



Northern Pacific Railway Company.
Engineering Department Records.

Copyright Notice:

This material may be protected by copyright law (U.S. Code, Title 17). Researchers are liable for any infringement. For more information, visit www.mnhs.org/copyright.



N. P. 1757
6-24

OFFICE OF ASST. CHIEF ENGINEER

FILE NO.

922-1-A

SUBJECT:

Ice Treating Plant

Seattle

Data in connection with Contract

West Coast Wood Preserving Co

See File 922-1 for Contract File

1936.

Indiana Empire Dies

Wm Logan figures

Green Dies - 125 lbs each

Brass Dies - 130 " "

15 yrs

1926-36

1937-41

Contract payments for this	655.142	233.100
" " " other mail	<u>170.535</u>	<u>58.400</u>
Total	825.677	291.500
Contractor's Oflg. Costs	356.792	179.715
Amortization of Plant in 15 year	200.000	100.000
Aggregate Interest @ 6% per	126.000	18.000
Total	<u>682.792</u>	<u>297.715</u>
Profit	142.885	< 6.215 >

444
399
45

69885
111785
181670
45
136670

96
69885
27

28585
95150
123735
45
78735

- (1) Profit on Cross Ins. 3858.514
 (2) " " New Ins. 11.161M.
 (3) " " Lh. Premiums. 9.740M
 Average Profit per year

78735
14.397
43.538
136670
9111

- (2) Profit first 10 years
 " second 10 "
 Total

142.885
6215
136670

1926 - 36

1937 - 41

Profit Amort 10 year.

69885

111785

" " 15 year.

+ 73000

142885

<118000>

<6215>

181670

Northern Pacific Ry Co. ①

Statement A

Appropriate estimates of costs to the Contractor for treating cross ties under proposed new contract at Seattle for the number of ties required for 10 year period as outlined in statement #10 Sept 10-1936. (Paragraph 5.)

Contract price \$6.25 per M for complete treatment is equivalent to \$.2331 per tie (7x8-8') Assume average of 200,000 ties per year.

(A) Directly Assignable Items

① Unloading and stacking green ties	\$.01125
② Removing seasoned ties to conveyor	.00250
③ Conveyor work	.00250
④ Boring, adzing, mauling + charging retorts	.00900
⑤ Loading and treated ties for shipment	.00625
⑥ Fuel - Steam, power	.02000
⑦ Plant labor - operation + repairs	.02100
⑧ Material + Supplies, track + bldg. maint.	.02385
Sub total	\$.09635

Directly Assignable Taxes

① State Ind. Tax + Workman Compensation .0215 per hr.	.0017
② Federal Social Security Act 2.1% of Labor	.0011
③ Business & Occupational Tax 1/4% Gross Business	.0008
Sub total	.0036

General Overhead etc

① General and Plant Supervision	.0180
② Taxes on Plant	.0180
③ Insurance on plant	.0020
	.0380
Sub. Total	

(D) Overhead - Investment Costs (Interest 6% depreciation 5%)

① Amortization of plant * 300,000 in 20 years	.07500 ✓
② Interest on Investment 300,000 @ 6%	.04324 ✓
Sub Total	.11824

(E) Overhead - Investment Costs (Interest 5% depreciation 3%)

① Amortization of plant * 300,000 in 33 years	.045000 ✓
② Interest on Investment 300,000 @ 5%	.042375 ✓
Sub Total	.087375

Summary (Interest 6% depreciation 5%)

A) Directly Assignable Items	\$.09635
B) Directly Assignable Taxes	.00360
C) General Overhead + etc	.03800
D) Overhead - Investment Costs	<u>.11.824</u>
Total Costs	.25619
Payments received	<u>.23310</u>
Loss	\$.02309
Loss percent of cost	9.02%

Summary (Interest 5% depreciation 3%)

A) Directly Assignable Items	\$.09635
B) Directly Assignable Taxes	.00360
C) General Overhead + etc	.03800
E) Overhead - Investment Costs	<u>.08738</u>
Total Costs	.22533
Payments received	.2331
Profit	\$.00777
Profit percent of cost	.34%

Note - In each case the first ten years interest and amortization charges are allocated to the ^{first} ten year

Period ending Dec. 31-1936
Asst. Chief Eng.
St. Paul Min.
Oct. 23-1936

① Northern Pacific Ry Co. Statement A-1
 Estimated Segregation of Costs to Contractor on treating
 material at Seattle Plant, for cross ties only. Based on
 average of 300,000 pcs 7x8-8' tie equivalents. This is a
 restatement of Statement N-6 Sept. 17-1936 for different
 bases of amortization and interest charges. (Paragraph 6)

Contract price $\$6.50$ per M for 12 hr treatment is equivalent to $\$.243$
 per tie (7x8-8').

Actual price paid contractor for treatment of all cross ties to
 Aug 1-1936 was $\$.2600$ per tie covering all additional charges ^{for overtime}.

A) Directly Assignable Items

① Unloading and stacking green ties	$\$.01125$
② Running seasoned ties to conveyor	$.00250$
③ Conveyor work	$.00250$
④ Boring, adzing, incising and charring retorts	$.00900$
⑤ Loading out treated ties for shipment	$.00625$
⑥ Fuel - steam, power	$.02000$
⑦ Plant labor, -operation + repairs	$.02100$
⑧ Material + Supplies, track and bldg. maintenance	$.01590$
Sub Total	$\$.08840$

B) Directly Assignable Taxes

① State Industrial Tax + Workmen's Compensation .0215 per hr.	\$.0017
② Federal Social Security Act 2.1 % of Labor	.0011
③ Business + Occupational Tax $\frac{1}{4}$ % on Gross Business	.0008
Sub Total	<u>\$.0036</u>

C) General Overhead + etc

① General + Plant Supervision	\$.0120
② Taxes on plant	.0120
③ Insurance on Plant	.0010
Sub Total	<u>\$.0250</u>

D) Overhead - Investment Costs (Interest 6% Depreciation 10%)

① Amortization of plant \$300,000 in 10 years	\$ 1000
② Interest on Investment \$300,000 @ 6 %	.0330
Sub Total	<u>\$ 1330</u>

E) Overhead - Investment Costs (Interest 6% Depreciation 5%)

① Amortization of plant \$300,000 in 20 years	\$.05000
② Interest on Investment 300,000 @ 6 %	.04815
Sub Total	<u>\$.09815</u>

F) Overhead - Investment Costs (Interest 5% Depreciation 3%)

① Amortization of plant \$300,000 in 33 years	\$.03000
② Interest on Investment \$300,000 @ 5 %	.04325
Sub Total	<u>\$.07325</u>

(3)

Summary (Interest 6% Depreciation 10%)

(A) Directly Assignable Items	\$.08840 ✓
(B) Directly Assignable Taxes	.00360 ✓
(C) General Overhead & etc	.02500 ✓
(D) Overhead - Investment Costs	.13300 ✓
Total Costs	<u>\$.25000 ✓</u>
Payments received	.26000 ✓
Profit	<u>\$.01000 ✓</u>
Profit Percent of ^{Total} Cost	4% ✓

Summary (Interest 6% Depreciation 5%)

(A) Directly Assignable Items	\$.08840 ✓
(B) Directly Assignable Taxes	.00360 ✓
(C) General Overhead & etc	.02500 ✓
(E) Overhead - Investment Costs	.09815 ✓
Total Costs	<u>.21515 ✓</u>
Payments Received	.26000
Profit	<u>\$.04485 ✓</u>
Profit Percent of ^{Total} Cost	20.8% ✓

Bonding (Interest 5% Amortization 3%)

(A) Directly Assignable Dues	\$0.8840 ✓
(B) Directly Assignable Taxes	.00360 ✓
(C) General Overhead etc	.02500 ✓
(F) Overhead Investment Costs	.07325 ✓
Total Costs	\$1.9025 ✓
Payments received	\$2.6000 ✓
Profit	\$0.6975 ✓
Profit percent of Cost	36.6% ✓

Note - In each case the first ten years interest and amortization charges are allocated to the period in question, namely ten year period ending Dec. 31 - 1936.

Asst. Chief Clerk
St. Paul Minn
Oct. 23 - 1936

Northern Pacific Ry. Co. ^① Statute B

Approximate estimates of total profit to the Contractor for treating W.P. material under existing and proposed contracts (Paragraph 7)

A) Profits under present Contract expiring Dec. 31-1936

① Based on Interest 6% Depreciation 10% of \$300,000 Investment

(a) Profit on Cross ties 2,858,514 pcs @ 1¢	\$28,585
(b) Profit on Switch Ties 8,661 M ft. BM @ \$1.29	11,172
(c) Profit on Lumber + Piling 6,740 M ft. BM @ \$4.47	30,128
Total	\$69,885
Profit Per Year	\$6,988

② Based on Interest 6% Depreciation 5% of \$300,000 Investment

(a) Profit on Cross ties 2,858,514 pcs @ \$.04485	128,204 ✓
(b) Profit on Switch Ties 8,661 M ft. BM @ \$2.32	20,093
(c) Profit on Lumber + Piling 6,740 M ft. BM @ \$5.40	36,396
Total	\$184,693
Profit Per Year	\$18,469

~~46 116~~
~~13 950~~
~~60 0 6 6~~
~~32 9 40~~
~~9 3 0 0 6~~

③ Based on Interest 5% Depreciation 3% of 300,000 Investment

(a) Profit on Cross ties 2,858,514 pcs @ .06975	\$ 199,381
(b) Profit on Switch ties 8,661 M @ 2.98	25,809
(c) Profit on Lumber + Piling 6,740 M @ 6.06	40,844
Total	\$ 266,034
Profit Per Year	\$ 26,603

③ Profit under Proposed Contract - Amount of material \$8210

① Based on Interest 6% Depreciation 5% of 300,000 Investment

(a) Loss on Cross ties 1,997,000 @ .02309	\$ 46,116.
(b) Profit on Switch ties 5,000 M @ 2.79	13,950.
(c) Profit on Lumber + Piling 6,000 M @ 5.49	32,940
Total	\$ 774
Profit Per Year	\$ 77.40

② Based on Interest @ 5% Depreciation @ 3% of 300,000 Investment

(a) Profit on Cross ties 1,997,000 @ .00777	\$ 15,515
(b) Profit on Switch ties 5,000 M @ 2.79	13,950
(c) Profit on Lumber + Piling 6,000 M @ 6.32	37,920
Total	\$ 67,385
Profit per Year	\$ 6,738

Note - Under heading (B) Profits under proposed Contract the Overhead - Investment Costs have all been absorbed by the stem cross ties (Statement A) because the data on probable use of snitch tree timber and piling for the ten year period is more indefinite than on cross ties. The net result however would be the same as though these charges had been spread uniformly over all the product. The divisions of profit as accruing to snitch trees, lumber and piling are, in the absence of data on unit handling costs, interpolated from cross tie costs and are therefore not accurate or reliable.

Asst. Chief Eng.

St. Paul Minn.

Oct. 27-1936

Northern Pacific Ry. ① Statment No C

Approximate results to G. N. and National Pole and Treating Co. operating under five year contract dated June 1 1936 effective May 1-1937

This is a restatement of Statment No 13 dated Sept. 17-1937⁶

(Paragraph 9)

A Results to G. N. based on average 7+8-8'

<u>Costs to G. N.</u>	<u>Per Tie</u>
① Taxes on plant	\$.0120 ✓
② Insurance on plant	.0010 ✓
③ State Industrial Tax + Workmens Compensation	.0017 ✓
④ Federal Security Tax + Business + Occupational Tax	.0019
⑤ Total Taxes	<u>\$.0166</u>
⑥ Contract payment @ 8.96 per M RBM	\$.3319
⑦ Total Cost Taxes and Contract unit prices	<u>\$.3485</u>
⑧ G. N. Plant Investment \$500,000 @ 5% coverage = 12,625	.0243
⑨ G. N. Plant Amortization 500,000 @ 3% = 15,000	.0264
⑩ G. N. Grand Total Cost	<u>\$.3992</u>
⑪ Credit Rental received \$35,000	.0622
⑫ Net Cost to G. N.	<u>\$.3370</u>
⑬ N. P. Cost, Seattle (new contract)	\$.2331
Increased Cost to G. N.	<u>\$.1039</u>
Increase	44.56%

(2)

B Results to Contractor

① Unloading + stacking green ties	.01125
② Removing seasoned ties to conveyor	.00250
③ Conveyor work	.00250
④ Sorting, adzing, and charging retorts	.00900
⑤ Loading and treated ties for shipment	.00625
⑥ Fuel, steam + power	.02000
⑦ Plant labor, operation + repairs	.02100
⑧ Material and supplies	.01500
⑨ Maintenance of yard tracks 6 miles, \$3,500	.00311
⑩ Total direct costs	\$.09061
⑪ Interest + dep. on cranes + locomotives \$60,000 @ 10% 6,000	.01639
⑫ General and plant expense - \$22,000	.03588
⑬ Sub Total	\$.14588
⑭ Rental payment to G.N. \$25,000	.06220
⑮ Grand Total Cost to Contractor	\$ 20808
⑯ Receipts from G.N. @ \$8.96 per M. P. B.M.	.33190
Profit	\$.12382
Profit percentage of Total Cost	59.48%

Asst Chief Engineer.
St. Paul Minn
Oct. 26-1936

Northern Pacific Ry Co Statement &
 Comparison of average yearly costs for
 domestic and foreign creosote, computed
 on basis of creosote costs delivered in storage
 tanks at Seattle Plant. Mixture treatment
 45% creosote 55% petroleum. Average tie requires
 1.35 gal creosote 1.65 gals petroleum. (Statement No 7) (Paragraph #12)

- | | |
|---|-----------|
| ① Treating 300,000 pcs Cross ties @ 1.35 gals Domestic @ \$15/23 = | \$ 61,248 |
| ② Treating 300,000 pcs Cross ties @ 1.35 gal Foreign @ \$13.26 = | \$ 53,703 |
| ③ Increased Cost Domestic Creosote | \$ 7,545 |
| ④ Increased Cost Domestic Creosote based
on treating 200,000 pcs Cross ties = | \$ 5,030 |
| ⑤ Increased Cost Domestic Creosote based
on treating 100,000 pcs Cross Ties | \$ 2,515 |
| ⑥ Increased Cost Domestic Creosote per MFBM | \$.674 |
| ⑦ Increased Cost Domestic Creosote per Average Tie | \$.02515 |
| ⑧ Approximate Total Increased Cost of using Domestic
Creosote on estimated total forest products
for the year period (Statement #10 Sept 10-1936) | \$ 57,664 |

Asst. Chief Engr
 St Paul Minn
 Oct. 22-1936

① Northern Pacific Ry Co. Statment D-1

Abstract of some orders placed by the A.T. & S.F. Ry Co during Jan'y 1936 for delivery of creosote to their specifications dated Sept. 29-1931. This specifies a maximum residue of 20% above 355° Centigrade.

① Order placed 1-18-36 Bernuth Lemcke, foreign creosote oil. 1,000,000 gals delivered into storage tanks at Natimil City near San Diego Cal. @ .1390 per gal.

② Order placed 1-18-36 with Barnett Co. Chicago for 1,000,000 gals delivered into storage tanks at Galveston Tex. Domestic creosote @ .12886 per gal.

③ Order placed with Rilly Tar & Chemical Co Chicago 500,000 gal. domestic creosote delivered into Fanta 7E tank cars F.O.B. Cornwith Ill. @ .13021 per gal.

④ Order placed Jan 18-1936 with Inland Tar Co.
Chicago 500,000 gal domestic creosote into Santa Fe
tank cars at Comith Ill. @ \$13059 per gal.

⑤ Order placed 1-18-36 with Colorado Fuel & Iron
Co. Chicago 160,000 gal domestic creosote into
Santa Fe tank cars at Minequa Colo.
@ \$1325 per gal.

Note - No prices taken for 1937 requirements

Asst. Chief Engr.
St. Paul Minn.
Oct 23-1936

① Northern Pacific Ry Co. Statement E

Approximate annual cost comparisons of treated and untreated crossties. Based on Coast Douglas Fir treated at Seattle under proposed contract. Average tie life taken from actual and projected test track data. (Paragraph #16)

(A) Unit Costs of Ties

	Untreated Ties		Treated Ties	
	No 4	No 5	No 4	No 5
① Purchase Price @ \$12.00/M	\$.4480	\$.5355		
② Sales Tax 2% on 75%	.0067	.0080		
③ Haul on ties @ .003	.0278	.0333	—	—
④ Cost of Tie, treatment and hauls	—	—	\$.9908	1.1812
⑤ Total Cost of Ties	\$.4825	.5768	.9908	1.1812
⑥ Cost of Placing Tie in track	\$.4000	.4000	.4000	.4000
⑦ Total Cost of Ties in place	\$.8825	\$.9768	1.3908	1.5812
⑧ Average Cost ^{per year} 8 year untreated, 25 years treated	\$.1103	\$.1221	\$.0556	\$.0632
⑨ Increased Cost	\$.0547	\$.0589	+	—
⑩ Increased Cost %	98.4%	93.1%		
⑪ Average cost per year untreated 20 year build	.1103	.1221	.0695	.0740
⑫ Increased Cost	.0408	.0481		
⑬ Increased Cost Percent	58.7%	65.0%		

Main line Tacoma Div. (563 track miles)

① Increased Cost per mile = $32 \times 9 + .0556 = 191.37$ per year

② Increased Cost on Division $563 \times 191.37 = 107,741$ per year

(2)

(B) Approximate Cost Comparisons - Tract Miles & Districts

- ① Standard Main Tract 24x5 ties per panel = 3250 per mile.
- ② No 4 tie 7x8-8" assumed to be the average tie size for average of all tracks.
- ③ Annual cost untreated Douglas fir No 4 tie in place assumed @ \$.8825 for 8 year average life = \$.1103
- ④ Annual cost of untreated Douglas fir No 5 tie in place assumed @ \$.9768 for 8 year average life = \$.1221
- ⑤ Annual Cost of treated Douglas fir No 4 tie in place assumed @ 1.3908 for 25 year average life = \$.0556
- ⑥ Annual cost of treated Douglas fir No 4 tie in place assumed @ 1.3908 for 30 year average life = \$.0695
- ⑦ Annual Cost of treated Douglas fir No 5 tie in place assumed @ 1.5812 for 25 year average life = \$.0632
- ⑧ Annual Cost of treated Douglas fir No 5 tie in place assumed @ 1.5812 for 20 year average life = \$.0740

(a) Comparisons for 1 mile Standard Main Line Tract

- ① Decreased cost for No 5 treated ties average life 25 years
 $= (.1221 - .0632 = .0589) \times 3250 = 191.47$
- ② Decreased cost for No 5 treated ties average life 30 years
 $= (.1221 - .0740 = .0481) \times 3249 = 156.33$
- ③ Decreased cost Main line tract Tacoma Div 25 year life
 $= 563 \text{ miles} \times 191.47 = 107,798$

④ Decreased Cost main line track Tacoma Dr 20 year
life = $563 \times 156.33 = \$88,014$

(b) Comparisons for all tracks Tacoma Dr (Seattle Plant) N°4 Gauge ties

① Decreased Cost N°4 treated tie average life 25 years
= $(.1103 - .0556 = .0547) \times 4,883,448 \text{ ties} = \$267,125$

② Decreased Cost N°4 treated tie average life 20 years
= $(.1103 - .0695 = .0408) \times 4,883,448 \text{ ties} = \$199,245$

⑤ Comparisons for all tracks Territory Tributary to Paradise Plant
3655 track miles 9,961,324 ties N°4 average the same cost as (b)

① Decreased Cost N°4 treated tie average life 25 years
= $(.1103 - .0556 = .0547) \times 9,961,324 = \$544,884$

② Decreased Cost N°4 treated tie average life 20 years
= $(.1103 - .0695 = .0408) \times 9,961,324 = \$406,422$

⑥ Comparisons for all tracks Territory Tributary to Branched Plant
4230 track miles 11,431,548 - N°4 average the same cost as (b)

① Decreased Cost N°4 treated tie average life 25 years
= $(.1103 - .0556 = .0547) \times 11,431,548 = \$625,806$

② Decreased Cost N°4 treated tie average life 20 years
= $(.1103 - .0695 = .0408) \times 11,431,548 = \$466,407$

(4)

(e) Comparisons resulting from using untreated ties throughout in the future. Based on one $N^{\circ} 4$ tie. Average annual rates 8 year life $12\frac{1}{2}\%$ 20 year life 5%, 25 years life 4%.

① Decreased Costs per year for all tracks tributary to Seattle Plant for average life 25 years =

$$4\% \text{ of } 4,883,448 = 195,338 \times (1.3908 - .8825 = .5083) = \$99,290$$

② Decreased Costs per year for all tracks tributary to Seattle

Plant for average life 20 years = 5% of 4,883,448 ties

$$= 244,172 \times (1.3908 - .8825 = .5083) = \$124,113$$

③ Decreased Costs per year for all tracks tributary to Paradise Plant for average life 25 years =

$$4\% \text{ of } 9,961,324 = 398,453 \times (1.3908 - .8825 = .5083) = \$202,534$$

④ Decreased Costs per year for all tracks tributary to Paradise

Plant for average life 20 years =

$$5\% \text{ of } 9,961,324 = 498,066 \times (1.3908 - .8825 = .5083) = 253,167$$

(5)

⑤ Decreased Costs per year for all tracks tributary to Brumid Plant for average life 25 years = 4% of 11,431,548
 $= 457,262 \times (1.3908 - .8825 = .5083) = \$232,426$

⑥ Decreased Costs per year for all tracks tributary to Brumid Plant for average life 20 years = 5% of 11,431,548
 $= 571,577 \times (1.3908 - .8825 = .5083) = \$290,533$

Summary Results based on continued use of Treated Ties ^{Decreased Costs}

	Ties Treated	Renewals per year		Average Life Treated Ties		
		untreated	Treated 25 year	Treated 20 year	25 years	20 years
① Seattle Plant	1828	610,431	195,338	244,172	\$267,125	\$199,245
② Paradise Plant	2655	1,245,161	398,453	498,066	544,884	406,422
③ Brumid Plant	4230	1,428,943	457,262	571,577	625,306	466,407
④ Totals	9,713	3,284,540	1,051,053	1,313,815	\$1,437,315	\$1,072,074

Note - Cost of total system ties only average @ 4.78-8
 untreated @ \$4425 \times 3,284,540 = \$1,453,409. for 25 year
 life @ 4 treated ties @ \$.9908 \times 1,051,053 = \$1,041,383
 for 20 year treated life = \$.9908 \times 1,313,815 = \$1,301,728.

