,400	63,848	552,000
TOTAL COST	1,767,972	191,424	244,104	2,203,500

AVG. Steam Cost/ M Lbs.
AVG. Power Cost/ KW
AVG. Water Cost/ M Gals.

\$.311022

\$.0049896

\$.231138

Purchased Utility Rates

* Last Increment of Power / KW
Last Increment of Water / M Gal.

\$.000000

\$.039000

SP&W Fuel Summary

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

Barrels 483,189
Barrels 364,503

TOTAL SP&W FUEL TO DISTRIBUTE

Barrels 847,692

* 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.

QVC-JPE 2-16-67

JRL (2)

JFF (Stat.-Refg.)

WA-TEX 008978

WA-TEX008978

WA-TEX 008979