Sunny(B) Results based on reversion to use of Untreated Ties

	Mils Tied	Yearly Tie Renewals		Decreased Costs	
		25 year life	20 year life	Average life Treated Ties 25 years	20 years
① Seattle Plant	1828	195,338	244,172	\$ 99,290	\$ 124,113
② Paradise Plant	3655	398,453	498,066	202,534	253,167
③ Branford Plant	4230	457,262	571,577	232,426	290,533
④ Total	9713	1,051,053	1,313,815	\$ 534,250	\$ 667,813

Note - The figures for annual renewals and decreased Costs under Sunny(B) reversion to use of untreated ties would hold approximately for the first 8 year period after which this cycle would require progressive renewals at a rate of $12\frac{1}{2}\%$ because we are dealing with average life periods. After the first 8 year period there would still be 17 years of treated ties to be renewed showing the same results by 8 year periods but the untreated tie renewal costs of the first 8 year period repeated would eventually wipe out the apparent costs.

In order to avoid the vast amount of work required to take into consideration

(7)

the effect of differences in cost of ties and treatment as well as the differences in average life of ties we have projected the results for the system from the differences disclosed by the Seattle Plant. These foregoing rough assumptions explain ^{to some extent} the differences between the predicted tie removals and the actual removals made in recent years.

Asst. Chief Eng.
St. Paul Minn.
Oct. 29-1936

COMPARATIVE ANNUAL COST OF UNTREATED AND TREATED No. 5 COAST DOUGLAS FIR
TIES. Based on treating costs under proposed contract at
Seattle

	<u>Untreated</u>	<u>Treated</u>
Total Cost in Place	\$.9768	\$1.5812

Average Years Life

Cost per Year

1	.9768	1.5812
2	.4884	.7906
3	.3256	.5271
4	.2442	.3953
5	.1954	.3162
6	.1628	.2635
7	.1395	.2259
8	.1221 (a)	.1977
9	.1085 (b)	.1757
10	.0977 (c)	.1581
11	.0888	.1437
12	.0814	.1318
13	.0751	.1216 (a')
14	.0666	.1129
15	.0651	.1054 (b')
16	.0610	.0988 (c')
17	.0515	.0930
18		.0878
19		.0832
20		.0791
21		.0753
22		.0719
23		.0687
24		.0659
25		.0632
26		.0608
27		.0586
28		.0565
29		.0545
30		.0527

Asst. Chief Engineer
St. Paul, Minnesota
October ~~21~~, 1936
23-1936

Note - (a) average yearly cost of the 8 year average
life gives same average annual cost of treated
tie lasting 13 years (a') 9 years same as (b') 15 years
(c) 10 years same as (c') 16 years.

Northern Pacific Ry Co. Statment - E-2

Comparative annual costs of untreated 7" x 5" Coast Douglas Fir ties and treated ties of variable treatment costs.

	Untreated Cost	Treatment @ 6.25 M	Treatment 6.00 M	Treatment 5.50 M	Treatment 5.00 M
Total Cost in Place	\$.9768	\$.5812	\$.5700	\$.5477	\$.5254
Average Years Life	Costs Per Year				
5	.1954	.3162	.3140	.3095	.3051
6	.1628	.2635	.2616	.2579	.2542
7	.1395	.2259	.2243	.2211	.2179
8	.1221 (a)	.1977	.1962	.1935	.1907
9	.1085	.1757 (b)	.1744 (b)	.1720 (b)	.1695 (b)
10	.0977	.1581	.1570	.1548	.1525
11	.0888	.1437	.1427	.1407	.1387
12	.0814	.1318	.1308	.1290	.1271
13	.0751	.1216 (a)	.1208 (a)	.1191 (a)	.1173 (a)
14	.0666	.1129	.1121	.1105	.1090
15	.0651	.1054	.1047	.1032	.1017
16	.0610	.0988	.0981	.0967	.0953
17	.0516	.0930	.0924	.0910	.0897
18	—	.0878	.0872	.0860	.0847
19		.0832	.0826	.0815	.0803
20		.0791	.0785	.0774	.0763
21		.0753	.0748	.0737	.0726

	6.75	6 ⁰⁰	5 ⁵⁰	5 ⁰⁰
	1.5812	1.5700	1.5477	1.5254
22	.0719	.0714	.0703	.0693
23	.0687	.0683	.0673	.0663
24	.0659	.0654	.0645	.0636
25	.0632	.0628	.0619	.0610
26	.0608	.0604	.0595	.0587
27	.0586	.0581	.0574	.0565
28	.0565	.0561	.0553	.0545
29	.0545	.0541	.0534	.0526
30	.0527	.0523	.0516	.0508

- ① Cost per main track mile per year untreated No 5 tie average life 8 years with treating cost @ ~~6²⁵~~ per M = $3250 \times .1221$ \$396.83
- ② Cost per main track mile per year treated No 5 tie average life 25 years with treating cost @ 6²⁵ per M = $3250 \times .0632$ \$205.40
- ③ Cost per main track mile per year treated No 5 tie average life 25 years with treating cost 6⁰⁰ per M = $3250 \times .0628$ \$204.10
- ④ Cost per main track mile per year treated No 5 tie average life 25 years with treating cost 5⁵⁰ per M = $3250 \times .0619$ \$201.18
- ⑤ Cost per main track mile per year treated No 5 tie average life 25 years with treating cost 5⁰⁰ per M = $3250 \times .061$ \$198.25

Asst. Chief Engineer
St. Paul Minn
Oct. 27-1936

Northern Pacific Ry Co Standard E-3

Estimated value of ^{treated} tie protection through adequate tie plates to increase average life from 20 years to 25 years. Treating cost taken at \$25 per M. Cost of 1805 treated Douglas Fir tie in place \$1.5812

- ① Annual cost mile main track 1805 tie average life 20 years: $3250 \times .0791$ 257.08
- ② Annual Cost mile main track 1805 tie average life 25 years: $3250 \times$ 205.40
- ③ Difference. \$51.68
- ④ Value difference @ 5% = $51.68 \times 20 =$ \$1033.60
- ⑤ Cost tie plates $7 \times 9 - 1 \text{ mile} = 3250 \times 2 = 6500$
 $6500 \times 8.68^{\#} = 56.420^{\#} = 28.21 \text{ tons @ } 45^{\text{c}}$ \$1269.45
- ⑥ Cost tie plates $7 \frac{1}{2} \times 10 \frac{7}{8} - 1 \text{ mile} = 3250 \times 2 = 6500$
 $6500 \times 12.8^{\#} = 83200^{\#} = 41.6 \text{ Tons @ } 45^{\text{c}}$ \$1872.00
- ⑦ Difference Increase \$602.55
- ⑧ Saving \$51.68 per year on \$602.55 increased cost = 8.5%

Asst. Chief Engr.
 St. Paul Minn
 Oct. 27-1936

Interest Calculations

Interest Rate 5% Depreciation 3% (33 years)

	Principal	Int	Dep
1	300,000	15,000	9000
2	291,000	14550	9000
3	282,000	14100	9000
4	273,000	13650	9000
5	264,000	13200	9000
6	255,000	12750	9000
7	246,000	12300	9000
8	237,000	11850	9000
9	228,000	11400	9000
10	219,000	10950	9000
		129,750	90000
11	210,000	10500	9000
12	201,000	10050	9000
13	192,000	9600	9000
14	183,000	9150	9000
15	174,000	8700	9000
16	165,000	8250	9000
17	156,000	7800	9000
18	147,000	7350	9000
19	138,000	6900	9000
20	129,000	6450	9000
		84,750	90000
21	120,000	6000	9000
22	111,000	5550	9000
23	102,000	5100	9000
24	93,000	4650	9000
25	84,000	4200	9000
26	75,000	3750	9000
27	66,000	3300	9000
28	57,000	2850	9000
29	48,000	2400	9000
30	39,000	1950	9000
31	30,000	1500	9000
32	21,000	1050	9000
33	12,000	600	9000
	3,000	150	9000

Interest Calculations

Interest Rate 6% - Depreciation 5% (20 years)

Year	Principal	Interest	Dep.
1	300,000	18,000	15,000
2	285,000	17,100	15,000
3	270,000	16,245	15,000
4	255,000	15,432	15,000
5	240,000	14,661	15,000
6	225,000	13,928	15,000
7	210,000	13,231	15,000
8	195,000	12,570	15,000
9	180,000	11,941	15,000
10	165,000	11,344	15,000
		144,452	150,000
11	150,000	10,772	15,000
12	135,000	10,238	15,000
13	120,000	9,726	15,000
14	105,000	9,240	15,000
15	90,000	8,778	15,000
16	75,000	8,339	15,000
17	60,000	7,922	15,000
18	45,000	7,526	15,000
19	30,000	7,150	15,000
20	15,000	6,792	15,000
		86,488	150,000

Cost Comparison

A Treated Tie Average life 25 years

① Cost of tie, treatment and Haul	\$.9908
② Cost of placement	40.00
③ Total cost in place	<u>13.908</u>
④ Average cost per year 25 year life	\$.0556

B Untreated Tie

① Cost of Douglas fir tie @ 12"	\$.4480
② Sales tax @ 2% on 75%	.0067
③ Haul 148 miles @ .003	<u>.0278</u>
④ Total cost	.4825
⑤ Cost of placement @ 8 years	<u>40.00</u>
	\$.8825
Average cost per year 8 year life	.1103
Includes cost. = .0547 =	

24 ties per 39 ft panel = $135.38 \times 24 = 3249$ ties per panel

Seattle Plant

10/30/36

Cost No 4 treated Coast for ^{back} at Paradise
to Tacoma Div = 1.4561 @ 25 year life
= \$.05824 Untreated No 4 tie annual
Cost = 1103 difference = 05206 per tie year

Tacoma Div Total Ties 4,883,448

Treated @ Seattle 4,883,448 @ .0547 = 267,124

Treated @ Paradise 4,883,448 @ .05206 = 254,232

difference. 12,892

Tacoma Dr - Seattle Plant 10/30/31

	<u>Miles</u>	<u>Ties</u>
Main Track M.L.	563	1,652,493
Arthur Track	1265	3,230,955
Total	1828	4,883,448 ave 2671 610,431

Paradise

Idaho M.L.	487	1,430,460
Doct M.L.	670	1,966,244
Yell	369	1,083,778
	<u>1526</u>	<u>4,480,482</u>

Idaho Sunday	1019	2,655,636
Doct M.L. "	663	1,690,540
Yell "	447	1,134,666
	<u>2129</u>	<u>5,480,842</u>

Grand Total	3,655	9,961,324 1,245,166
-------------	-------	------------------------

Grand

M.L.	1315	3,860,946
Sunday	2915	7,570,602
	<u>4230</u>	<u>11,431,548</u> 1,428,943

Duplex 9713

26,276 32

124,240 3,284,540

Seattle to Vancouver 175 miles $\frac{109}{29}$
36

Treated 8¢ tie = 130# = .065 Tons

175x = 11.375 Ton miles x .0015 = .0171

@ .003 = .0342

Difference in treating Cost

8.50 - 6.25 = 2.25 per M

.0373 x 2.25 = .084

Enroll to Vancouver
14¢

Tariff Rate Seattle Vancouver 13¢ per cord
= 2.60 per ton = .0148 per ton mile

.084 ÷ 11.4 = .00737 per ton mile

Treating in Transit

Haul from Ties 150 miles Treated 175 Total 325

325 x .065 Tons = 21.125 ton miles

The .084 ÷ 21.125 = .004 per ton mile.

Question 17.

At 1.35 Gallons per Tie
Treatment of 300,000 ties annually requires
405,000 gallons of Creosote.

405,000 Gallons of Domestic Creosote
delivered in N.P. Tank cars @ \$0.15173 = \$61,748.

405,000 Gallons of Foreign Creosote
delivered by boat @ \$0.1376 = 53,703.

Difference in Cost per Annum, favor Foreign at \$7,545.

Independent Storage facilities would have to be provided if we used Domestic Creosote at Seattle and we would have to stand loss due to sludging and evaporation. Experience at our own plants indicates this loss amount to about .005. On an annual investment of \$61,748. This amounts to \$306.24. This is avoided by our present practice of purchasing foreign oil and storing in common with supply of contractor.

Question 13.

A 50-50 mixture of creosote and petroleum is specified but it is also specified that the railway may from time to time change the proportions.

Originally a 50-50 mixture by volume was used but in 1979 this was changed to 45-55.

By weight 45% creosote and 55% petroleum is about equivalent to a 50-50 mixture by volume.

In present treatment with 45-55 mixture by volume the average absorption amounts to 3 gallons per ton or 1.35 gallons creosote and 1.65 gallons petroleum.

$$1 \text{ gal mixture or } 45 \text{ gal Creosote} = 8.33 \times 1.08 = 8.9964 = 4.04824$$

$$55 \text{ gal Oil} = 8.33 \times .95 = 7.9135 = 4.252425$$

$$\begin{array}{r} 16.91 \overline{) 8.9964} \\ \underline{8.455} \\ 5414 \\ \underline{5073} \\ 3410 \end{array}$$

$$53.2$$

$$\text{Oil Crd} = 51.93$$

$$\text{Creosote} = 48.07$$

$$16.9099$$

Seattle Treating Plant
Pasgh #12 Cevosato

10/27/36

Foreign Oil Seattle 1913-1932

Residue 9.5% to 2% avg below 20%

In same period during war ¹⁹¹⁴⁻¹⁹¹⁷ domestic
Crude ran as high as 64.65% generally above 40%

Tanks in ¹⁹³⁴⁻ 1936 Empress and Garpar oil
residue 12.7 to 17.01 Jap much lower
In 1934

In 1934 when market was difficult
purchased some domestic oil with residue
of 27.05%

N.P. export domestic oil 20% to 45%
Higher residue not so good production requires
higher pressures + temperatures. Torref values
higher. See statement D-1 Santa Fe prices
N.P. prices 1936 at Chicago Indiana Harbor
paid $12 \frac{3}{8}¢$ in N.P. cars Santa Fe $\$1.306$
Compared N.P. $\$12.375$ diff = $\$.00715 = 5.8\%$

Seattle Plant

10/27/36

- Paragraph #10

Hillyard Plant 14,400 M³/Bm @ 50¢ per unit

N. P. Car 20 M @ 3300 = 66,000#

66,000# @ 50¢ = \$330

Year 1935 84 x 330 = 27,720

6 mos 1936 96 x 330 = 31,680

July 1st to Aug 17 = 33 x 330 = 10,890

18 mos ending June 30-1936 \$59,400

Seattle Plant

10/27/36

Long Bell Lumber Co. Longview Wash

American Natural Lumber + Creosoting Co

July 1926 withdrawn because not
being able to meet sum of 750,000 per
year

Long Bell + Nat higher than Coleman
predicated on cost of new plant

3) 500 (1.6 to 2.5 times
3
20

①

Paradise Plant Year 1929 10/27/36

Cross ties 621,349 ps 24,483,952 M/M

Total Cost = \$ 227,798

Prunella + F.M. = 139,844

Other Costs = 87,954 = 3.59 per M

Swirl ties 1035928 M

Total Cost = \$ 10,062

Prunella + F.M. = 6302

Other Costs = \$ 3,760 = 3.63 per M

1933 Lumber

Lumber 189,600 M^r

Total Cost 3883

Prunella + F.M. 1180

Other costs 2703 = 14.37

1930 Pruned Lumber

Lumber 45613 M

Total Cost 449.00

Prunella + F.M. 290

Other costs 159.00

① ^{Curran} ~~Print~~ Seattle Treating Plant

① 10/26/36

① Statement A-1 Int 6% Sep 10%
Profit per tie $37\frac{1}{3} \text{ BM} = .01 = .267 \text{ per M}$

② Statement A-1 Int 6% Sep 10%
Profit per tie $.04485 \text{ per tie} = 1.1975 \text{ per M}$

③ Statement A-1 Int 5% Sep 3%
Profit per tie $.06975 \text{ per tie} = 1.862$

Assume Switch ties cost \$1.50 per M more than average

① Cost Switch ties $6.50 - .27 = 6.23 + 1.50 = 7.83$

② " " $6.50 - 1.20 = 5.30 + 1.50 = 6.80$

③ " " $6.50 - 1.86 = 4.64 + 1.50 = 6.14 \checkmark$

Assume Lumber Cost \$4.00 per M more than average

① Cost Lumber $6.50 - .27 = 6.23 + 4.00 = 10.23$
② Cost " $6.50 - 1.20 = 5.30 + 4.00 = 9.30$
③ " " $6.50 - 1.86 = 4.64 + 4.00 = 8.64$

$\left\{ \begin{array}{l} 4012 \text{ M Piling cost} \\ 52,901 = 13.18 \text{ per M} \\ 92021 = 14.70 \\ \hline 6740 \end{array} \right.$

Assume Piling Cost \$4.00 per M more than average

① Cost Piling $6.50 - .27 = 6.23 + 4.00 = 10.23$

② Cost Piling $6.50 - 1.20 = 5.30 + 4.00 = 9.30$

③ Cost Piling $6.50 - 1.86 = 4.64 + 4.00 = 8.64$

⑥ Proposed Contract

⑦ 10/26

① Statement A Int. 6% slip 5%

Profit per 1000 lbs $37\frac{1}{2}\%$ = $.02309 = .6165$ per M

② Statement A Int 5% slip 3%

Profit per 1000 lbs = $.00777 = .2095$ per M

ⓑ Proposed Contract

10/26

① Statment A Out 6% keep 5%

$$\text{Loss Per tie } 8^{\circ} 4 \text{ } 37.33 = .02309 = .62 \text{ per M}$$

② Statment A Out 5% keep 3%

$$\text{Profit Per } 8^{\circ} 4 \text{ Tie} = .00777 = .21 \text{ per M}$$

Assume Surt ties cost 1.50 per M more than cost ties

$$\text{① Cost Surt Ties } 6.25 - 3.16 + .62 + 1.50 = 5.21 \text{ from } 8^{\circ} = 2.79$$

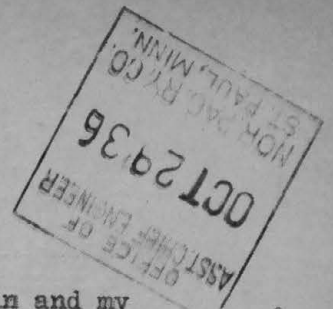
$$\text{② Cost Surt ties } 6.25 - 2.33 - .21 + 1.50 = 5.21 \text{ from } 8^{\circ} = 2.79$$

Assume Lumber Cost 4.00 per M more than ties

$$\text{① Cost of lumber } 6.25 - 3.16 + .62 + 4.00 = 7.71 \text{ from } 13.20 = 5.49$$

$$\text{② Cost of lumber } 6.25 - 3.16 - .21 + 4.00 = 6.88 \text{ from } 13.20 = 6.32$$

Paradise, Mont.,
October 27th, 1936



Mr. L. Yager:

In reading over your wire Y-379 again and my answer, in connection with revenue shipments from the treating plant at Seattle over the ~~three~~ four competitive lines serving Seattle, it seems to me that I have not been entirely clear in my answer. I am therefore restating some of the conditions in this letter.

The Union Pacific has nothing treated entirely for their own use at either plant at any time, and I cannot remember when any of their own material has been treated. I would say with confidence that nothing has been done at either plant for this Road since the duration of our contract with the Seattle plant.

In so far as the plant has control of the routings of revenue cars, the management has endeavored to divide the haul between the Northern Pacific and the Milwaukee in proportion to the amount of work given the plants by the two roads. I believe that the situation has been more favorable to the Northern Pacific in the last couple of years from the Seattle plant than to the Milwaukee and that the statement furnished you from inspection of their records is fairly representative of what the two roads have received in the last couple of years and what they will receive, unless other influences are brought to bear.

It would seem to me at this time, that the management of the West Coast has control of approximately 25% of the routings of revenue cars. This control is brought about lack of proper instructions as to the routings on orders furnished the plant for treated material. Generally an order for treated material actually specifies the routings to be followed in making the shipments, but when this routing is not specified the West Coast makes the selection itself. In this routing, the management is guided both by the location of the destination and by the desire to divide fairly its haul between the Milwaukee and the Northern Pacific. I have been told by the plant superintendent that no car of revenue haul is ever routed by the West Coast over either the Union Pacific or the Great Northern when it has control of the routing. This situation is brought about, of course, by the competition with the privately leased plants at Hillyard and the Dalles.

I believe that this covers the situation as well as possible at this time.

E. H. Jenkins
Asst. Gen. Supt. Tim. Pres.

CC-AJL

T E L E G R A M

104 MD N

PARADISE OCT 26 1936

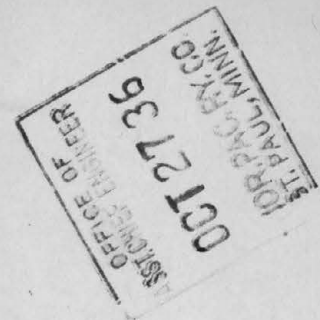
L YAGER

STPAUL

Y-379 THE UNION PACIFIC HAVE NOT HAD ANY OF THEIR OWN MATERIAL TREATED AT SEATTLE OR PACIFIC IN RECENT YEARS WOULD SAY THAT THE PERCENTAGE OF REVENUE CARS HAULED OVER THE THREE ROADS IN RECENT YEARS WOULD AGREE VERY CLOSELY WITH THE STATEMENT FURNISHED YOU WITH POSSIBLE EXCEPTION OF THE MILWAUKEE ON MY STATEMENT HAUL WAS OBTAINED BY REASON OF CONTROLLING THE ROUTING OF COMPETITIVE BUSINESS AND DESTINATION BEING LOCAL TO THE LINES WOULD SAY THAT NOT MORE THAN TWENTY FIVE PERCENT OF COMPETITIVE SHIPMENTS ARE ROUTED BY TREATING COMPANY WEST COAST WILL ROUTE NOTHING OVER UNION PACIFIC AND GREAT NORTHERN UNLESS REQUIRED BY OTHER SOURCES H-139

G R HOPKINS

7PM





N. P. 1386
12-24

TELEGRAM—BE BRIEF

TIME FILED

M.

St. Paul, Oct. 26, 1936

G. R. Hopkins, Paradise -

Do you know whether the Union Pacific have had treated for themselves in recent years any ties, timber or piling at the West Coast Wood Preserving Company plant at Seattle or at Eagle Harbor. If so do you know in general the quantities and the locations where the material was used. My statement twelve prepared from your examination of treating company's record shows number of cars hauled by Union Pacific, Great Northern and Milwaukee. Is this percentage fairly representative of other years. If Union Pacific and Great Northern have no material treated at this plant am I correct in assuming haul was obtained by reason of controlling the routing on competitive business or destination being local to these lines.

Great Northern office advised me that they have had no company material treated at Seattle in recent years. Have you any ideas as to about how much of the competitive shipments have the routing controlled by treating company. Y-379

L.YAGER

Seattle Plant

Data on Cross Ties Sawed

Size	Sp Bl	Cu ft	No Ties per M Bl	Cost per tie at 1 st M	Cost per Tie @ 6 th per M
No 1 - 6x6-8	24	2.	41.667	.0240	.1500
No 2 - 6x7-8	28	2.333	35.714	.0280	.1750
No 3 - 6x8-8	32	2.667	31.250	.0320	.2000
No 4 - 7x8-8	37.333	3.111	26.786	.0373	.2331
No 5 - 7x9-8'-6"	44.625	3.719	22.409	.0462	.2887

Seattle Trading Plant
Santa Fe Ry Co.

10/23/36

Specifications for Cruise dated Sept. 29-1931
Specify max residue 20%

- ① Order placed 1-18-36 Bernuth Lenoire
1,000,000 gals delivered into tanks at San Diego
Foreign oil @ \$1.390 per gal.
 - ② Order placed with Barrett Co Chicago 1-18-36
1,000,000 gals delivered into storage tanks at Galveston
Domestic oil @ \$1.2886
 - ③ Order placed with Rilly Tar & Chemical Co Chicago¹⁻²⁰⁻³⁶
delivered into Santa Fe tank cars at Council
500,000 gals domestic oil @ \$1.3021 per gal
 - ④ Order placed Jan-1936 Inland Tar Co Chicago
7.0% Amich as per (3) 500,000 gal @ \$1.3059
 - ⑤ Order placed 1-18-36 Colorado Fuel & Iron Co delivered into
Santa Fe cars at Monteguano Colo.
160,000 gals @ \$1.325 per gal.
- Note - No prices taken for 1937 - 10/21/36

THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

September 29, 1931.

Specifications for Coal-Tar Creosote

The oil shall be a distillate of coal-gas of coke-oven tar. It shall comply with the following requirements:

1 - It shall contain not more than 5% of water. Quantity purchased shall be calculated on basis of water-free creosote.

2 - It shall contain not more than 0.5 percent of matter insoluble in benzol.

3 - The specific gravity of the oil at 38/15.5 degrees Centigrade shall not be less than 1.03.

4 - The Distillate, based on water-free oil, shall be within the following limits:

Up to 210 degrees Centigrade not more than 5 percent.

Up to 235 degrees Centigrade not more than 25 percent.

Residue above 355 degrees Centigrade not more than 20 percent.

5 - The specific gravity of fractions between 235 degrees Centigrade and 315 degrees Centigrade shall not be less than 1.025 at 38/15.5 degrees Centigrade.

The specific gravity of the fraction between 315 degrees Centigrade and 355 degrees Centigrade shall not be less than 1.085 at 38/15.5 degrees Centigrade.

6 - The residue above 355 degrees Centigrade, if it exceeds 5 percent, shall have a float test of not more than 50 seconds at 70 degrees Centigrade.

7 - The oil shall yield not more than 2 percent coke residue.

8 - The foregoing tests shall be made in accordance with the standard methods of the American Railway Engineering Association.

9 - The flash point shall not be lower than 190 degrees Fahrenheit on dehydrated sample using the Pensky-Marten Closed Tester as follows:

Thoroughly clean and dry all parts of the cup and its accessories before starting the test. Particular care should be taken to avoid the presence of any gasoline or naphtha used to clean the apparatus after a previous test.

Fill the cup with the oil to be tested up to the level indicated by the filling mark.

Place the lid on the cup and set the latter in the stove. Take care to have the locating devices properly engaged. Insert the thermometer. If it is known that the oil will flash above 220 degrees Fahrenheit, the "Pensky-Marten high" thermometer may be selected; otherwise, it is preferable to start with the "Pensky-Marten and Tagliabue" thermometer and then to change in case a temperature of 220 to 230 degrees Fahrenheit is reached.

Light the test flame and adjust so that it is five thirty-seconds inch in diameter, the same size as the bead provided for comparison.

Supply heat at a rate that the temperature read on the thermometer increases not less than nine nor more than eleven degrees Fahrenheit per minute.

Turn the stirrer, at a rate from one to two revolutions per second.

Apply the test flame at each temperature reading, which is a multiple of two degrees Fahrenheit up to 220 degrees Fahrenheit. For the temperature range above 220 degrees Fahrenheit, apply the test flame at each temperature reading, which is a multiple of five degrees Fahrenheit. The first application of the test flame shall be made at a temperature at least 30 degrees Fahrenheit below the actual flash point. Apply the test flame by operating the knurled hand-knob, controlling the shutter and test flame burner so that the flame is lowered in one-half second, left in its lowered position for one second, and quickly raised to its high position. Discontinue stirring during the application of the test flame.

Record as the flash point the temperature read on the thermometer at the time of the flame application that causes a distinct flash in the interior of the cup. The true flash must not be confused with the bluish halo that sometimes surrounds the test flame for the applications preceding the one that causes the actual flash.

Observe and record the barometric pressure. Make no corrections except in case of dispute when the flash point figure should be corrected according to the following rule:

For each inch (25 mm.) below 29.92 in. (760 mm.) barometric reading add 1.6 degrees Fahrenheit to the flash point.

For each inch (25 mm.) above 29.92 in. (760 mm.) barometric reading subtract 1.6 degrees Fahrenheit from the flash point.

M. J. Collins,
General Purchasing Agent.

APPROVED:
G. W. Harris,
Chief Engineer System.

ECONOMIC JUSTIFICATION FOR THE USE OF TREATED TIES ON TACOMA DIVISION
 BASED ON PRESENT PURCHASE PRICES OF COAST TIMBER AND TREATMENT AT SEATTLE
 UNDER PROPOSED CONTRACT.

	Untreated Ties		Treated Ties	
	<u>No. 4</u>	<u>No. 5</u>	<u>No. 4</u>	<u>No. 5</u>
Purchase Price @ \$12 M	\$.4480	\$.5355		
Sales Tax 2% on 75%	.0067	.0080		
Haul 148 miles @ .003	.0278	.0333		
Cost of Placement	.4000	.4000	.4000	.4000
Cost of Tie, Treatment and Haul			.9908	1.1812
Total Cost in Place	<u>\$.8825</u>	<u>\$.9768</u>	<u>\$1.3908</u>	<u>\$1.5812</u>
Average Cost per year, 8 year Life	.1103	.1221		
Average Cost per year, 25 year Life			.0556	.0632
Increased Cost	.0547	.0589		

24 ties per 39 ft. panel = $135.38 \times 24 = 3249$ ties per mile.

Increased cost if untreated ties are used in Main Line Track of Tacoma Division -

Increased cost per mile - $3249 \times .0589 = \$ 191.37$

Increased cost on Division - 573 miles = \$109443.00

Asst. Chief Engineer
 St. Paul, Minnesota
 October 21, 1936

ESTIMATED COST OF TREATED No. 5 TIES UNDER PROPOSED NEW CONTRACT AT SEATTLE AND DELIVERED TO DIVISIONS. SIZE 7" x 9" x 8'6".

Ties

(A) DIRECT COST OF TREATMENT

1. Douglas Fir, 44-5/8 FBM x \$12	\$.5355
2. Sales tax @ 2% on 75%	.0080
3. Cost of contract treatment @ 6.25 M.FBM	.2789
4. Cost of creosote 1.61 gal. x \$.1326	.2135
5. Cost of petroleum 1.96 gal. x .021	.0412
6. Treating supervision \$2400	.0080
Sub Total	<u>\$1.0851</u>

(B) INTEREST AND TAXES

1. Interest on preservatives	\$.0054
2. Taxes on preservatives	.0010
3. Taxes on seasoning ties .5435 x 32% x .0355	.0062
4. Interest on seasoning ties .5435 x 6%, 12 mo.	.0326
Sub Total	<u>\$.0452</u>

(C) INDIRECT ITEMS, FREIGHT, ETC:

1. Haul on green ties, average haul 148 miles 150 lbs. x \$.003	\$.0333
2. Haul on treated ties, average haul 100 miles 156 lbs. x \$.00225	.0176
Sub Total	<u>\$.0509</u>

SUMMARY:

A. Direct Cost of Ties and Treatment	\$1.0851
B. Interest and Taxes	.0452
C. Indirect Items, Freight, Etc.	.0509
Total	<u>\$1.1812</u>

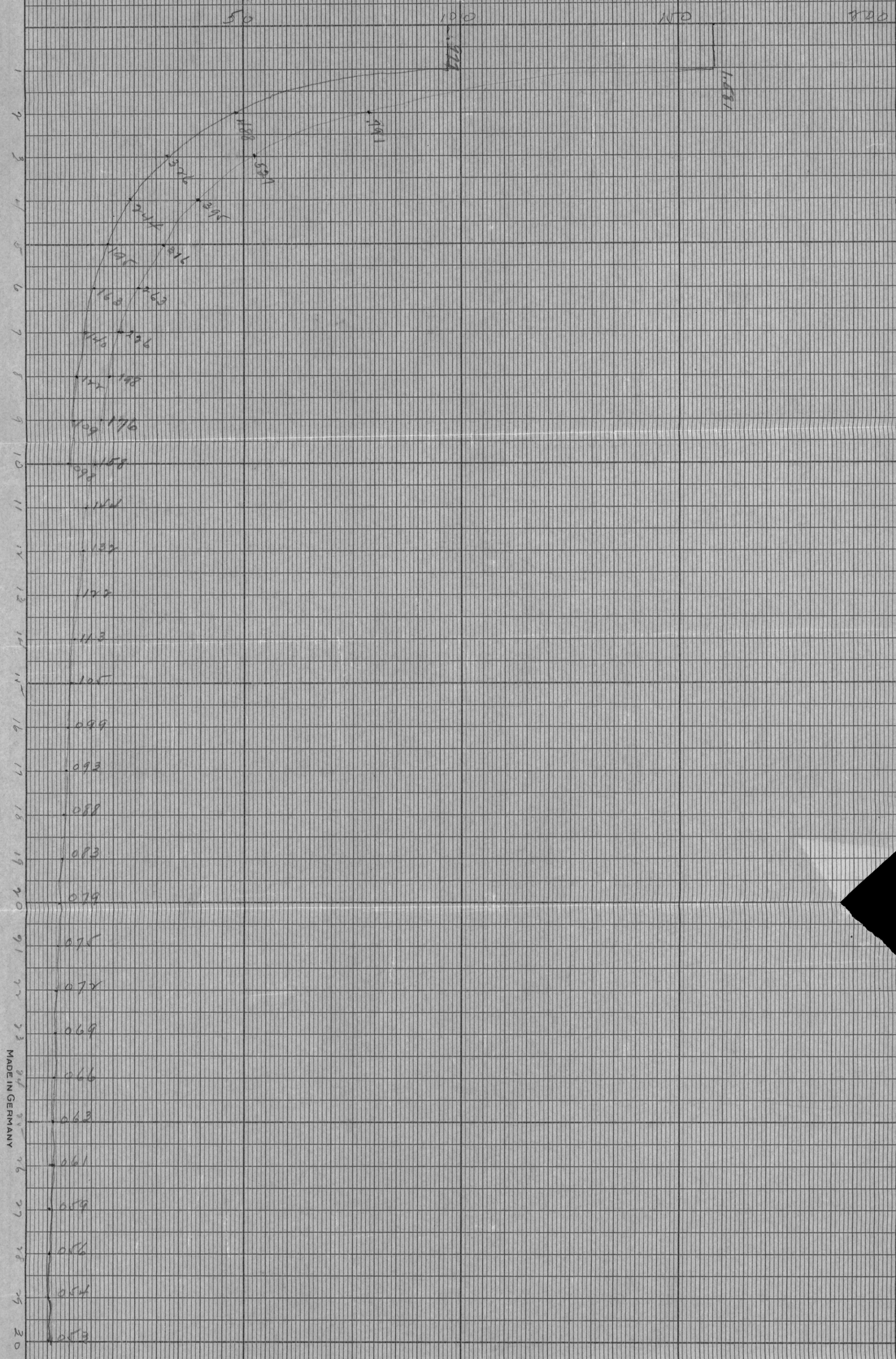
Asst. Chief Engineer
St. Paul, Minnesota
October 21, 1936

COMPARATIVE ANNUAL COST OF UNTREATED AND TREATED No. 5 COAST DOUGLAS FIR
TIES.

Total Cost in Place		<u>Untreated</u>	<u>Treated</u>
		<u>\$.9768</u>	<u>\$1.5812</u>
<u>Years Life</u>		<u>Cost per Year</u>	
1		.9768	1.5812
2		.4884	.7906
3		.3256	.5271
4		.2442	.3953
5		.1954	.3162
6		.1628	.2635
7		.1395	.2259
8		.1221	.1977
9		.1085	.1757
10		.0977	.1581
11			.1437
12			.1318
13			.1216
14			.1129
15			.1054
16			.0988
17			.0930
18			.0878
19			.0832
20			.0791
21			.0753
22			.0719
23			.0687
24			.0659
25			.0632
26			.0608
27			.0586
28			.0565
29			.0545
30			.0527

Asst. Chief Engineer
St. Paul, Minnesota
October 21, 1936

MADE IN GERMANY



9/11/36

Interest Calculations

Interest Rate 5% — Depreciation 3% (for 34 Years).

Year	Principal	Interest	Deprec.
1st.	\$500,000	\$25,000	\$15,000
2d	485,000	24,250	15,000
3	470,000	23,500	15,000
4.	455,000	22,750	15,000
5.	440,000	22,000	15,000
6.	425,000	21,250	15,000
7.	410,000	20,500	15,000
8.	395,000	19,750	15,000
9	380,000	19,000	15,000
10	365,000	18,250	15,000
11	350,000	17,500	15,000
12	335,000	16,750	15,000
13	320,000	16,000	15,000
14	305,000	15,250	15,000
15	290,000	14,500	15,000
16	275,000	13,750	15,000
17	260,000	13,000	15,000
18	245,000	12,250	15,000
19	230,000	11,500	15,000
20	215,000	10,750	15,000
21	200,000	10,000	15,000
22	185,000	9,250	15,000
23	170,000	8,500	15,000
24	155,000	7,750	15,000
25	140,000	7,000	15,000
26	125,000	6,250	15,000
27	110,000	5,500	15,000
28	95,000	4,750	15,000
29	80,000	4,000	15,000
30	65,000	3,250	15,000
31	50,000	2,500	15,000
32	35,000	1,750	15,000
33	20,000	1,000	15,000
34.	5,000	250	5,000

Avge - 34 Yrs = \$ 429,250 500,000
12,625

Mr. Beers

Mr. Gager will be
in on No 4 tomorrow morning

May 10, 1936

① Unit Costs to Contractor - Statement No 6.

Costs set up from our own experience and observations at the Contractor's Plant.

② Investment in Plant about \$300,000 - Statement No 6.

This is estimated cost of expansion in the way of seasoning yard and increased treating facilities to handle railroad contract.

③ Interest on full Investment \$300,000 - Statement 6 Sec 3.

In order to write off investment down to the average for the 10 year period would require setting up valuation of investment after 10 years use.

④ Interest on full Investment in new contract.

Delay of costs to Contractor under " "

This should be worked up with Question 5

(5) Estimated costs to Contractor under new Contract and estimated payments to him, showing percent of profit. This will have to be worked up.

(6) Profit to Contractor at 4% Statement 6 - Is this applicable to total payments Statement 11 - \$825,677.
4% profit shown on statement 6 applies to Cross ties only, which is about

(7) Estimated total profit to Contractor for five year period, based on volume shown in Statement No 10.
Will have to be worked up similar to Statement No 6 for old Contract.

(8) Contract between West Coast and Milwaukee - Statement showing comparison with N.P. present and proposed contracts.
No Contract in effect.

(9) "Apparent Net Profit" and Net Profit - Statements No 9 - 9A and 13.

Old contract 6^{50} M. Price paid to Aug 1, 1936 averaged .26 per lb.
At 6^{20} M. new contract. Price should be .2331 per lb.

(10) Freight revenue on Commercial Business from Seattle Plant.

Carload shipments furnished in statement dated Aug 4, 1936, obtained from J. Burnham's office, Seattle, for year 1935 and 6 months, 1936 - but revenue not shown.

(11) W.P. - C.N. & Milwaukee "treating at Seattle".

None of these Companies have treating done at Coleman Plant. If the West Coast wanted to favor any of these roads with commercial haul on account of treating contracts at their Island Plant it would have to come from Coleman Plant as their Island plant does not have railroads facilities.

(12) Cost of Creosote - "What Cost per annum for both domestic and foreign oils."

This will have to be worked up.

(13) Grease mixture.

Paragraph 6 of specifications calls it 50-50 mixture - but states Railway Company may change proportions from time to time. Statement one based on 45-55 mixture, which is now being used.

(14) Investment in Paraffin Plant.

Investment in plant not written off.

(15) Five Year Contract.

Contract set up for five year period for our own convenience.

(16) Economies in use of treated ties.

This question not considered.

Seattle Contract

①

9/24/36

A G. N. Contract with National Pole & Treating Co. Friday M177.

Year to year contract Num 50,000 max 100,000 pcs - Oak maple Birch and other hard woods Lenz Process. Ry Co. furnishes preservatives 50-50 Curot. Gelatin.

Cost per cu. ft 9¢ = \$7.50 per M ft. B.M.

B Omaha Ry Year to year contract with Republic Preserving Co. St. Louis Park. Preserves 200,000 to 300,000 pcs Cross ties and approximately 12,000 pcs Switch ties. Ties are air seasoned Treatment Deepening Process Treating Co. furnishes preservatives included in prices. Retention 50-50 minimum 6# per cu. ft. Zinc Chloride net retention of 1/2# chloride of Zinc per cu. ft.

The

Prices

(2)

9/24/36

- ① The Ry Co will pay \$1.437 per cu ft for
Cost including including seasoning treatment
and switching from Minn Transfer to
St. Louis Park for 50-50 million treatment
- ② Zinc Chloride as above \$1.0125 per cu ft for
Cross ties and \$1.1625 per cu ft for switch ties
- ③ Ry Co pays in addition to above for adging
and bracing 5¢ per tie.
- ④ If Ry Co furnishes ties already seasoned
the Trading Co. makes an allowance of
1¢ per tie
- ⑤ Prices subject to adjustment to take care
of fluctuations in commodity and labor
Costs also switching charges to and
from Plant.
- ⑥ Cost of Switching from Mpls to St. Louis Park
via M + St. L. $\frac{1}{2}$ ¢ or $\frac{3}{4}$ ¢ per car each way.
@ 400 ties per car = $1\frac{1}{2}$ ¢ or 3¢ per completed tie.

③ 9/24/36

Average Cost to Omaha for Cusolite has been

- ① 50-50 Mixture 47¢ each
- ② Zinc Chloride 35¢ "

$$\begin{aligned} \text{Gallon Cusolite} &= 8.70^{\#} @ .125 = \\ \text{" Oil} &= 8.30^{\#} \end{aligned}$$

$$\text{Total } 17.00 = \text{Mixture } 8.50^{\#} \text{ per gal}$$

$$\text{Cost 1 gal Cusolite } .125$$

$$\text{1 gal Oil } .035$$

$$\text{Total } .160 \div 2 = .08 \text{ per gal}$$

$$.08 \div 8.50 = .00941 \text{ per lb}$$

$$.00941 \times 6^{\#} = .05646 \text{ per cu ft.}$$

$$3.111 + .05646 = .1756 \text{ per equivalent No. 4 Tie}$$

$$\text{Mixture Treatment } .1437 \text{ per cu ft} = 11.97 \text{ per M}$$

$$\text{Preservatives } .05646 \text{ " " " } = 4.70 \text{ " "}$$

$$\text{Treatment Cost } 7.27 \text{ " "}$$

$$\text{Treatment } 7.27 \times 37.33 = 271.39$$

$$\text{Briny + adju } 1.34 \text{ } \underline{.05000}$$

$$321.39$$

$$\text{Sulphur Charge } \underline{.06000}$$

$$7.00 \text{ per M} = 261.39$$

McCormick Lumber Co
Bid of April 21 1926

Treating Cross Ties	6.65 M ft Blk
Boring adzing & nailing 1¢ per cu ft	.833 " " "
	<hr/> 7.483 " " "
N.P. to deliver & receive ties by Water @ 1 ⁰⁰	2.000
	<hr/> 9.483 " " "

Treating Switch ties & lumber	8.33 M ft Blk
Increasing	.833
	<hr/> 9.163
Total	

Treating Piling & poles	12¢ per cu ft
-------------------------	---------------

Seattle Contract

① 9/19

A Cross Ties

Average cost to date 6.61 per M JBM = 11¢ per M

Reduction price = $\frac{25 - c}{\text{Total}}$ \$.36¢

x x x

B Switch Ties

Average cost 8.502 JBM = \$.502 per M

C Lumber

Reduction

\$.25 per M

D Piling

No Change

(2)

Estimated Savings

Estimated Use in 10 years

$$A) \text{ Ties } 74555 M @ 36^c = 26,840$$

$$B) \text{ Suildt Ties } 5,000 M @ .502 = 2510$$

$$C) \text{ Lumber } 3,360 M @ .25 = \$ 840 \quad 56\%$$

30,190 for Ten years

Based on Used in 70 years

$$A) \text{ Ties } 74555 M @ 6.61 = 492,808$$

$$B) \text{ S. Ties } 5,000 M @ 8.502 = 42,510$$

$$C) \text{ Lumber } 3,360 M @ 16.50 = 55,440$$

$$D) \text{ Piling } 186,666 \text{ cu ft. } @ 28^c = 52,080$$

$$642,838 = 46\%$$

Based on Cross Suildt ties only

$$① \text{ Cross ties } 26,840 \quad 492,808$$

$$② \text{ Suildt ties } 2510 \quad 42,510$$

$$29,350 \quad 53,531.8 = 5.5\%$$

Based on Cross Ties only

$$\text{Savings} = 6.61 - 6.25 = .36 \div 6.61 = 5.44\%$$

$$\text{Savg} = 24,690 - 2331 = 2138 = 5.58\%$$

N.P. 1344
6-24

Dredge from ship to territory Ellensburg Wash

Year	From Braziers	From Paragon	From Beaver	Total
1907				-
08		237		237
09				-
10	4901000	5623		5623
11		1128		1128
12		40281		40281
13		11456		11456
14		6936		6936
15		20054		20054
16		11900		11900
17		5018		5018
18				-
19		10125		10125
20		8606		8606
21		73397		73397
22	5708			5708
23		56227		56227
24		14081		14081
25	6954	343171		350125
26	9730	265693		275423
27	6607	104682	175963	287252
28	9263		455679	464942
29	14339		396351	409690
30	11167		264861	276028
31			216133	216133
32	7490		202016	209506
33	9217	1840	86414	97471
34	5810	1087	222070	228967
35	2829	3429	99247	105505
36	3546		210868	214414
37				
Total	92660	984971	2328602	3406233



From 1907 to and including
1935 (Sheet #1) to territory
Economy West

	<u>Provisions</u>	<u>Passage</u>	<u>Suitcase</u>	<u>Total</u>
1907 to 1935 incl -	29114	924971	2117744	3191819

From 1936 changes %
Provisions beginning at Yakima

1936	2286	-	219890	228176
1937	9807	-	225301	235108
1938	5631	2109	100470	108210
1939 (Provisions)	6053		153000	159053

Pasco Down mileage Yakima & Ellensburg
 transferred to Sac Down Jan 1. 1933

Main track	38.08 miles
Yaras & Branches	<u>38.54</u> "
Total	76.62 "

Also Maxee Branch
 Naches "
 Cowiche "

Deduct from Mr. Looms statement as follows:

1934	Branches	Para	Para	Para	Total
MS MS } 49	1070	185	2499	3754	
" 400					
Branches MS			555	555	
" 400			165	165	
1935	1070	185	3219	4474	
MS MS } ²⁰⁰⁰⁰⁰⁰ ²⁰⁰⁰⁰⁰⁰ ²⁰⁰⁰⁰⁰⁰					
" 400 } 67	1080	-	4054	5134	
Branches MS			-	-	
" 400			129	129	
1936	1080	-	4183	5263	
MS MS } 95	1657		5622	7279	
" 400					
Branches MS			863	863	
" 400			482	482	
	<u>1657</u>		<u>6967</u>	<u>8624</u>	

Lakima & E. Aulum

Brainera Paradi

Deam

1934

7484

1272

17334

1935

838

-

3154

1936

8286

28290

Seattle Treating Plant

(A) Treating Lindland Empire Timber Paradise + Ship to Coast

① Cost of Pocket Cost Treating at Paradise	.3800
② Cost of Pocket 7 ft on Unthatched Tie	.0274
③ Freight T.T. 600 miles .065 tons @ .0015	.0585
④ Total Treating & Haul	4659
⑤ Cost of No 4 Tie 37.33 ft BM @ 13.00	.4853
	<u>9512</u>

(B) Treating Coast fir Paradise + Ship to Coast

① Cost of Pocket Cost Treating at Paradise	.3800
② 7 ft Unthatched Tie 711 mls .0625 Tons @ .003	.1333
③ 7 ft T.T. 600 miles .065 Tons @ .0015	.0585
④ Total Treating + Haul	.5718
⑤ Cost No 4 Tie 37.33 ft BM @ 12.00	.4480
Total	<u>1.0198</u>

Mr. Wolf
add to file
2/9/14

① Treating Coast Fir at Seattle

① Treating Cost at Seattle	.5145
② Cost of Pocket Cost Fir on Untreated Tie	.0278
③ Total Treating + Haul	.5423
④ Cost No 4 Tie 37.33 lbm @ 12.18	.4547
Total Cost	9970

N. P. 1344
5-25

Comparison of Treating Cost

Items		Per Ton	Per Ton
		Produce	Seattle
1	Cresote. 1.35 gal. @ 13¢	.1823	.1823
2	Petroleum 1.65 " @ 2.1¢	.0347	.0347
3	Unloading & Crimping	.0700	} Seattle Contract. x = .1499 = .0489 = .1010
4	Loading for Transfer to machines	.0140	
5	Handling these machines	.0180	
6	Loading for shipment	.0170	
7	Fuel Exclusive of Haul	.0063	
8	Plant Labor	.0260	
9	Superintendence Local & General	.0152	
10	Plant Repairs	.0047	
11	Total Direct Cost Items Produce .3332		
12	Interest on Total Investment 6%	.0207 x	
13	Depreciation 3%	.0104 x	
14	Taxes on Plant	.0021 x	
15	Insurance on Plant	.0005 x	
16	Interest on Preservatives	.0023	.0046
17	Taxes on Preservatives	.0004	.0004
18	Insurance on Preservatives	.0003	.0003
19	Taxes on Seasoning Ties	.0067	.0117
20	Insurance " " "	.0076	.0076
21	Interest " " "	.0291	.0269
22	Total Overhead Items Produce .0751		
23	Freight on Cresote	.0082	—
24	" " Petroleum	.0070	—
25	" " Coal	.0054	—
26	" " Untreated Ties	.0274	.0278
27	Treating Inspector	—	.0080
Total —		\$ 0.4563	.5423
Less Fixed Items		.0489	
		.4074	

Data on Hilley and Plain
Data from Mr. Carney in Traffic Dept

There are no treaties in lowest rates in
which N.P. participates -

Best that can be done is to use switching
rates $\$3.60$ per car N.P. Spokane
yard to Hilleyard.

$3.60 + 3.60 = 7.20$ for 400 tons = 1.8 ¢ per ton

Revised, St. Paul, Minn.,
Sept. 21, 1936w

TENTATIVE DRAFT OF CONTRACT

CONTRACT made this _____ day of _____, A. D. 1936, between the Northern Pacific Railway Company, a Wisconsin corporation hereinafter called the "Railway Company," and the West Coast Wood Preserving Company, a Washington corporation hereinafter called the "Creosoting Company."

In consideration of the mutual dependent promises stated in this contract the parties agree:

I. The Creosoting Company shall store for seasoning and treat at its plant located in the city of Seattle, Washington, such forest products as may be offered by the Railway Company from time to time in accordance with specifications in Exhibit "A" attached and made part of this contract. The term "forest products" used herein is inclusive of cross ties, bridge ties and switch ties, timber, lumber, piling, and poles. It is understood and agreed that: (a) The Railway Company reserves the right to treat any portion or all of the forest products used by it in the territory tributary to the Creosoting Company's Seattle plant, in any one or more of the Railway Company's presently owned and individually operated treating plants. (b) The Railway Company shall offer to the Creosoting Company for treatment under the terms of this contract all forest products not reserved under the provisions of the foregoing paragraph (a).

II. The Creosoting Company agrees that its plant shall be maintained during the term of this agreement in such degree of working efficiency that the capacity of the plant shall be adequate at all times to treat the yearly requirements of the Railway Company.

III. The Railway Company will notify the Creosoting Company in writing prior to the first of October of each year of the approximate number of cross ties and other forest products which it desired to have stored for seasoning and subsequent treatment during the following calendar year.

IV. The Railway Company will furnish open cars, in so far as may be possible, for delivery of untreated material and for shipment of treated material. The Railway Company at its own cost and expense will do all required switching of its cars of forest products billed to and from the plant. The Creosoting Company agrees to make requests for only such switching as is reasonably necessary and such switching shall be done so far as is practicable at times most convenient to the Railway Company between the hours of 7:00 A.M. and 6:00 P.M.

V. The forest products to be furnished hereunder shall be delivered on cars at the plant of the Creosoting Company. The Creosoting Company shall promptly unload cars and stack the material in the storage yard of the plant for seasoning. The Railway Company in making deliveries to the Creosoting Company shall have regard to its capacity for receiving and stacking material. The Creosoting Company shall pay the Railway Company compensation for any delays in unloading said cars in accordance with the rates set up in the Railway Company's published demurrage tariffs whenever eight (8) or less cars are delivered per day. Whenever more than eight (8) cars per day shall be delivered the expense incident to the detention of cars for unloading shall be assumed by the Railway Company. The Creosoting Company will accept delivery of forest products on scows or in rafts alongside its plant under the same conditions as outlined for delivery on cars, except that the Creosoting Company will not be required to pay the Railway Company for delays in unloading such scows or rafts.

VI. All cross ties will be properly segregated by grades on cars by the Railway Company to facilitate stacking for seasoning and subsequent treatment by grades. Switch ties, timber and piling delivered shall be sorted by the Creosoting Company, at its own expense, for its convenience in handling for treatment.

VII. All treated material shall be ~~un~~loaded and billed as directed by the Railway Company. Cross ties will be loaded by grades and rail borings. Switch ties will be loaded by lengths.

The Railway Company shall furnish promptly all cars required to ship out treated material. The Creosoting Company agrees to give the Railway Company at least five days' notice as to the time such cars are required.

VIII. The Creosoting Company shall provide fire protection for seasoning and storage yard satisfactory to the Railway Company.

The forest products shall remain the property of the Railway Company and be insured by it against loss by fire.

IX. The Creosoting Company agrees to count and tally material received in each car as soon as possible after receipt of car at its plant, either before or immediately after unloading, against invoice or inspection reports furnished by the Railway Company and to mail reports of such tally to the Railway Company representative immediately after each invoice or inspection report has been tallied.

The Creosoting Company agrees that, as far as practicable, it shall have

Painted on each stack the initial, number, and out turn of each car from which material is unloaded, and the date of unloading.

The Creosoting Company agrees to return to the Railway Company the identical material shipped to it by the Railway Company after said material has been treated, and in case there should be any shortage whatever, the Creosoting Company agrees to pay the Railway Company therefor at the market price at Seattle, Washington, of like material at the time the shortage is discovered; provided, however, that the Creosoting Company shall not be responsible for shortage resulting from fire or causes which are clearly beyond its control. Joint inventories of all forest products shall be taken at least every six months, and discrepancies found adjusted at that time.

The Creosoting Company agrees to furnish reports of all material delivered, shipped, used and on hand at regularly stated intervals as may be required by the Store Department or the Insurance Department of the Railway Company.

X. The Railway Company will furnish all creosote and petroleum oil required to treat its material under this agreement. The Creosoting Company agrees to unload and store all creosote and petroleum oil furnished by the Railway Company in railroad tank cars at the plant. The Creosoting Company agrees to set aside a storage with a capacity of 300,000 gallons for creosote furnished by the Railway Company. Creosote furnished by the Railway Company from vessels or barges shall be delivered into the storage tank without expense to the Creosoting Company. Should the Railway Company elect to permit the Creosoting Company to purchase creosote and oil for it, the prices to be paid and the quantities to be purchased for its account must be approved by the Railway Company and the material must conform to the current specifications of the Railway Company to be kept on file with the Creosoting Company. The Railway Company shall carry the insurance and pay the taxes on creosote and oil stored for it by the Creosoting Company, and agrees to pay promptly all invoices covering creosote and oil purchased with its authority for its account.

XI. The Creosoting Company agrees to provide storage tanks of suitable capacity to store the preservatives required for treating the material of the Railway Company, together with working tanks and proper gauges to insure accurate and satisfactory measurements of creosote and oil used in the treatment of the different classes of material for the Railway Company.

The Creosoting Company may, with the written consent of the Railway Company first had and obtained, use the preservatives belonging to the Railway Company for the purpose of treating forest products for other concerns in the same plant, and

the Creosoting Company shall thereupon promptly replace preservatives so used with other preservatives meeting the specifications of the Railway Company and shall permit no delays in the treatment of Railway Company material to result from such use. In case the Creosoting Company shall be permitted such use of Railway Company preservatives, then joint inventories of preservatives shall be made at the end of each month or at any other appropriate time for the purpose of adjusting surplus or deficits. Any surplus or deficit must be pro-rated on the relative final retention of preservatives for the different classes of material treated for the parties concerned.

XII. The Railway Company desires to have its cross ties treated during the period from August 1st to December 31st of each year. The Creosoting Company agrees to use reasonable efforts with due regard to the business offered by other customers and the treating capacity of its plant to treat the yearly requirements in this interval if sufficiently properly seasoned ties are available. If for any reason the Creosoting Company at any time cannot with reasonable effort carry out the aforementioned preferential arrangement, the Railway Company agrees to have delivered green ties in advance of requirements so that sufficient seasoned ties will be available for treatment at approximately uniform monthly rates for the yearly requirements.

XIII. The Creosoting Company agrees to store treated ties in its storage yard up to the convenient capacity for temporary storage at the request of the Railway Company. The storage and extra handling involved in loading into cars shall be compensated for at a price scheduled in this agreement.

XIV. The Creosoting Company agrees that upon the written request of the Railway Company to do so, it will accept any modification, changes or substitutions in the specifications in Exhibit "A" hereinbefore mentioned, provided such modifications, changes or substitutions will not require the purchase of any additional equipment, or increase the cost to the Creosoting Company or lessen the plant capacity.

The Railway Company agrees that in the event a change of process is made, at its request, it will pay the Creosoting Company any royalty the Creosoting Company may be required to pay in consequence thereof, and will also protect the Creosoting Company against all claims pertaining thereto.

XV. The Railway Company, through its designated representatives or agents, shall have access at all reasonable times to the plant and premises of the Creosoting Company and the right to inspect all operations therein, and shall be furnished all necessary and proper facilities for testing the preservatives employed and the amount absorbed by each charge of ties and other material treated for the Railway Company.

The Creosoting Company shall furnish records on forms furnished by the Railway Company of all treating operations to correspond to that which the Railway Company keeps at its own treating plants.

XVI. In case of any dispute or difference arising as to the interpretation of any sections herebefore set out, the said dispute and causes of differences shall be referred to arbitration and determination of a single arbitrator, if the parties hereto agree upon one; otherwise to three arbitrators - one to be appointed by each of the parties hereto and the third arbitrator to be nominated and appointed by the first named arbitrators. Should the first named arbitrators fail to agree upon the third arbitrator, then such selection shall be left to a Judge of the United States District Court for the District of the State of Washington. The decision of the single arbitrator or a majority of the three arbitrators shall be final and binding upon the parties. Pending the award of arbitration, there shall be no interruption in the transaction of business pursuant to this agreement and statements and payments in respect thereto shall be made in the same manner as prior to arising of such differences.

Each party shall pay for services of and all personal expenses incurred by arbitrator chosen by or for it and both parties shall jointly and equally pay for the services and expenses of the single or third arbitrator, together with all other and different expenses of the arbitration.

XVII. If at any time during the term of this agreement the operation of the Creosoting Company's plant shall be temporarily suspended because of fire, explosion, strikes or other causes not within its control, the time during which the operation of this plant shall be suspended shall not be counted as a part of the term of this agreement, and a corresponding additional time shall be given it for performing its obligations under this agreement; provided, however, in case of the total or partial destruction of the said plant by fire or other cause the Creosoting Company shall promptly repair, rebuild and restore the same to substantially the same condition in which it was before such total or partial destruction and pending such reconstruction the Railway Company may remove its ties and other material from the seasoning yard, untreated or for use/if desired for treatment at ~~the~~ its own or some other commercial plant.

XVIII. The Railway Company agrees to pay to the Creosoting Company for work performed and services rendered, as specified in this agreement, the following prices:

- A-1 For the treatment of all seasoned cross ties, per thousand feet board measure \$6.25
- A-2 For treatment of unseasoned cross ties taken direct from incoming railroad cars, per thousand feet board measure \$6.25
- A-3 For treatment of unseasoned cross ties taken from stock piles in seasoning yard, per thousand feet board measure \$6.70
- B-1 For the treatment of all seasoned switch ties, per thousand feet board measure \$8.00
- B-2 For the treatment of unseasoned switch ties taken direct from incoming railroad cars, per thousand feet board measure \$8.00
- B-3 For the treatment of unseasoned switch ties taken from stock piles in seasoning yard, per thousand feet board measure \$8.60
- B-4 For the treatment of bridge ties in cylinder capacity lots the conditions and prices of B-1, B-2 and B-3 shall apply. For the treatment of bridge ties in less than cylinder capacity lots the conditions and prices of C-1, C-2, and C-3 shall apply.
- C-1 For the treatment of all sawed material other than cross ties and switch ties in cylinder charges of 30,000 feet board measure or less (the treating company being given the option of treating such charges separately or mixed with commercial material) per thousand feet board measure \$12.80
- C-2 For the treatment of all sawed material other than cross ties and switch ties in cylinder charges in excess of 30,000 feet board measure which require a time duration of not longer than twelve (12) actual treating hours, per thousand feet board measure \$10.20
- C-3 For the time in excess of twelve (12) actual treating hours required for treating material covered by paragraph C-2, per cylinder per hour or fraction thereof \$5.10
- D-1 For the treatment of all piling, poles and other similar material which requires a time duration not longer than twelve (12) actual treating hours, the Creosoting Company being given the option of treating quantities of less than a full cylinder charge either separately or combined with commercial material, per cubic foot \$0.14
- D-2 For time in excess of twelve (12) actual treating hours required for treating material covered by paragraph D-1, with the understanding that where material is treated in the same charge with commercial material the time over twelve (12) actual hours will be pro-rated between the Railway and commercial material in the proportion that the volume of the material of each bears to the total volume in the charge, per cylinder per hour or fraction thereof.. \$5.10
- D-3 The prices quoted in paragraphs D-1 and D-2 are predicated on the Railway Company having its own stocks of piling available for treatment. In the event the Railway Company does not have a stock of piling available for treatment the Railway Company shall have the option of purchasing untreated piles at mutually agreeable prices from the stock of the Creosoting Company, or purchasing treated piles which meet the Railway Company's requirements from the Creosoting Company at its current commercial price.
- E-1 In cases where it is found, on account of unseasoned conditions of material, or other conditions not the responsibility of the Creosoting Company, an unsatisfactory treatment has been obtained and the Railway Company inspector considers it advisable to segregate and re-treat all or any portion of cylinder charge of piles, it shall be done at the following rate for each re-treatment in addition to the prices mentioned in paragraphs D-1 and D-2:
 (a) Two cents (\$.02) per cubic foot for piling, poles and other similar material retreated. It is understood that entire cylinder charges returned for continuation of treatment without segregation of any part of the material shall not be considered as coming under the provisions of this E-1.

- E-2 For storage of treated cross ties after treatment and subsequent loading on cars, in addition to prices A-1, A-2, A-3, per tie \$0.01
- E-3 For storage of treated switch ties, stacking lengths separately and subsequent loading in accordance with the Railway Company's instructions for shipment, in addition to prices B-1, B-2, and B-3, per thousand feet board measure \$0.60
- E-4 For incising sawed material other than cross ties and switch ties including all handling not included under paragraph C-1, C-2, C-3, necessary to accomplish it, per thousand feet board measure \$0.50
- E-5 For other handling at the plant site, framing of timber, etc., as from time to time may be requested in writing by the Railway Company, shall be paid for at actual cost to the Creosoting Company, plus ten (10) per cent to cover supervision and profit.

--- --

XIX. It is understood and agreed that the prices quoted under Section XVIII, paragraphs A-1, A-2, A-3 and B-1, B-2, B-3, cover the unloading from railroad cars or barges, handling to the seasoning yard or to treating trams before treatment, moving them to boring, adzing and incising plant, boring, adzing and incising cross ties and incising switch ties; moving to cylinders, treating them and loading them from trams to railroad cars; and further that prices quoted under paragraphs C-1, C-2, C-3 and D-1, D-2, D-3, cover unloading material from railroad cars or barges and rafts, handling to seasoning yard or to trams, moving to treating cylinders, treating loading from trams on to railroad cars. The prices in Paragraphs A-B-C-D apply to treatment of both air-seasoned and artificially seasoned material.

The "actual treating hours" is considered to be the actual normal time occupied while the ties or other materials are in the cylinders in the process of treatment as shown by the treating records. Delays caused by failure of the Creosoting Company's equipment, low steam pressure, etc., shall be deducted when computing overtime charges.

Where material of the Railway Company is treated in the same charge with commercial material as provided for in Section XVIII, paragraphs C-1 and D-1, the Railway Company's stock of preservatives shall be charged with the calculated quantity required to treat its portion of the mixed load.

XX. The Creosoting Company agrees that, in case it, during the period of this agreement, makes contracts with other railroads directly or through their agents, for the treatment of forest products at prices lower than those scheduled in this agreement, then such lower prices shall become immediately effective in this contract.

XXI. The Railway Company will, on or before the thirtieth day of each month, pay to the Creosoting Company all sums owing to it at the end of the next preceding calendar month, upon proper bills, certified by the Railway Company representative, rendered promptly by the Creosoting Company to the Railway Company.

XXII. This agreement shall be effective as of January 1st, 1937 and shall remain in force for a period of five years, and continue thereafter until cancelled by either party giving one year's written notice to the other party. The effective date of cancellation shall be as of December 31st following the year's notice. The earliest date of the year's notice of cancellation shall be January 1st 1941. It is understood and agreed, however, that any forest products on hand for treatment at the termination of this contract shall be carried to treatment completion under the provisions of this agreement.

XXIII. This agreement shall inure to the benefit of and be binding upon the parties hereto, their respective successors and assigns.

IN WITNESS WHEREOF each party hereto has caused this instrument to be signed by its proper official and its corporate seal is hereto affixed and attested by its Secretary, in duplicate, the day and year first above written.

NORTHERN PACIFIC RAILWAY COMPANY
By _____

WEST COAST WOOD PRESERVING COMPANY
By _____

CONTRACT made this _____ day of _____, A.D. 1936, between the NORTHERN PACIFIC RAILWAY COMPANY, a Wisconsin corporation hereinafter called the "Railway Company," and the WEST COAST WOOD PRESERVING COMPANY, a Washington corporation hereinafter called the "Creosoting Company."

In consideration of the mutual dependent promises stated in this contract the parties agree:

I. The Creosoting Company shall store for seasoning and treat at its plant located in the city of Seattle, Washington, such forest products as may be offered by the Railway Company from time to time in accordance with specifications in Exhibit "A" attached and made part of this contract. The term "forest products" used herein is inclusive of cross ties, bridge ties and switch ties, timber, lumber, piling, and poles. It is understood and agreed that: (a) The Railway Company reserves the right to treat any portion or all of the forest products used by it in the territory tributary to the Creosoting Company's Seattle plant, in any one or more of the Railway Company's presently owned and individually operated treating plants. (b) The Railway Company shall offer to the Creosoting Company for treatment under the terms of this contract all forest products not reserved under the provisions of the foregoing paragraph (a).

II. The Creosoting Company agrees that its plant shall be maintained during the term of this agreement in such degree of working efficiency that the capacity of the plant shall be adequate at all times to treat the yearly requirements of the Railway Company.

III. The Railway Company will notify the Creosoting Company in writing prior to the first of October of each year of the approximate number of cross ties and other forest products which it desired to have stored for seasoning and subsequent treatment during the following calendar year.

IV. The Railway Company will furnish open cars, in so far as may be possible, for delivery of untreated material and for shipment of treated material. The Railway Company at its own cost and expense will do all required switching of its cars of forest products billed to and from the plant. The Creosoting Company agrees to make requests for only such switching as is reasonably necessary and such switching shall be done so far as is practicable at times most convenient to the Railway Company between the hours of 7:00 A. M. and 6:00 P. M.

V. The forest products to be furnished hereunder shall be delivered on cars at the plant of the Creosoting Company. The Creosoting Company shall promptly unload cars and stack the material in the storage yard of the plant for seasoning. The Railway Company in making deliveries to the Creosoting Company shall have regard to its capacity for receiving and stacking material. The Creosoting Company shall pay the Railway Company compensation for any delays in unloading said cars in accordance with the rates set up in the Railway Company's published demurrage tariffs whenever eight (8) or less cars are delivered per day. Whenever more than eight (8) cars per day shall be delivered the expense incident to the detention of cars for unloading shall be assumed by the Railway Company. The Creosoting Company will accept delivery of forest products on scows or in rafts alongside its plant under the same conditions as outlined for delivery on cars, except that the Creosoting Company will not be required to pay the Railway Company for delays in unloading such scows or rafts.

VI. All cross ties will be properly segregated by grades on cars by the Railway Company to facilitate stacking for seasoning and subsequent treatment by grades. Switch ties, timber and piling delivered shall be sorted by the Creosoting Company, at its own expense, for its convenience in handling for treatment.

VII. All treated material shall be loaded and billed as directed by the Railway Company. Cross ties will be loaded by grades and rail borings. Switch ties will be loaded by lengths.

The Railway Company shall furnish promptly all cars required to ship out treated material. The Creosoting Company agrees to give the Railway Company at least five days' notice as to the time such cars are required.

XII. The Railway Company desires to have its cross ties treated during the months November to March, inclusive. The Creosoting Company agrees to use reasonable efforts with due regard to the business offered by other customers and the treating capacity of its plant to treat the yearly requirements in this interval if sufficiently properly seasoned ties are available. If for any reason the Creosoting Company at any time cannot with reasonable effort carry out the aforementioned preferential arrangement, the Railway Company agrees to have delivered green ties in advance of requirements so that sufficient seasoned ties will be available for treatment at approximately uniform monthly rates for the yearly requirements.

XIII. The Creosoting Company agrees to store treated ties in its storage yard up to the convenient capacity for temporary storage at the request of the Railway Company. The storage and extra handling involved in loading into cars shall be compensated for at a price scheduled in this agreement.

XIV. The Creosoting Company agrees that upon the written request of the Railway Company to do so, it will accept any modification, changes or substitutions in the specifications in Exhibit "A" hereinbefore mentioned, provided such modifications, changes, or substitutions will not require the purchase of any additional equipment, or increase the cost to the Creosoting Company or lessen the plant capacity.

The Railway Company agrees that in the event a change of process is made, at its request, it will pay the Creosoting Company any royalty the Creosoting Company may be required to pay in consequence thereof, and will also protect the Creosoting Company against all claims pertaining thereto.

XV. The Railway Company, through its designated representatives or agents, shall have access at all reasonable times to the plant and premises of the Creosoting Company and the right to inspect all operations therein, and shall be furnished all necessary and proper facilities for testing the preservatives employed and the amount absorbed by each charge of ties and other material treated for the Railway Company.

The Creosoting Company shall furnish records on forms furnished by the Railway Company of all treating operations to correspond to that which the Railway Company keeps at its own treating plants.

XVI. In case of any dispute or difference arising as to the interpretation of any sections herebefore set out, the said dispute and causes of differences shall be referred to arbitration and determination of a single arbitrator, if the parties hereto agree upon one; otherwise to three arbitrators - one to be appointed by each of the parties hereto and the third arbitrator to be nominated and appointed by the first named arbitrators. Should the first named arbitrators fail to agree upon the third arbitrator, then such selection shall be left to a Judge of the United States District Court for the District of the State of Washington. The decision of the single arbitrator or a majority of the three arbitrators shall be final and binding upon the parties. Pending the award of arbitration, there shall be no interruption in the transaction of business pursuant to this agreement and statements and payments in respect thereto shall be made in the same manner as prior to arising of such differences.

Each party shall pay for services of and all personal expenses incurred by arbitrator chosen by or for it and both parties shall jointly and equally pay for the services and expenses of the single or third arbitrator, together with all other and different expenses of the arbitration.

XVII. If at any time during the term of this agreement the operation of the Creosoting Company's plant shall be temporarily suspended because of fire, explosion, strikes, or other causes not within its control, the time during which the operation of this plant shall be suspended shall not be counted as a part of the term of this agreement, and a corresponding additional time shall be given it for performing its obligations under this agreement; provided, however, in case of the total or partial destruction of the said plant by fire or other cause the

Creosoting Company shall promptly repair, rebuild and restore the same to substantially the same condition in which it was before such total or partial destruction and pending such reconstruction the Railway Company may remove its ties and other material from the seasoning yard for use untreated or if desired for treatment at its own or some other commercial plant.

XVIII. The Railway Company agrees to pay to the Creosoting Company for work performed and services rendered, as specified in this agreement, the following prices:

A-1	For the treatment of all seasoned cross ties, per thousand feet board measure.....	\$6.25
A-2	For treatment of unseasoned cross ties taken direct from incoming railroad cars, per thousand feet board measure.....	\$6.25
A-3	For treatment of unseasoned cross ties taken from stock piles in seasoning yard, per thousand feet board measure.....	\$6.70
B-1	For the treatment of all seasoned switch ties, per thousand feet board measure.....	\$8.00
B-2	For the treatment of unseasoned switch ties taken direct from incoming railroad cars, per thousand feet board measure.....	\$8.00
B-3	For the treatment of unseasoned switch ties taken from stock piles in seasoning yard, per thousand feet board measure.....	\$8.60
B-4	For the treatment of bridge ties in cylinder capacity lots the conditions and prices of B-1, B-2, and B-3 shall apply. For the treatment of bridge ties in less than cylinder capacity lots, the conditions and prices of C-1, C-2, and C-3 shall apply.	
C-1	For the treatment of all sawed material other than cross ties and switch ties in cylinder charges of 30,000 feet board measure or less (the treating company being given the option of treating such charges separately or mixed with commercial material) per thousand feet board measure.....	\$12.80
C-2	For the treatment of all sawed material other than cross ties and switch ties in cylinder charges in excess of 30,000 feet board measure which require a time duration of not longer than twelve (12) actual treating hours, per thousand feet board measure.....	\$10.20
C-3	For the time in excess of twelve (12) actual treating hours required for treating material covered by paragraph C-2, per cylinder per hour or fraction thereof.....	\$5.10
D-1	For the treatment of all piling, poles, and other similar material which requires a time duration not longer than twelve (12) actual treating hours, the Creosoting Company being given the option of treating quantities of less than a full cylinder charge either separately or combined with commercial material, per cubic foot....	\$0.14
D-2	For time in excess of twelve (12) actual treating hours required for treating material covered by paragraph D-1, with the understanding that where material is treated in the same charge with commercial material the time over twelve (12) actual hours will be pro-rated between the Railway and commercial material in the proportion that the volume of the material of each bears to the total volume in the charge, per cylinder per hour or fraction thereof....	\$5.10

- D-3 The prices quoted in paragraphs D-1 and D-2 are predicated on the Railway Company having its own stocks of piling available for treatment. In the event the Railway Company does not have a stock of piling available for treatment the Railway Company shall have the option of purchasing untreated piles at mutually agreeable prices from the stock of the Creosoting Company, or purchasing treated piles which meet the Railway Company's requirements from the Creosoting Company at its current commercial price.
- E-1 In cases where it is found, on account of unseasoned conditions of material, or other conditions not the responsibility of the Creosoting Company, an unsatisfactory treatment has been obtained and the Railway Company's inspector considers it advisable to segregate and re-treat all or any portion of cylinder charge of piles, it shall be done at the following rate for each re-treatment in addition to the prices mentioned in paragraphs D-1 and D-2:
 (a) Two cents (\$.02) per cubic foot for piling, poles, and other similar material retreated. It is understood that entire cylinder charges returned for continuation of treatment without segregation of any part of the material shall not be considered as coming under the provisions of this E-1.
- E-2 For storage of treated cross ties after treatment and subsequent loading on cars, in addition to prices A-1, A-2, A-3, per tie.....\$.01
- E-3 For storage of treated switch ties, stacking lengths separately and subsequent loading in accordance with the Railway Company's instructions for shipment, in addition to prices B-1, B-2, and B-3, per thousand feet board measure..... \$0.60
- E-4 For incising sawed material other than cross ties and switch ties including all handling not included under paragraph C-1, C-2, C-3, necessary to accomplish it, per thousand feet board measure..... \$0.50
- E-5 For other handling at the plant site, framing of timber, etc., as from time to time may be requested in writing by the Railway Company, shall be paid for at actual cost to the Creosoting Company, plus ten (10) per cent to cover supervision and profit.

XIX. It is understood and agreed that the prices quoted under Section XVIII, Paragraphs A-1, A-2, A-3 and B-1, B-2, B-3, cover the unloading from railroad cars or barges, handling to the seasoning yard or to treating trams before treatment, moving them to boring, adzing and incising plant, adzing and incising cross ties and incising switch ties; moving to cylinders, treating them and loading them from trams to railroad cars; and further that prices quoted under paragraph C-1, C-2, C-3 and D-1, D-2, D-3, cover unloading material from railroad cars or barges and rafts, handling to seasoning yard or to trams, moving to treating cylinders, treating loading from trams on to railroad cars. The prices in Paragraphs A-B-C-D apply to treatment of both air-seasoned and artificially seasoned material.

The "actual treating hours" is considered to be the actual normal time occupied while the ties or other materials are in the cylinder in the process of treatment as shown by the treating records. Delays caused by failure of the Creosoting Company's equipment, low steam pressure, etc., shall be deducted when computing overtime charges.

Where material of the Railway Company is treated in the same charge with commercial material as provided for in Section XVIII, paragraphs C-1 and D-1, the Railway Company's stock of preservatives shall be charged with the calculated quantity required to treat its portion of the mixed load.

XX. The Creosoting Company agrees that, in case it, during the period of this agreement, makes contracts with other railroads directly or through their agents, for the treatment of forest products at prices lower than those scheduled in this agreement, then such lower prices shall become immediately effective in this contract.

XXI. The Railway Company will, on or before the thirtieth day of each month, pay to the Creosoting Company all sums owing to it at the end of the next preceding calendar month, upon proper bills, certified by the Railway Company's representative, rendered promptly by the Creosoting Company to the Railway Company.

XXII. This agreement shall be effective as of January 1st, 1937, and shall remain in force for a period of five years, and continue thereafter until cancelled by either party giving one year's written notice to the other party. The effective date of cancellation shall be as of December 31st following the year's notice. The earliest date of the year's notice of cancellation shall be January 1st, 1941. It is understood and agreed, however, that any forest products on hand for treatment at the termination of this contract shall be carried to treatment completion under the provisions of this agreement.

XXIII. This agreement shall inure to the benefit of and be binding upon the parties hereto, their respective successors and assigns.

IN WITNESS WHEREOF each party hereto has caused this instrument to be signed by its proper official and its corporate seal is hereto affixed and attested by its Secretary, in duplicate, the day and year firstabove written.

NORTHERN PACIFIC RAILWAY COMPANY

By _____

West Coast Preserving Company

N.P. Trading Plants

9/18/38

A Brainerd

① Standard gauge Tracks 14,000 ft = say 3 miles

② Narrow " " 14,000 ft = " 3 miles

Maulini Standard gauge Tracks 3 miles @ 600 = 1,800

" narrow " " included in M+S.

B Paradise

① Standard gauge Tracks 16,000 ft say $3\frac{1}{2}$ miles

② Narrow " " 16,000 ft " $3\frac{1}{2}$ miles

Maulini Standard gauge $3\frac{1}{2}$ @ 600 2,100

" narrow " $3\frac{1}{2}$ included in M+S.

Seattle Tree Treating Contract ① 9/18/36

Just @ Territory Costs

	Per Tie
① Seattle to Reservation	.0047
② Tenino to Vancouver	.0133
③ Total Seattle Vancouver	.0180
④ Columbia River Bridge	.0007
⑤ N. Portland to N. End Willamette River Bridge	.0006
⑥ Will. Riv B to Willbridge	.0003
⑦ Columbia Riv. Br. Rental	.0010
⑧ No Portland to Will Rental	.0012
⑨ Willamette to Willbridge	.0005
Sub Total + Total	.0043
	.0223

Extra N. P. Extra Haul

① Green Ties Tacoma to Kalama 108 mi - 125 [#] @ .00225 =	.01512
② Green Ties Tacoma to Willbridge 142 mi 125 [#] @ .00225 =	.01997

Hillyard & Ausubling Co. 9/17/36

1 Sampson 40 Steam Locomotive 6 miles Tracked

2 Am. Hist & Direct Cranes
60 ft. Bell

Standard Tracks

1 - Sampson 40 Ton Steam Locomotive	\$ 12,000
2 30 T. A H Direct Co Crane 60 ft. Bell @ 18,000	36,000
Office Equipment & etc	12,000
Total	\$ 60,000

Helleyard Trading Plant 9/14/38

Present Cuss ties largely from Eastern Wash - about 75% Tamarack or Larch

Montana Treaty about 50% Dugland Fir

First Contract will average about.

2,200,000 cee ft per year traded material

Up to present time Cuss ties	85%	of total
" " " " Silloties	4%	" "
	89%	" "

Lumber & piling	11%	" "
Total	100%	

Memo

① 9/18/36

Data on Compulsory Treating Plants

(A) Forest Products Treating Co. of Portland
Dalles Ore.

① Haul on Green Ties Just @ Territory	.0223
② Haul on Treated Ties Just @ "	.0223
③ N. P. Extra Haul Tacoma to Portland Green Ties	.0199
④ N. P. Extra Haul Treated Ties Portland to Tacoma	.0199
⑤ Total N. P. Costs = \$2.31 M/M	.0864

⑥ Freight Portland to Dalles + return @ 9¢ cut + 1½¢ T.T. @ 128# \$1344

	3.57	
Total	5.88	.2208

Memor

②

9/18/36

③ McCormick Lumber Co St. Helens Oregon

① Haul on Green Ties Just @ Territory	.0223
② Haul on Treated " " "	.0223
③ N. P. Extra Haul Tacoma to Portland Green Ties	.0199
④ N. P. Extra " Portland to Tacoma Treated Ties	.0199
	<hr/>
	2.31 .0864

⑥ Freight Dulbridge to St. Helens $6\frac{1}{2}\%$ per cut + $1\frac{1}{2}\%$ C.T.T.

Day special rate 75% locals = $75\% 13\% + 1\frac{1}{2}\% = .1125$

Average weight 128# x .1125	3.86	.1440
	6.17	.2304

McCormick Lumber Co. St. Helens - Via Kalama

① Haul on green Ties Just @ Territory	.01800
② Haul on Treated Ties Just @ " "	.01330
③ A. P. Extra Haul Green Ties Tacoma to Kalama	.01512
④ N. P. " " Treated Ties Kalama to Tacoma	\$.01512
	<hr/>
	1.78 .06654
① Water Transportation	2.00 .07460
② Switching	.26 .01000
	<hr/>
	4.04 .15114

(3)

① Washington Wood Preserving Co. Hillyard Wash.
 Distance Spokane to Paradise 188 miles
 Switching Charge \$3.60 both ways = .18¢ per tie.

<u>Costs at Paradise Island Empire Ties</u>		<u>Per Tie</u>
① Cost of treatment direct costs		.12 35
② Indirect Overhead		.02 36
③ Indirect Taxes		.00 37
Sub. Total		<u>\$.1508</u>
Less Switching Charge	\$	.0180
Net	3.56	<u>\$.1328</u>

② Construction of New Plant.
 Quantity of Ties 9.71 - 5 PKS
 & Materials

③ Paradise Plant

(A)

Summary of Cests Seattle & Paradise

Per tie

① Treating Firs Seattle Proposed Contract

\$ 9908

② Treating Inland Empire timber at Paradise
and shipping treated ties to Coast

9943

③ Treating Coast Douglas Fir at Paradise and
shipping treated ties to Coast

1,0561

① Statement No 1A

Estimated Cost of Treated Ties under Proposed new Contract at Seattle and delivered to the Owners. No minimum amounts specified in Proposed Contract.

(Equivalent 7' x 8' - 8')

A Direct Cost of Ties & Treatment

① Cost of green tie Douglas Fir $37\frac{1}{3}$ M/M @ 12^{th}	\$.4480
② Sales tax at 2% on 75%	.0067
③ Cost of contract treatment @ 6.25 M/M	.2331
④ Cost of Cruzole 1.35 gal @ $.1326$	.1790
⑤ Cost of Petroleum 1.65 gal @ $.021$	.0347
⑥ Treating Surferman 2,400	.0080
Sub Total	\$.9095

B Interest & Taxes

① Interest on Premiums $52,650$ @ 6% for 6 mos	1579.50	\$.0054
② Taxes on Premiums $26,325$ @ 32% x .0355		.0010
③ Taxes on Seaming ties $.4547$ @ 32% x .0355		.0052
④ Interest on Seaming ties $.4547$ @ 6% 12 mos.		.0273
		\$.0389

② Indirect Shins Freight Etc

① Haul on green ties average haul 148 miles 125 [#] @ .003	.0278
② Haul on treated ties average haul 100 miles 130 [#] @ .00225	.0146
Sub Total	.0424

Summary

A Direct Shins	\$ 90.95
B Interest & Taxes	03.89
C Indirect Shins Freight Etc	.0424
Total	<u>99.08</u>

Asst Chief Engineer
St Paul Minn
Sept. 17-1936

#7

Cresote		
(D) Purchase Domestic Oil For Seattle Contract		per gal
① From sources Chicago and East		\$.12375
② Foreign line freight prop. Chicago to Seattle		.01507
③ N.P. haul St. Paul to Seattle 1904 miles @ .0015		.01241
Total Cost in N. P. Tank Cars		\$.15123

Cost of Cresote purchased from same sources hauled in
 Sellers cars and Ry Co paying mileage on cars \$.15819

Note - Item (D) set up from prices furnished by
 Purchasing Dept.

①

Statement No 9A

Comparison of Unit Prices for Treating Cross ties, Switch ties, Timber & Etc. as between proposed Contract between H. Paul West Coast Wood Preserving Co at Seattle, and the G. N. Contracts at Hilby and

	Proposed H.P. Contract Jan 1-1937	G.N. Contract June 1 1936	G.N. Contract June 1926
① Cross ties, Douglas or Inland Fir M ft B.M.	6.25	8.96	8.33
② Cross ties Douglas fir equivalent 7x8-8 - per tie	.2331	.3319	.3085
③ Cross ties Tamarack or Larch M ft B.M.	6.25	7.92	8.33
④ Cross ties Tamarack or Larch per tie (7x8-8)	.2331	.2933	.3085
⑤ Cross ties Lodge pole or Ponderosa Pine M ft B.M.	6.25	7.50	8.33
⑥ Cross ties " " " " per tie (7x8-8)	.2331	.277	.3085
⑦ Switch ties Fir & Larch M ft B.M.	8.00	12.00	12.00
⑧ Switch ties Pine M ft B.M.	—	10.00	12.00
⑨ Bridge timber, lumber Fir & Larch M ft B.M.	10.20	12.00	12.00
⑩ Bridge timber, lumber Pine M ft B.M.	—	10.00	12.00
⑪ Piling Fir & Larch per cu. ft.	.14	.15	→
⑫ Piling Cedar per cu. ft.	—	.14	—
⑬ Piling Pine per cu. ft.	—	.13	—
⑭ Cross ties, green, fir M ft B.M.	6.25	10.62	—
⑮ Cross ties green, fir per tie (7x8-8)	.2331	.3933	—
⑯ Switch ties green, fir M ft B.M.	8.00	13.66	—
⑰ Bridge timber, lumber, fir, green, M ft B.M.	11.22	13.66	—

18 Bridge timber, lumber, green, fir (usual lots) M / B M	11.47	13.66	—
19 Bridge timber, lumber, green fir (small lots) M / B M	12.85	13.66	—
20 Piling green fir per cu ft.	.2012	.17	

Note - Item 18 based on 30,000 M / B M or over

Item 19 based on charges less than 30,000 M / B M

Item 20 based on treating green piling requiring a total cylinder time of 42 hrs.

The copy of G. N. June 1936 is not complete as to schedule of prices.

Note - The G. N. June 1-1936 contract provides that contractor shall pay to the G. N. rental for plant of \$50,000 per year in case G. N. offers for treatment 1,750,000 cu ft or 21,000,000 M / B M. This is equal to 561,736 Crossties 7x8's. If all the rental were to be absorbed by the G. N. material treated is equal to 8.72¢ per tie. The G. N. guarantees to offer for treatment 1,500,000 cu ft per year. In the event less than 1,750,000 cu ft is offered the rental drops to \$35,000 per year. A rental of \$35,000 absorbed by the G. N. 1,500,000 cu ft or equivalent 482,186 Crossties would amount to 7.26¢ per tie.

Summarizing the various rental absorptions:

- ① Rental \$50,000 for 2,000,000 cu ft = $2.5\text{¢} = 2.08\text{¢ per M ft BM} = 7.777\text{¢ per tie}$
- ② Rental \$50,000 for 1,750,000 cu ft = $2.85\text{¢ cu ft} = 2.375\text{¢ per M ft BM} = 8.866\text{¢ per tie}$
- ③ Rental \$35,000 for 1,750,000 cu ft = $2.00\text{¢ cu ft} = 1.666\text{¢ per M ft BM} = 6.222\text{¢ per tie}$
- ④ Rental \$35,000 for 1,500,000 cu ft = $2.333\text{¢ cu ft} = 1.941\text{¢ per M ft BM} = 7.258\text{¢ per tie}$

The G. X. Contract of June 1st 1936 effective May 1st 1937 for a period of five years provides that the G. X. shall assume the usual taxes and in addition assume the cost to the contractor of all taxes, contributions or assessments imposed by Federal Social Security Act, or any similar acts in the State of Washington etc.

The N. P. Seattle Contractor has an investment of about \$300,000 in treating plant and seasoning yard. Based on 300,000 ties per year the amortization, in ten years, is 10¢ per tie, interest on investment @ 6% is 3.33¢ per tie.

Asst Chief Engineer
St Paul Minn.
Sept. 14-1936

Statement No 10

Approximate estimate of amount of forest product material to be treated at Seattle. Treated ties required based on rough estimates of untreated ties in track in territory west of Yakima and probable renewals of treated ties placed since 1908. Switch ties based on adjusted average of last four years. Lumber and piling based on average of last ten years.

Annual Year	Number Ties	ft BM (M)	%	Switch Ties ft BM (M)	%	Piling + Lumber ft BM (M)	%	Total ft BM (M)
1937	220,000	8,213,300	88	500,000	5	600,000	7	9,313,300
1938	158,000	5,899,000	84	500,000	7	600,000	9	6,999,700
1939	164,000	6,123,700	85	500,000	7	600,000	8	7,223,700
1940	170,000	6,347,700	85	500,000	7	600,000	8	7,447,700
1941	180,000	6,720,000	86	500,000	6	600,000	8	7,820,000
1942	190,000	7,093,300	87	500,000	6	600,000	7	8,193,300
1943	203,000	7,579,700	87	500,000	6	600,000	7	8,679,700
1944	220,000	8,213,300	88	500,000	5	600,000	7	9,313,300
1945	238,000	8,885,300	89	500,000	5	600,000	6	9,985,300
1946	254,000	9,483,700	90	500,000	5	600,000	5	10,583,700
Totals	1,997,000	74,555,700	87	5,000,000	6	6,000,000	7	85,555,700

Asst Chief Eng
St. Paul Min
September 10-1936

ties at $37\frac{1}{3}$ ft BM

No. Dies shown - 2.519.911

$99163000 \div \text{by } 37\frac{1}{3} = 2.656.152$

Probably larger proportion
of No 5 dies treated. $37\frac{1}{3}$ ft
= a No 4 die $7" \times 8" - 8$ ft

McG 9/12

h Railroad Involved:

Statement No 11

Quantities of materials treated and amounts paid Seattle
Treating Plant 1927 to Aug. 1st 1936

Year	Gr BM Cords Ties	Gr BM (M)	Amount Paid	%	Switch Ties Gr BM (M)	Amount Paid	%	Lumber Gr BM (M)	Amount Paid	%	Piling Lm ft	Amount Paid	%	Total Paid
1927	7,156,000		*48,072	53	596,000	*5,837	6	361,000	*11,057	12	83,325	*26,077	29	*91,043
1928	18,576,000		124,687	80	1063,000	10,536	7	511,000	5212	3	66380	15,503	10	155,938
1929	15,985,000		105,512	83	1263,000	12,206	10	301,000	3476	3	21235	5409	4	126,603
1930	10,278,000		67,658	86	-	-	-	520,000	8958	11	9138	2076	3	78,692
1931	8,496,000		56,158	74	1241,000	11,857	15	319,000	7020	9	6847	1255	2	76,290
1932	9,583,000		62,924	86	720,000	6,480	9	197,000	2545	4	3611	848	1	72,797
1933	4,019,000		26,263	75	561,000	4,814	14	190,000	2484	7	8415	1459	4	35,020
1934	9,590,000		62,598	91	653,000	5328	8	38,000	508	1	1290	274	-	68,708
1935	4,343,000		28,418	82	617,000	4957	14	110,000	1525	4	-	-	-	34,900
1936	11,137,000		72,852	85	1240,000	10,499	12	180,000	2335	3	-	-	-	85,686
Mean	99,163,000		655,142	79	7,954,000	72,514	9	2,727,000	45,120	6	200,241	52,901	6	*825,677
Am Cost Per m & BM			*6.61		Per m & BM	*9.12		Per m & BM	*16.55		Per Lm ft	\$.26		
Am Cost Per Tie			.26											

Piling Amount Paid % Total Paid
Lm ft

Asst Chief Engr
St. Paul N 1177
Sept 10-1936

2519911

Statement No 12

Record of Commercial loads of treated forest products from the Seattle Plant of the West Coast Wood Preserving Co taken from the records of the Wood Preserving Co. by G. R. Hopkins Asst Genl Supt. Timber Preservative during August 1936. Short hauls was considered as being west of Butte and Transcontinental as east of Butte.

Year 1935	N.P.	%	L.P.	G.N.	Mileage	Total
Transcontinental	46	45	26	13	17	102
Short Haul	38	51	4	21	12	75
Totals	84	47	30	34	29	177

Year 1936 - First 6 months						
Transcontinental	29	56	10	8	5	52
Short Haul	67	55	10	34	10	121
Totals	96	55	20	42	15	173

Year 1936 July 1 - to Aug 17						
Transcontinental	8	40	6	5	1	20
Short Haul	25	56	5	15	—	45
Totals	33	51	11	20	1	65

Grand Total						
Transcontinental	83	48	42	26	23	174
Short Haul	130	54	19	70	22	241
	213		61	96	45	415
Percentages	51.3%		14.6%	23.1%	11.0%	100%

Asst Chief
St. Paul Minn.
Sept. 14 - 1936

Statement No 13

G. N. Hillyard Treating Plant under contract with National Pole & Treating Co contract dated June 1st 1936.

Estimated Cost to G. N. for treating fir cross ties 7x8-8', treating in next five year period slightly less than 1,750,000 cu ft. per year. Rental \$35,000 per year

	Mjt. B M	Per Tie
① Treating for ties 7x8-8'	\$8.96	.3319
② Rental Received \$35,000	1.66	.0622
Net Cost	7.30	.2697

Indirect Items

① Taxes on Plant	\$.0120
② Insurance on Plant	.0010
③ State Industrial Tax + Workmen Compensation	.0017
④ Federal Security Tax	.0011
⑤ Business & Occupational Tax	.0008
⑥ Total Tax	\$.0166
⑦ Total Cost to G. N. (2)+(5)	\$.2863
⑧ N. P. Cost Seattle (New Contract)	.2331
⑨ Difference	.0532
⑩ Increase	.2287%
⑪ G. N. Total Investment \$500,000 @ 5% = $\frac{500,000 \times 5}{100} = 12,625$	.0243
⑫ Grand Total Cost to G. N. (7)+(11)	.3105
⑬ G. N. Total Investment \$500,000 @ 3% = $\frac{500,000 \times 3}{100} = 15,000$	.0264

(2)		
(14)	Total Cost Including Interest & Depreciation (12) + (13)	\$ 33.69
(B)	Apparent Profit to Contractor	
(1)	Receipts from G.N. @ \$8.96 per M. J. B.M. 7x8-8' per tie	\$ 33.19
(2)	Rental Payment to G.N.	.0622
	Gross Return	<u>.2697</u>
(1)	Unloading & stacking green ties	.01125
(2)	Removing seasoned ties to conveyor	.00250
(3)	Conveyor work	.00250
(4)	Boring, adzing & charging retorts	.00900
(5)	Loading and treated ties for shipment	.00625
(6)	Fuel - Steam & power	.02000
(7)	Plant Labor operation & repairs	.02100
(8)	Material & Supplies	.01500
(9)	Maintenance of yard tracks 6 miles \$3500	.00311
(10)	Interest & depreciation on Cranes & locomotives @ 10% \$60,000 - \$6,000 40700	.01639
(11)	General & Plant Supervision \$22,000	.03888
(12)	Total Cost to Contractor	<u>.14588</u>
(13)	Gross Return	.26970
	Apparent Net Profit	.12382
	Net Profit	84.87%

Asst. Chief Engg
 St. Paul, Minn
 Sept. 17 - 1936

③

Summary (Restated)

	M/M	Per Tie
① G.N. Payment to Contractor	\$8.96	.3319
② G.N. Indirect item costs (Taxes etc)	.44	.0166
③ G.N. Investment 500,000 interest @ 5% = 12,625	.65	.0243
④ G.N. Investment 500,000 depreciation @ 3% = 15,000	\$.70	.0264
⑤ Total Gross Costs	10.75	\$3992
⑥ Rental Received from Contractor 35,000	1.66	.0622
⑦ Net Cost	9.09	\$3370
⑧ N.P. Costs Seattle (New Contract)	\$6.25	.2331
Difference	2.84	.1039
Increase		44.56%

① Estimated direct Costs to Contractor	\$2.427	\$.09061 ✓
② Interest & Depreciation Equipment etc 60000 @ 10% = 6,000	.439	.01639 ✓
③ General & Plant Supervision 22,000	1.042	.03888 ✓
④ Sub Total	3.908	\$.14588 ✓
⑤ Rental Payment to G.N. 35,000	1.667	.06222 ✓
⑥ Total	\$5.575	\$.20810 ✓
⑦ Recovers from G.N.	8.891	.33190 ✓

Apparent Net Profit \$3.316 ✓
 Net Profit \$12.38 ✓
 59.48% ✓

Asst Chief Engineer
 St. Paul Mith
 Sept. 17-1936

Statement No 14

Cost of Cross ties treated for the S. P. & S. at St. Helens and Hillyard during 1932 and 1936. Specifications require boring ^{incising} and adzing - mixture treatment 50-50 6 lbs per cu. ft.

		Treatment Cost		
		Per M. P. B.	Per Tie	
① Hillyard 1932 - 37,725 ties - 1,443,563 ft. P. B. M.	\$13,713.83	\$9.50	\$.3635	
Preservatives	(8,964.53)	6.21	.2376	
Total Cost	(22,678.38)	15.71	.6011	
② Hillyard 1936 - 28,214 ties - 1,184,988 ft. P. B. M.	\$10,072.40	\$8.50	\$.3570	
Preservatives	6,837.38	5.77	.2423	
Total Cost	\$16,909.78	14.27	.5993	
③ St. Helens 1936 19,947 ties - 775,529 ft. P. B. M.	\$6,615.26	\$8.53	\$.3317	
Preservatives	\$4,474.80	5.77	.2243	
Total Cost	\$11,090.06	\$14.30	\$.5560	

Note - Data furnished by A. J. Witchel Sept. 14-1936.

Asst. Chief Engr.
St. Paul Minn.
Sept. 17-1936

Jan 1st 1937

" 1 1938

" " 1939

" " 1940

" " 1941

1 year Dec. 31st 1937 ✓

2 years Dec 31 1938 ✓

3 years Dec 31 1939 ✓

4 years Dec 31 1940 ✓

5 years Dec 31 1941 ✓

Change sheets 1-6-7

B-4 For the treatment of bridge ties in cylinder capacity lots the conditions and prices of B-1, B-2 and B-3 shall apply. For the treatment of bridge ties in less than cylinder capacity lots the conditions and prices of C-1, C-2 and C-3 shall apply.

Paragraph (7)

Creosoting Company

(1)

It is understood and agreed that:

- (a) The Railway Company reserves the right to treat any portion or all of the forest products (used ^{by it} in the territory tributary to the Seattle plant, in any one or more of its presently owned and individually operated treating plants.
- (b) The Railway Company shall offer to ^{the} Creosoting Company for treatment under the terms of this contract all forest products not reserved under the ^{provisions of the} foregoing paragraph (a).

X The Railway Company will furnish all creosote and petroleum oil required to treat its material under this agreement. The Creosoting Company agrees to unload and store all creosote and petroleum oil furnished by the Railway Company in railroad tank cars ~~7.0.13~~ at the plant. The Creosoting Company agrees to set aside a storage with a capacity of 300,000 gals.

for creosote furnished by the Railway Company. Creosote furnished by the Railway Company from vessels or barges shall be delivered into the storage tank without expense to the Creosoting Company.

Continue as present

D-3. The prices quoted in paragraphs D-1 and D-2 are predicated on the Railway Company having its own stocks of piling available for treatment. In the event the Railway Company does not have a stock of piling available for treatment the Railway Company shall have the option of purchasing untreated piles from the stock of the Crosotung Company or purchasing treated piles which meet the Railway Company's requirements from the Crosotung Company at its current commercial price.

at mutually agreeable prices

E-3 For storage of treated switch ties after treatment, stacking lengths separately and subsequent loading in accordance with the Railway Company's instructions for shipment, in addition to prices B-1, B-2 and B-3, per thousand feet board measure - - - - - 0.60

~~XXI~~ This agreement shall be effective as of January 1st, 1937 and shall remain in force for a period of five years, and continue thereafter until cancelled by either party giving one year's written notice to the other party. The effective date of cancellation shall be as of December 31st following the year's notice. The earliest date of the year's notice of cancellation shall be January 1st 1940. It is understood and agreed, however, that any forest products on hand for treatment at the termination date of this contract shall be carried to treatment completion under the provisions of this agreement.

B-4 For treatment of bridge ties in cylinder capacity lots the conditions and prices of B-1, B-2 and B-3 shall apply. For the treatment of bridge ties in less than cylinder ^{capacity} lots the material shall be handled under the paragraphs of C-1, C-2 and C-3.

Do not Copy
9/9/32

① Commitment to Contractor for
treatment.

9/2/36

Sect X Fuel oil to be delivered
in tank cars only.

Crisote to be placed in
storage tank by Ry. Co.

Crisote in cars to be
unloaded by Contractor

XI Limit Crisote storage to one
tank capacity of 300,000

XVII Payment for work in unloading
+ stacking leasing ties

*At Seattle Washington
September 2nd - 1936*

TENTATIVE DRAFT OF CONTRACT

CONTRACT Made this _____ day of _____, A.D. 1936, between the NORTHERN PACIFIC RAILWAY COMPANY, a Wisconsin corporation hereinafter called the "Railway Company", and the WEST COAST WOOD PRESERVING COMPANY, a Washington corporation hereinafter called the "Creosoting Company."

In consideration of the mutual dependent promises stated in this contract the parties agree:

I. The Creosoting Company shall store for seasoning and treat at its plant located in the city of Seattle, Washington, such forest products as may be offered by the Railway Company from time to time in accordance with specifications in Exhibit "A" attached and made part of this contract. The term "forest products" used herein is inclusive of cross ties and switch ties, timber, lumber, piling and poles. *Add paragraph A*

✓ II. The Creosoting Company agrees that its plant shall be maintained during the term of this agreement in such degree of working efficiency that the capacity of the plant shall be adequate at all times to treat the yearly requirements of the Railway Company.

✓ III. The Railway Company will notify the Creosoting Company in writing prior to the first of October of each year of the approximate number of cross ties and other forest products which it desires to have stored for seasoning and subsequent treatment during the following calendar year.

✓ IV. The Railway Company will furnish open cars, in so far as may be possible, for delivery of untreated material and for shipment of treated material. The Railway Company at its own cost and expense will do all required switching of its cars of forest products billed to and from the plant. The Creosoting Company agrees to make requests for only such switching as is reasonably necessary and such switching shall be done so far as is practicable at times most convenient to the Railway Company between the hours of 7:00 A.M. and 6:00 P.M.

V. The forest products to be furnished hereunder shall be delivered on cars at the plant of the Creosoting Company. The Creosoting Company shall promptly unload cars and stack the material in the storage yard of the plant for seasoning. The Railway Company in making deliveries to the Creosoting Company shall have regard to its capacity for receiving and stacking material. The Creosoting Company shall pay the Railway Company compensation for any delays in unloading

rates set up in the

said cars in accordance with the Railway Company's published demurrage tariffs whenever eight (8) or less cars are delivered per day. Whenever more than eight (8) cars per day shall be delivered the expense incident to the detention of cars for unloading shall be assumed by the Railway Company. The Creosoting Company will accept delivery of forest products on scows or/rafts alongside its plant ⁱⁿ alongside its plant under the same conditions as outlined for delivery on cars, except that the Creosoting Company will not be required to pay the Railway Company for delays in unloading such scows or rafts.

✓ VI. All cross ties will be properly segregated by grades on cars by the Railway Company to facilitate stacking for seasoning and subsequent treatment by grades. Switch ties, timber and piling delivered shall be sorted by the Creosoting Company, at its own expense, for its convenience in handling for treatment.

✓ VII. All treated material shall be loaded and billed as directed by the Railway Company. Cross ties will be loaded by grades and rail borings. Switch ties will be loaded by lengths.

✓ The Railway Company shall furnish promptly all cars required to ship out treated material. The Creosoting Company agrees to give the Railway Company at least five days' notice as to the time such cars are required.

✓ VIII. The Creosoting Company shall provide fire protection for seasoning and storage yard satisfactory to the Railway Company.

The forest products shall remain the property of the Railway Company and be insured by it against loss by fire.

✓ IX. The Creosoting Company agrees to count and tally material received in each car as soon as possible after receipt of car at its plant, either before or immediately after unloading, against invoice or inspection reports furnished by the Railway Company and to mail reports of such tally to the Railway Company representative immediately after each invoice or inspection report has been tallied, and if any discrepancy occurs to tally a second time to verify the first count.

✓ The Creosoting Company agrees that, as far as practicable, it shall have painted on each stack the initial, number and out turn of each car from which material is unloaded, and the date of unloading.

✓ The Creosoting Company agrees to return to the Railway Company the identical material shipped to it by the Railway Company after said material has been treated, and in case there should be any shortage whatever, the Creosoting

Company agrees to pay the Railway Company therefor at the market price at Seattle, Washington, of like material at the time the shortage is discovered; provided, however, that the Creosoting Company shall not be responsible for shortage resulting from fire or causes which are clearly beyond its control. Joint inventories of all forest products shall be taken at least every six months and discrepancies found adjusted at that time.

The Creosoting Company agrees to furnish reports of all material delivered, shipped, used and on hand at regularly stated intervals as may be required by the Store Department or the Insurance Department of the Railway Company.

See report sheet
X. The Railway Company will furnish all creosote and petroleum oil required to treat its material under this agreement f.o.b. cars or in vessels at the plant. The Creosoting Company agrees to unload and furnish the storage for creosote and oil. Should the Railway Company elect to permit the Creosoting Company to purchase creosote and oil for it, the prices to be paid and the quantities to be purchased for its account must be approved by the Railway Company and the material must conform to the current specifications of the Railway Company to be kept on file with the Creosoting Company. The Railway Company shall carry the insurance and pay the taxes on creosote and oil stored for it by the Creosoting Company, and agrees to pay promptly all invoices covering creosote and oil purchased with its authority for its account.

XI. The Creosoting Company agrees to provide storage tanks of suitable capacity to store the preservatives required for treating the material of the Railway Company, together with working tanks and proper gauges to insure accurate and satisfactory measurements of creosote and oil used in the treatment of the different classes of material for the Railway Company.

The Creosoting Company may, with the written consent of the Railway Company first had and obtained use the preservatives belonging to the Railway Company for the purpose of treating forest products for other concerns in the same plant, and the Creosoting Company shall thereupon promptly replace preservatives so used with other preservatives meeting the specifications of the Railway Company and shall permit no delays in the treatment of Railway Company material to result from such use. In case the Creosoting Company shall be permitted such use of Railway Company preservatives, then joint inventories of preservatives shall be made at the end of each month or at any other appropriate time for the purpose of

adjusting surplus or deficits. Any surplus or deficit must be pro-rated on the relative final retention of preservatives for the different classes of material treated for the parties concerned.

XII. The Railway Company desires to have its cross ties treated during the period from August 1st to December 31st of each year. The Creosoting Company agrees to use reasonable efforts with due regard to the business offered by other customers and the treating capacity of its plant to treat the yearly requirements in this interval if sufficiently properly seasoned ties are available. If for any reason the Creosoting Company at any time cannot with reasonable effort carry out the aforementioned preferential arrangement, the Railway Company agrees to have delivered green ties in advance of requirements so that sufficient seasoned ties will be available for treatment at approximately uniform monthly rates for the yearly requirements.

XIII. The Creosoting Company agrees to store treated ties in its storage yard up to the convenient capacity for temporary storage at the request of the Railway Company. The storage and extra handling involved in loading into cars shall be compensated for at a price scheduled in this agreement.

XIV. The Creosoting Company agrees that upon the written request of the Railway Company to do so, it will accept any modification, changes or substitutions in the specifications in Exhibit "A" hereinbefore mentioned, provided such modifications, changes or substitutions will not require the purchase of any additional equipment, or increase the cost to the Creosoting Company or lessen the plant capacity.

The Railway Company agrees that in the event a change of process is made, at its request, it will pay the Creosoting Company any royalty the Creosoting Company may be required to pay in consequence thereof and will also protect the Creosoting Company against all claims pertaining thereto.

XV. The Railway Company, through its designated representatives or agents, shall have access at all reasonable times to the plant and premises of the Creosoting Company and the right to inspect all operations therein, and shall be furnished all necessary and proper facilities for testing the preservatives employed and the amount absorbed by each charge of ties and other material treated for the Railway Company.

The Creosoting Company shall furnish records on forms furnished by the Railway Company of all treating operations to correspond to that which the Railway Company keeps at its own treating plants.

XVI. In case of any dispute or difference arising as to the interpretation of any sections herebefore set out, the said dispute and causes of differences shall be referred to arbitration and determination of a single arbitrator, if the parties hereto agree upon one; otherwise to three arbitrators - one to be appointed by each of the parties hereto and the third arbitrator to be nominated and appointed by the first named arbitrators. Should the first named arbitrators fail to agree upon the third arbitrator, then such selection shall be left to a Judge of the United States District Court for the District of the State of Washington. The decision of the single arbitrator or a majority of the three arbitrators shall be final and binding upon the parties. Pending the award of arbitration, there shall be no interruption in the transaction of business pursuant to this agreement and statements and payments in respect thereto shall be made in the same manner as prior to arising of such differences.

Each party shall pay for services of and all personal expenses incurred by arbitrator chosen by or for it and both parties shall jointly and equally pay for the services and expenses of the single or third arbitrator, together with all other and different expenses of the arbitration.

XVII. If at any time during the term of this agreement the operation of the Creosoting Company's plant shall be temporarily suspended because of fire, explosion, strikes or other causes not within its control, the time during which the operation of this plant shall be suspended shall not be counted as a part of the term of this agreement, and a corresponding additional time shall be given it for performing its obligations under this agreement; provided, however, in case of the total or partial destruction of the said plant by fire or other cause the Creosoting Company shall promptly repair, rebuild and restore the same to substantially the same condition in which it was before such total or partial destruction and pending such reconstruction ~~on~~ the Railway Company may remove its ties and other material from the seasoning yard, *for use untreated or if desired for treatment*

XVIII. The Railway Company agrees to pay to the Creosoting Company for work performed and services rendered, as specified in this agreement, the following prices:

- | | | |
|-----|---|--------|
| A-1 | For the treatment of all seasoned cross ties,
per thousand feet board measure | \$6.25 |
| A-2 | For treatment of unseasoned cross ties taken direct from
incoming railroad cars, per thousand feet board measure | \$6.25 |

- A-3 For treatment of unseasoned cross ties taken from stock piles in seasoning yard, per thousand feet board measure \$6.70
- B-1 For the treatment of all seasoned switch ties, per thousand feet board measure \$8.00
- B-2 For the treatment of unseasoned switch ties taken direct from incoming railroad cars, per thousand feet board measure \$8.00
- B-3 For the treatment of unseasoned switch ties taken from stock piles in seasoning yard, per thousand feet board measure . . . \$8.60
- C-1 For the treatment of all sawed material other than cross ties and switch ties in cylinder charges of 30,000 feet board measure or less (The Treating Company being given the option of treating such charges separately or mixed with commercial material) per thousand feet board measure \$12.80
- C-2 For the treatment of all sawed material other than cross ties and switch ties in cylinder charges in excess of 30,000 feet board measure which require a time duration of not longer than twelve (12) actual treating hours, per thousand feet board measure. \$10.20
- C-3 For the time in excess of twelve (12) actual treating hours required for treating material covered by paragraph C-2, per cylinder per hour or fraction thereof \$5.10
- D-1 For the treatment of all piling, poles and other similar material which requires a time duration not longer than twelve (12) actual treating hours, the Creosoting Company being given the option of treating quantities of less than a full cylinder charge either separately or combined with commercial material, per cubic foot \$0.14
- D-2 For time in excess of twelve (12) actual treating hours required for treating material covered by paragraph D-1, with the understanding that where material is treated in the same charge with commercial material the time over twelve actual hours will be pro-rated between the Railway and commercial material in the proportion that the volume of the material of each bears to the total volume in the charge, per cylinder per hour or fraction thereof. \$5.10
- D-3 The prices quoted in paragraphs D-1 and D-2 are predicated on the Railway Company having its own stocks of piling available for treatment. In the event the Railway Company does not have a stock of piling available for treatment the Creosoting Company is given the further option of furnishing treated piles that will meet the Railway Company's requirements, from its stock at its current commercial price, which shall not exceed the price that would have been paid if the piles had been treated in accordance with paragraphs D-1 and D-2.
- E-1 In cases where it is found, on account of unseasoned conditions of material, or other conditions not the responsibility of the Creosoting Company, an unsatisfactory treatment has been obtained and the Railway Company inspector considers it advisable to segregate and re-treat all or any portion of cylinder charge of piles, it shall be done at the following rate for each re-treatment in addition to the prices mentioned in paragraphs D-1 and D-2:
- (a) Two cents (\$.02) per cubic foot for piling, poles and other similar material retreated. It is understood that entire cylinder charges returned for continuation of treatment without segregation of any part of the material shall not be considered as coming under the provisions of this E-1.
- E-2 For storage of treated cross ties after treatment and subsequent loading on cars, in addition to prices A-1, A-2, A-3, per tie \$0.01

Sub E-3
E-3 For unloading treated switch ties from trams, storing in yards, stacking lengths separately and reloading in accordance with Railway Company's instructions for shipment, per thousand feet board measure \$0.60

E-4 For incising sawed material other than cross ties and switch ties including all handling not included under paragraphs C-1, C-2, C-3 necessary to accomplish it, per thousand feet board measure \$0.50

E-5 For other handling at the plant site, framing of timber, etc., as from time to time may be requested in writing by the Railway Company, shall be paid for at rates mutually agreed upon, plus ten (10) per cent to cover supervision and profit.
actual cost to the Creosoting Company

- - -

XIX. It is understood and agreed that the prices quoted under Section XVIII, paragraphs A-1, A-2, A-3 and B-1, B-2, B-3 cover the unloading from railroad cars or barges, handling to the seasoning yard or to treating trams before treatment, moving them to boring, adzing and incising plant, boring, adzing and incising cross ties and incising switch ties ~~only~~; moving to cylinders, treating them and loading them from trams to railroad cars; and further that prices quoted under paragraphs C-1, C-2, C-3 and D-1, D-2, D-3 cover unloading material from railroad cars or barges and rafts, handling to seasoning yard or to trams, moving to treating cylinders, treating and loading from trams on to railroad cars. The prices in Paragraphs A, B, C, and D apply to treatment to both air-seasoned and artificially seasoned material.

The "actual treating hours" ^{is} are considered to be the actual normal time occupied while the ties or other materials are in the cylinders in the process of treatment as shown by the treating records. Delays caused by failure of the Creosoting Company's equipment, low steam pressure, etc., shall be deducted when computing overtime charges.

Where material of the Railway Company is treated in the same ^{charge} load with commercial material as provided for in Section XVIII, paragraphs C-1 and D-1, the Railway Company's stock of preservatives shall be charged with the calculated quantity required to treat its portion of the mixed load.

XX. The Creosoting Company agrees that, in case it, during the period of this agreement, makes contracts with other railroads directly or through their agents for the treatment of forest products at prices lower than those scheduled in this agreement, then such lower prices shall become immediately effective in this contract.

XXI. The Railway Company will, on or before the thirtieth day of each month, pay to the Creosoting Company all sums owing to it at the end of the next preceding calendar month, upon proper bills, certified by the Railway Company representative, rendered promptly by the Creosoting Company to the Railway Company.

See para XII
XXII. This agreement shall be effective as of January 1st, 1937 and shall remain in force for a period of five years, and continue thereafter until cancelled by either party giving one year's written notice to the other party. The effective date of cancellation shall be as of December 31st following the year's notice. It is understood and agreed, however, that any forest products on hand for treatment at the termination date of this contract shall be carried to treatment completion under the provisions of this agreement.

XXIII. This agreement shall inure to the benefit of and be binding upon the parties herto, their respective successors and assigns.

IN WITNESS WHEREOF, each party hereto has caused this instrument to be signed by its proper official and its corporate seal is hereto affixed and attested by its Secretary, in duplicate, the day and year first above written.

NORTHERN PACIFIC RAILWAY COMPANY
By _____

WEST COAST WOOD PRESERVING COMPANY
By _____

TENTATIVE DRAFT OF CONTRACT

CONTRACT Made this _____ day of _____, A.D. 1936, between the NORTHERN PACIFIC RAILWAY COMPANY, a Wisconsin corporation hereinafter called the "Railway Company", and the WEST COAST WOOD PRESERVING COMPANY, a _____ corporation hereinafter called the "Creosoting Company."

In consideration of the mutual dependent promises stated in this contract the parties agree:

I. The Creosoting Company shall store for seasoning and treat at its plant located in the city of Seattle, Washington, such forest products as may be offered by the Railway Company from time to time in accordance with specifications in Exhibit "A" attached and made part of this contract. The term "forest products" used herein is inclusive of cross ties and switch ties, timber, lumber, piling and poles.

II. The Creosoting Company agrees that its plant shall be maintained during the term of this agreement in such degree of working efficiency that the capacity of the plant shall be adequate at all times to treat the yearly requirements of the Railway Company.

III. The Railway Company will notify the Creosoting Company in writing prior to the first of October of each year of the approximate number of cross ties and other forest products which it desires to have stored for seasoning and subsequent treatment during the following calendar year.

IV. The Railway Company will furnish open cars, in so far as may be possible, for delivery of untreated material and for shipment of treated material. The Railway Company at its own cost and expense will do all required switching of its cars of forest products billed to and from the plant. The Creosoting Company agrees to make requests for only such switching as is reasonably necessary and such switching shall be done so far as is practicable at times most convenient to the Railway Company between the hours of 7:00 A.M. and 6:00 P.M.

V. The forest products to be furnished hereunder shall be delivered on cars at the plant of the Creosoting Company. The Creosoting Company shall promptly unload cars and stack the material in the storage yard of the plant for seasoning. The Railway Company in making deliveries to the Creosoting Company shall have regard to its capacity for receiving and stacking material. The Creosoting Company shall pay the Railway Company compensation for any delays in unloading

said cars in accordance with the Railway Company's published demurrage tariffs whenever eight (8) or less cars are delivered per day. Whenever more than eight (8) cars per day shall be delivered the expense incident to the detention of cars for unloading shall be assumed by the Railway Company. The Creosoting Company will accept delivery of forest products on scows or/rafts alongside its plant alongside its plant under the same conditions as outlined for delivery on cars, except that the creosoting Company will not be required to pay the Railway Company for delays in unloading such scows or rafts.

VI. All cross ties will be properly segregated by grades on cars by the Railway Company to facilitate stacking for seasoning and subsequent treatment by grades. Switch ties, timber and piling delivered shall be sorted by the Creosoting Company, at its own expense, for its convenience in handling for treatment.

VII. All treated material shall be loaded and billed as directed by the Railway Company. Cross ties will be loaded by grades and rail borings. Switch ties will be loaded by lengths.

The Railway Company shall furnish promptly all cars required to ship out treated material. The Creosoting Company agrees to give the Railway Company at least five days' notice as to the time such cars are required.

VIII. The Creosoting Company shall provide fire protection for seasoning and storage yard satisfactory to the Railway Company.

The forest products shall remain the property of the Railway Company and be insured by it against loss by fire.

IX. The Creosoting Company agrees to count and tally material received in each car as soon as possible after receipt of car at its plant, either before or immediately after unloading, against invoice or inspection reports furnished by the Railway Company and to mail reports of such tally to the Railway Company representative immediately after each invoice or inspection report has been tallied, and if any discrepancy occurs to tally a second time to verify the first count.

The Creosoting Company agrees that, as far as practicable, it shall have painted on each stack the initial, number and out turn of each car from which material is unloaded, and the date of unloading.

The Creosoting Company agrees to return to the Railway Company the identical material shipped to it by the Railway Company after said material has been treated, and in case there should be any shortage whatever, the Creosoting

Company agrees to pay the Railway Company therefor at the market price at Seattle, Washington, of like material at the time the shortage is discovered; provided, however, that the Creosoting Company shall not be responsible for shortage resulting from fire or causes which are clearly beyond its control. Joint inventories of all forest products shall be taken at least every six months and discrepancies found adjusted at that time.

The Creosoting Company agrees to furnish reports of all material delivered, shipped, used and on hand at regularly stated intervals as may be required by the Store Department or the Insurance Department of the Railway Company.

X. The Railway Company will furnish all creosote and petroleum oil required to treat its material under this agreement f.o.b. cars or in vessels at the plant. The Creosoting Company agrees to unload and furnish the storage for creosote and oil. Should the Railway Company elect to permit the Creosoting Company to purchase creosote and oil for it, the prices to be paid and the quantities to be purchased for its account must be approved by the Railway Company and the material must conform to the current specifications of the Railway Company to be kept on file with the Creosoting Company. The Railway Company shall carry the insurance and pay the taxes on creosote and oil stored for it by the Creosoting Company, and agrees to pay promptly all invoices covering creosote and oil purchased with its authority for its account.

XI. The Creosoting Company agrees to provide storage tanks of suitable capacity to store the preservatives required for treating the material of the Railway Company, together with working tanks and proper gauges to insure accurate and satisfactory measurements of creosote and oil used in the treatment of the different classes of material for the Railway Company.

The Creosoting Company may, with the written consent of the Railway Company first had and obtained use the preservatives belonging to the Railway Company for the purpose of treating forest products for other concerns in the same plant, and the Creosoting Company shall thereupon promptly replace preservatives so used with other preservatives meeting the specifications of the Railway Company and shall permit no delays in the treatment of Railway Company material to result from such use. In case the Creosoting Company shall be permitted such use of Railway Company preservatives, then joint inventories of preservatives shall be made at the end of each month or at any other appropriate time for the purpose of

adjusting surplus or deficits. Any surplus or deficit must be pro-rated on the relative final retention of preservatives for the different classes of material treated for the parties concerned.

XII. The Railway Company desires to have its cross ties treated during the period from August 1st to December 31st of each year. The Creosoting Company agrees to use reasonable efforts with due regard to the business offered by other customers and the treating capacity of its plant to treat the yearly requirements in this interval if sufficiently properly seasoned ties are available. If for any reason the Creosoting Company at any time cannot with reasonable effort carry out the aforementioned preferential arrangement, the Railway Company agrees to have delivered green ties in advance of requirements so that sufficient seasoned ties will be available for treatment at approximately uniform monthly rates for the yearly requirements.

XIII. The Creosoting Company agrees to store treated ties in its storage yard up to the convenient capacity for temporary storage at the request of the Railway Company. The storage and extra handling involved in loading into cars shall be compensated for at a price scheduled in this agreement.

XIV. The Creosoting Company agrees that upon the written request of the Railway Company to do so, it will accept any modification, changes or substitutions in the specifications in Exhibit "A" hereinbefore mentioned, provided such modifications, changes or substitutions will not require the purchase of any additional equipment, or increase the cost to the Creosoting Company or lessen the plant capacity.

The Railway Company agrees that in the event a change of process is made, at its request, it will pay the Creosoting Company any royalty the Creosoting Company may be required to pay in consequence thereof and will also protect the Creosoting Company against all claims pertaining thereto.

XV. The Railway Company, through its designated representatives or agents, shall have access at all reasonable times to the plant and premises of the Creosoting Company and the right to inspect all operations therein, and shall be furnished all necessary and proper facilities for testing the preservatives employed and the amount absorbed by each charge of ties and other material treated for the Railway Company.

The Creosoting Company shall furnish records on forms furnished by the Railway Company of all treating operations to correspond to that which the Railway Company keeps at its own treating plants.

XVI. In case of any dispute or difference arising as to the interpretation of any sections herebefore set out, the said dispute and causes of differences shall be referred to arbitration and determination of a single arbitrator, if the parties hereto agree upon one; otherwise to three arbitrators - one to be appointed by each of the parties hereto and the third arbitrator to be nominated and appointed by the first named arbitrators. Should the first named arbitrators fail to agree upon the third arbitrator, then such selection shall be left to a Judge of the United States District Court for the District of the State of Washington. The decision of the single arbitrator or a majority of the three arbitrators shall be final and binding upon the parties. Pending the award of arbitration, there shall be no interruption in the transaction of business pursuant to this agreement and statements and payments in respect thereto shall be made in the same manner as prior to arising of such differences.

Each party shall pay for services of and all personal expenses incurred by arbitrator chosen by or for it and both parties shall jointly and equally pay for the services and expenses of the single or third arbitrator, together with all other and different expenses of the arbitration.

XVII. If at any time during the term of this agreement the operation of the Creosoting Company's plant shall be temporarily suspended because of fire, explosion, strikes or other causes not within its control, the time during which the operation of this plant shall be suspended shall not be counted as a part of the term of this agreement, and a corresponding additional time shall be given it for performing its obligations under this agreement; provided, however, in case of the total or partial destruction of the said plant by fire or other cause the Creosoting Company shall promptly repair, rebuild and restore the same to substantially the same condition in which it was before such total or partial destruction and pending such reconstruction ~~on~~ the Railway Company may remove its ties and other material from the seasoning yard.

XVIII. The Railway Company agrees to pay to the Creosoting Company for work performed and services rendered, as specified in this agreement, the following prices:

A-1	For the treatment of all seasoned cross ties, per thousand feet board measure	\$6.25
A-2	For treatment of unseasoned cross ties taken direct from incoming railroad cars, per thousand feet board measure	\$6.25

- A-3 For treatment of unseasoned cross ties taken from stock piles in seasoning yard, per thousand feet board measure \$6.70
- B-1 For the treatment of all seasoned switch ties, per thousand feet board measure \$8.00
- B-2 For the treatment of unseasoned switch ties taken direct from incoming railroad cars, per thousand feet board measure . . . \$8.00
- B-3 For the treatment of unseasoned switch ties taken from stock piles in seasoning yard, per thousand feet board measure . . \$8.60
- C-1 For the treatment of all sawed material other than cross ties and switch ties in cylinder charges of 30,000 feet board measure or less (The Treating Company being given the option of treating such charges separately or mixed with commercial material) per thousand feet board measure \$12.80
- C-2 For the treatment of all sawed material other than cross ties and switch ties in cylinder charges in excess of 30,000 feet board measure which require a time duration of not longer than twelve (12) actual treating hours, per thousand feet board measure. \$10.20
- C-3 For the time in excess of twelve (12) actual treating hours required for treating material covered by paragraph C-2, per cylinder per hour or fraction thereof \$5.10
- D-1 For the treatment of all piling, poles and other similar material which requires a time duration not longer than twelve (12) actual treating hours, the Creosoting Company being given the option of treating quantities of less than a full cylinder charge either separately or combined with commercial material, per cubic foot \$0.14
- D-2 For time in excess of twelve (12) actual treating hours required for treating material covered by paragraph D-1, with the understanding that where material is treated in the same charge with commercial material the time over twelve actual hours will be pro-rated between the Railway and commercial material in the proportion that the volume of the material of each bears to the total volume in the charge, per cylinder per hour or fraction thereof. \$5.10
- D-3 The prices quoted in paragraphs D-1 and D-2 are predicated on the Railway Company having its own stocks of piling available for treatment. In the event the Railway Company does not have a stock of piling available for treatment the Creosoting Company is given the further option of furnishing treated piles that will meet the Railway Company's requirements, from its stock at its current commercial price, which shall not exceed the price that would have been paid if the piles had been treated in accordance with paragraphs D-1 and D-2.
- E-1 In cases where it is found, on account of unseasoned conditions of material, or other conditions not the responsibility of the Creosoting Company, an unsatisfactory treatment has been obtained and the Railway Company inspector considers it advisable to segregate and re-treat all or any portion of cylinder charge of piles, it shall be done at the following rate for each re-treatment in addition to the prices mentioned in paragraphs D-1 and D-2:
- (a) Two cents (\$.02) per cubic foot for piling, poles and other similar material retreated. It is understood that entire cylinder charges returned for continuation of treatment without segregation of any part of the material shall not be considered as coming under the provisions of this E-1.
- E-2 For storage of treated cross ties after treatment and subsequent loading on cars, in addition to prices A-1, A-2, A-3, per tie \$0.01

- E-3 For unloading treated switch ties from trams, storing in yards, stacking lengths separately and reloading in accordance with Railway Company's instructions for shipment, per thousand feet board measure \$0.60
- E-4 For incising sawed material other than cross ties and switch ties including all handling not included under paragraphs C-1, C-2, C-3 necessary to accomplish it, per thousand feet board measure \$0.50
- E-5 For other handling at the plant site, framing of timber, etc., as from time to time may be requested in writing by the Railway Company, shall be paid for at rates mutually agreed upon, plus ten (10) per cent to cover supervision and profit.

- - -

XIX. It is understood and agreed that the prices quoted under Section XVIII, paragraphs A-1, A-2, A-3 and B-1, B-2, B-3 cover the unloading from railroad cars or barges, handling to the seasoning yard or to treating trams before treatment, moving them to boring, adzing and incising plant, boring, adzing and incising cross ties and incising switch ties only; moving to cylinders, treating them and loading them from trams to railroad cars; and further that prices quoted under paragraphs C-1, C-2, C-3 and D-1, D-2, D-3 cover unloading material from railroad cars or barges and rafts, handling to seasoning yard or to trams, moving to treating cylinders, treating and loading from trams on to railroad cars. The prices in Paragraphs A, B, C, and D apply to treatment to both air-seasoned and artificially seasoned material.

The "actual treating hours" are considered to be the actual normal time occupied while the ties or other materials are in the cylinders in the process of treatment as shown by the treating records. Delays caused by failure of the Creosoting Company's equipment, low steam pressure, etc., shall be deducted when computing overtime charges.

Where material of the Railway Company is treated in the same load with commercial material as provided for in Section XVIII, paragraphs C-1 and D-1, the Railway Company's stock of preservatives shall be charged with the calculated quantity required to treat its portion of the mixed load.

XX. The Creosoting Company agrees that, in case it, during the period of this agreement, makes contracts with other railroads directly or through their agents for the treatment of forest products at prices lower than those scheduled in this agreement, then such lower prices shall become immediately effective in this contract.

XXI. The Railway Company will, on or before the thirtieth day of each month, pay to the Creosoting Company all sums owing to it at the end of the next preceding calendar month, upon proper bills, certified by the Railway Company representative, rendered promptly by the Creosoting Company to the Railway Company.

XXII. This agreement shall be effective as of January 1st, 1937 and shall remain in force for a period of five years, and continue thereafter until cancelled by either party giving one year's written notice to the other party. The effective date of cancellation shall be as of December 31st following the year's notice. It is understood and agreed, however, that any forest products on hand for treatment at the termination date of this contract shall be carried to treatment completion under the provisions of this agreement.

XXIII. This agreement shall inure to the benefit of and be binding upon the parties hereto, their respective successors and assigns.

IN WITNESS WHEREOF, each party hereto has caused this instrument to be signed by its proper official and its corporate seal is hereto affixed and attested by its Secretary, in duplicate, the day and year first above written.

NORTHERN PACIFIC RAILWAY COMPANY
By _____

WEST COAST WOOD PRESERVING COMPANY
By _____

the term of this agreement in such degree of working efficiency that the capacity of the plant shall be adequate at all times to treat the yearly requirements of the Railway

TENTATIVE DRAFT OF CONTRACT

CONTRACT Made this _____ day of _____, A.D. 1936, between the NORTHERN PACIFIC RAILWAY COMPANY, a Wisconsin corporation hereinafter called the "Railway Company", and the WEST COAST WOOD PRESERVING COMPANY, a _____ corporation hereinafter called the "Creosoting Company."

In consideration of the mutual dependent promises stated in this contract the parties agree:

I. The Creosoting Company shall store for seasoning and treat at its plant located in the city of Seattle, Washington, such forest products as may be offered by the Railway Company from time to time in accordance with specifications in Exhibit "A" attached and made part of this contract. The term "forest products" used herein is inclusive of cross ties and switch ties, timber, lumber, piling and poles.

II. The Creosoting Company agrees that its plant shall be maintained during the term of this agreement in such degree of working efficiency that the capacity of the plant shall be adequate at all times to treat the yearly requirements of the Railway Company.

III. The Railway Company will notify the Creosoting Company in writing prior to the first of October of each year of the approximate number of cross ties and other forest products which it desires to have stored for seasoning and subsequent treatment during the following calendar year.

IV. The Railway Company will furnish open cars, in so far as may be possible, for delivery of untreated material and for shipment of treated material. The Railway Company at its own cost and expense will do all required switching of its cars of forest products billed to and from the plant. The Creosoting Company agrees to make requests for only such switching as is reasonably necessary and such switching shall be done so far as is practicable at times most convenient to the Railway Company between the hours of 7:00 A.M. and 6:00 P.M.

V. The forest products to be furnished hereunder shall be delivered on cars at the plant of the Creosoting Company. The Creosoting Company shall promptly unload cars and stack the material in the storage yard of the plant for seasoning. The Railway Company in making deliveries to the Creosoting Company shall have regard to its capacity for receiving and stacking material. The Creosoting Company shall pay the Railway Company compensation for any delays in unloading

said cars in accordance with the Railway Company's published demurrage tariffs whenever eight (8) or less cars are delivered per day. Whenever more than eight (8) cars per day shall be delivered the expense incident to the detention of cars for unloading shall be assumed by the Railway Company. The Creosoting Company will accept delivery of forest products on scows or/rafts alongside its plant alongside its plant under the same conditions as outlined for delivery on cars, except that the creosoting Company will not be required to pay the Railway Company for delays in unloading such scows or rafts.

VI. All cross ties will be properly segregated by grades on cars by the Railway Company to facilitate stacking for seasoning and subsequent treatment by grades. Switch ties, timber and piling delivered shall be sorted by the Creosoting Company, at its own expense, for its convenience in handling for treatment.

VII. All treated material shall be loaded and billed as directed by the Railway Company. Cross ties will be loaded by grades and rail borings. Switch ties will be loaded by lengths.

The Railway Company shall furnish promptly all cars required to ship out treated material. The Creosoting Company agrees to give the Railway Company at least five days' notice as to the time such cars are required.

VIII. The Creosoting Company shall provide fire protection for seasoning and storage yard satisfactory to the Railway Company.

The forest products shall remain the property of the Railway Company and be insured by it against loss by fire.

IX. The Creosoting Company agrees to count and tally material received in each car as soon as possible after receipt of car at its plant, either before or immediately after unloading, against invoice or inspection reports furnished by the Railway Company and to mail reports of such tally to the Railway Company representative immediately after each invoice or inspection report has been tallied, and if any discrepancy occurs to tally a second time to verify the first count.

The Creosoting Company agrees that, as far as practicable, it shall have painted on each stack the initial, number and out turn of each car from which material is unloaded, and the date of unloading.

The Creosoting Company agrees to return to the Railway Company the identical material shipped to it by the Railway Company after said material has been treated, and in case there should be any shortage whatever, the Creosoting

Company agrees to pay the Railway Company therefor at the market price at Seattle, Washington, of like material at the time the shortage is discovered; provided, however, that the Creosoting Company shall not be responsible for shortage resulting from fire or causes which are clearly beyond its control. Joint inventories of all forest products shall be taken at least every six months and discrepancies found adjusted at that time.

The Creosoting Company agrees to furnish reports of all material delivered, shipped, used and on hand at regularly stated intervals as may be required by the Store Department or the Insurance Department of the Railway Company.

X. The Railway Company will furnish all creosote and petroleum oil required to treat its material under this agreement f.o.b. cars or in vessels at the plant. The Creosoting Company agrees to unload and furnish the storage for creosote and oil. Should the Railway Company elect to permit the Creosoting Company to purchase creosote and oil for it, the prices to be paid and the quantities to be purchased for its account must be approved by the Railway Company and the material must conform to the current specifications of the Railway Company to be kept on file with the Creosoting Company. The Railway Company shall carry the insurance and pay the taxes on creosote and oil stored for it by the Creosoting Company, and agrees to pay promptly all invoices covering creosote and oil purchased with its authority for its account.

XI. The Creosoting Company agrees to provide storage tanks of suitable capacity to store the preservatives required for treating the material of the Railway Company, together with working tanks and proper gauges to insure accurate and satisfactory measurements of creosote and oil used in the treatment of the different classes of material for the Railway Company.

The Creosoting Company may, with the written consent of the Railway Company first had and obtained use the preservatives belonging to the Railway Company for the purpose of treating forest products for other concerns in the same plant, and the Creosoting Company shall thereupon promptly replace preservatives so used with other preservatives meeting the specifications of the Railway Company and shall permit no delays in the treatment of Railway Company material to result from such use. In case the Creosoting Company shall be permitted such use of Railway Company preservatives, then joint inventories of preservatives shall be made at the end of each month or at any other appropriate time for the purpose of

adjusting surplus or deficits. Any surplus or deficit must be pro-rated on the relative final retention of preservatives for the different classes of material treated for the parties concerned.

XII. The Railway Company desires to have its cross ties treated during the period from August 1st to December 31st of each year. The Creosoting Company agrees to use reasonable efforts with due regard to the business offered by other customers and the treating capacity of its plant to treat the yearly requirements in this interval if sufficiently properly seasoned ties are available. If for any reason the Creosoting Company at any time cannot with reasonable effort carry out the aforementioned preferential arrangement, the Railway Company agrees to have delivered green ties in advance of requirements so that sufficient seasoned ties will be available for treatment at approximately uniform monthly rates for the yearly requirements.

XIII. The Creosoting Company agrees to store treated ties in its storage yard up to the convenient capacity for temporary storage at the request of the Railway Company. The storage and extra handling involved in loading into cars shall be compensated for at a price scheduled in this agreement.

XIV. The Creosoting Company agrees that upon the written request of the Railway Company to do so, it will accept any modification, changes or substitutions in the specifications in Exhibit "A" hereinbefore mentioned, provided such modifications, changes or substitutions will not require the purchase of any additional equipment, or increase the cost to the Creosoting Company or lessen the plant capacity.

The Railway Company agrees that in the event a change of process is made, at its request, it will pay the Creosoting Company any royalty the Creosoting Company may be required to pay in consequence thereof and will also protect the Creosoting Company against all claims pertaining thereto.

XV. The Railway Company, through its designated representatives or agents, shall have access at all reasonable times to the plant and premises of the Creosoting Company and the right to inspect all operations therein, and shall be furnished all necessary and proper facilities for testing the preservatives employed and the amount absorbed by each charge of ties and other material treated for the Railway Company.

The Creosoting Company shall furnish records on forms furnished by the Railway Company of all treating operations to correspond to that which the Railway Company keeps at its own treating plants.

XVI. In case of any dispute or difference arising as to the interpretation of any sections herebefore set out, the said dispute and causes of differences shall be referred to arbitration and determination of a single arbitrator, if the parties hereto agree upon one; otherwise to three arbitrators - one to be appointed by each of the parties hereto and the third arbitrator to be nominated and appointed by the first named arbitrators. Should the first named arbitrators fail to agree upon the third arbitrator, then such selection shall be left to a Judge of the United States District Court for the District of the State of Washington. The decision of the single arbitrator or a majority of the three arbitrators shall be final and binding upon the parties. Pending the award of arbitration, there shall be no interruption in the transaction of business pursuant to this agreement and statements and payments in respect thereto shall be made in the same manner as prior to arising of such differences.

Each party shall pay for services of and all personal expenses incurred by arbitrator chosen by or for it and both parties shall jointly and equally pay for the services and expenses of the single or third arbitrator, together with all other and different expenses of the arbitration.

XVII. If at any time during the term of this agreement the operation of the Creosoting Company's plant shall be temporarily suspended because of fire, explosion, strikes or other causes not within its control, the time during which the operation of this plant shall be suspended shall not be counted as a part of the term of this agreement, and a corresponding additional time shall be given it for performing its obligations under this agreement; provided, however, in case of the total or partial destruction of the said plant by fire or other cause the Creosoting Company shall promptly repair, rebuild and restore the same to substantially the same condition in which it was before such total or partial destruction and pending such reconstruction ~~on~~ the Railway Company may remove its ties and other material from the seasoning yard.

XVIII. The Railway Company agrees to pay to the Creosoting Company for work performed and services rendered, as specified in this agreement, the following prices:

- | | | |
|-----|---|--------|
| A-1 | For the treatment of all seasoned cross ties,
per thousand feet board measure | \$6.25 |
| A-2 | For treatment of unseasoned cross ties taken direct from
incoming railroad cars, per thousand feet board measure | \$6.25 |

A-3	For treatment of unseasoned cross ties taken from stock piles in seasoning yard, per thousand feet board measure	\$6.70
B-1	For the treatment of all seasoned switch ties, per thousand feet board measure	\$8.00
B-2	For the treatment of unseasoned switch ties taken direct from incoming railroad cars, per thousand feet board measure . . .	\$8.00
B-3	For the treatment of unseasoned switch ties taken from stock piles in seasoning yard, per thousand feet board measure . .	\$8.60
C-1	For the treatment of all sawed material other than cross ties and switch ties in cylinder charges of 30,000 feet board measure or less (The Treating Company being given the option of treating such charges separately or mixed with commercial material) per thousand feet board measure	\$12.80
C-2	For the treatment of all sawed material other than cross ties and switch ties in cylinder charges in excess of 30,000 feet board measure which require a time duration of not longer than twelve (12) actual treating hours, per thousand feet board measure.	\$10.20
C-3	For the time in excess of twelve (12) actual treating hours required for treating material covered by paragraph C-2, per cylinder per hour or fraction thereof	\$5.10
D-1	For the treatment of all piling, poles and other similar material which requires a time duration not longer than twelve (12) actual treating hours, the Creosoting Company being given the option of treating quantities of less than a full cylinder charge either separately or combined with commercial material, per cubic foot	\$0.14
D-2	For time in excess of twelve (12) actual treating hours required for treating material covered by paragraph D-1, with the understanding that where material is treated in the same charge with commercial material the time over twelve actual hours will be pro-rated between the Railway and commercial material in the proportion that the volume of the material of each bears to the total volume in the charge, per cylinder per hour or fraction thereof.	\$5.10
D-3	The prices quoted in paragraphs D-1 and D-2 are predicated on the Railway Company having its own stocks of piling available for treatment. In the event the Railway Company does not have a stock of piling available for treatment the Creosoting Company is given the further option of furnishing treated piles that will meet the Railway Company's requirements, from its stock at its current commercial price, which shall not exceed the price that would have been paid if the piles had been treated in accordance with paragraphs D-1 and D-2.	
E-1	In cases where it is found, on account of unseasoned conditions of material, or other conditions not the responsibility of the Creosoting Company, an unsatisfactory treatment has been obtained and the Railway Company inspector considers it advisable to segregate and re-treat all or any portion of cylinder charge of piles, it shall be done at the following rate for each re-treatment in addition to the prices mentioned in paragraphs D-1 and D-2: (a) Two cents (\$.02) per cubic foot for piling, poles and other similar material retreated. It is understood that entire cylinder charges returned for continuation of treatment without segregation of any part of the material shall not be considered as coming under the provisions of this E-1.	
E-2	For storage of treated cross ties after treatment and subsequent loading on cars, in addition to prices A-1, A-2, A-3, per tie	\$0.01

- E-3 For unloading treated switch ties from trams, storing in yards, stacking lengths separately and reloading in accordance with Railway Company's instructions for shipment, per thousand feet board measure \$0.60
- E-4 For incising sawed material other than cross ties and switch ties including all handling not included under paragraphs C-1, C-2, C-3 necessary to accomplish it, per thousand feet board measure \$0.50
- E-5 For other handling at the plant site, framing of timber, etc., as from time to time may be requested in writing by the Railway Company, shall be paid for at rates mutually agreed upon, plus ten (10) per cent to cover supervision and profit.

- - -

XIX. It is understood and agreed that the prices quoted under Section XVIII, paragraphs A-1, A-2, A-3 and B-1, B-2, B-3 cover the unloading from railroad cars or barges, handling to the seasoning yard or to treating trams before treatment, moving them to boring, edging and incising plant, boring, edging and incising cross ties and incising switch ties only; moving to cylinders, treating them and loading them from trams to railroad cars; and further that prices quoted under paragraphs C-1, C-2, C-3 and D-1, D-2, D-3 cover unloading material from railroad cars or barges and rafts, handling to seasoning yard or to trams, moving to treating cylinders, treating and loading from trams on to railroad cars. The prices in Paragraphs A, B, C, and D apply to treatment to both air-seasoned and artificially seasoned material.

The "actual treating hours" are considered to be the actual normal time occupied while the ties or other materials are in the cylinders in the process of treatment as shown by the treating records. Delays caused by failure of the Creosoting Company's equipment, low steam pressure, etc., shall be deducted when computing overtime charges.

Where material of the Railway Company is treated in the same load with commercial material as provided for in Section XVIII, paragraphs C-1 and D-1, the Railway Company's stock of preservatives shall be charged with the calculated quantity required to treat its portion of the mixed load.

XX. The Creosoting Company agrees that, in case it, during the period of this agreement, makes contracts with other railroads directly or through their agents for the treatment of forest products at prices lower than those scheduled in this agreement, then such lower prices shall become immediately effective in this contract.

XXI. The Railway Company will, on or before the thirtieth day of each month, pay to the Creosoting Company all sums owing to it at the end of the next preceding calendar month, upon proper bills, certified by the Railway Company representative, rendered promptly by the Creosoting Company to the Railway Company.

XXII. This agreement shall be effective as of January 1st, 1937 and shall remain in force for a period of five years, and continue thereafter until cancelled by either party giving one year's written notice to the other party. The effective date of cancellation shall be as of December 31st following the year's notice. It is understood and agreed, however, that any forest products on hand for treatment at the termination date of this contract shall be carried to treatment completion under the provisions of this agreement.

XXIII. This agreement shall inure to the benefit of and be binding upon the parties hereto, their respective successors and assigns.

IN WITNESS WHEREOF, each party hereto has caused this instrument to be signed by its proper official and its corporate seal is hereto affixed and attested by its Secretary, in duplicate, the day and year first above written.

NORTHERN PACIFIC RAILWAY COMPANY
By _____

WEST COAST WOOD PRESERVING COMPANY
By _____

Approximate estimate of material to be treated at Seattle

Demise Year	No Ties	Yr Ball Ties	%	Swick Ties/100	%	Pilney + Tinsley	%	Total \$/Bk
1938	157780	588992	86%	500,000	7%	450,000	7%	6839.927
1939	163891	611805	87	500,000	7	450,000	6%	7068.051
1940	169480	632668	89	500,000	7	450,000	6	7276.689
1941	180431	672548	89	500,000	7	450,000	6	7685.489
1942	189570	707664	88	500,000	6	450,000	6	8076.648
1943	203448	759471	89	500,000	6	450,000	5	8544.714
1944	219001	817520	90	500,000	5	450,000	5	9125.307
1945	238310	889612	90	500,000	5	450,000	5	9846.112
1946	254283	949284	91	500,000	5	450,000	4	10442.284
1947	273800	1022095	92	500,000	4	450,000	4	11170.954
	2049.994	7657627	89	5,000,000	6	4500,000	5	86.076,275

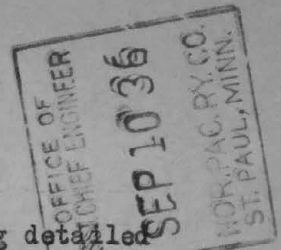
7/10 9/17/36

0/2

300,000

3600000

Paradise, Mont.,
September 8th, 1936



Mr. L. Yager:

As requested by you at Seattle, I am sending detailed sheets showing general characteristics and treating conditions of the treatment of charges of lumber and piling at the Seattle Plant during the past ten years. I have separated the work by years and have given all important details on each charge treated.

I have made no attempt to make these totals agree with the actual amounts treated during the years as shown on Brainerd Office Records. These figures were taken directly off of the plant records of treatment for the various charges and should show all necessary details of the contract operations.

As explained to you at Seattle, the total treating time in the case of piling retreated appears unnecessarily large in this report. Piles are never retreated in the original charges, the retreat charges being made up of piles from numerous different charges, so that to my mind it is not proper to add the total time of a retreat charge to the time of the original charge. In this report, where retreatment is shown, the total time is made up by adding the time of the original charge plus the time of the retreatments, and often results in more than 100 treating hours as shown.

During the ten years, there were 29 charges of piles containing 2500 cubic feet out of a total of 179 charges, or 16%. Of the lumber treated, there were 30 charges of 30,000 FBM or more treated out of a total of 213 charges, or 14%.

With reference to the capacity of the retorts, which are 8' by 132' in dimension; the net volume of the retorts were found to be approximately 50,000 gallons by displacement, after deducting the volume of an average of 15 tram cars, which is equal to 6684 cubic feet.

A. Capacity for treatment of cross ties and switch ties

This is approximately 51,000 FBM or 4250 cubic feet. This is a very common load both in the treatment of cross ties and switch ties.

B. Capacity for treatment of Lumber

The possible capacity would vary from the maximum of about 51,000 FBM downward to a very low figure and is affected by both the size of the sticks and the variety of sizes. The variety of sizes in any one charge is most often the cause of low volumes.

If the retort were loaded with 12 x 12s all 12' long, there would be eleven lengths of them in the retort and the maximum load would be close to 3036 cubic feet. However, we do not get a load as ideal as this very often.

Only 14% of all lumber loads treated during the past ten years were 2500 cubic feet in size or larger.

C. Capacity for treatment of piling.

The capacity for treatment of piling varies with both the length of the sticks and the diameter of the ends. Long sticks of piling must be lapped in the retort and this cuts down the size of the charge considerably. The diameters of the ends of the longer piling are smaller than the piles of shorter length.

Assuming the retort to be loaded with 26' piles to capacity, there would be 5 lengths of them with about 21 piles per load length or 105 piles in the charge. The dimensions of the average pile would be about 15-1/2" x 11" and the volume would be 2540 cubic feet.

If the retort were loaded with 75' piles, the maximum load would be 28 piles, with a total of 2100 lineal feet or 1827 cubic feet. The average dimensions of these piles would be about 15-1/2 x 9-1/2. The piles would be lapped in the middle of the retort, thus taking up a great deal of space.

There were only 16% of the loads treated during the past ten years ~~with an average~~ that showed a volume of 2500 cubic feet or more and most of these large loads were during the first few years of the contract.

I would say that the average load of piles treated at the Seattle plant would be made up of long piles and the load of 75' piles shown above would be a good average.

GR Hopkins
Asst. Gen. Supt. Tim. Pres.

CC AJL

ESTIMATED CROSS TIE RENEWALS FOR TACOMA DIVISION
10 YEAR PERIOD FROM 1938 TO 1947

	RENEWALS	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	TOTALS	
1908	237	12	7	5	2	2	2					30	
1909													
1910	5623	337	337	281	169	112	56	56	56			1404	
1911	1128	79	68	68	56	34	23	11	11	11		361	
1912	40281	2820	2820	2417	2417	2014	1208	806	403	403	403	15711	
1913	11,456	916	802	802	687	687	573	344	229	115	115	5270	
1914	6,936	486	535	486	486	416	416	347	208	139	69	3608	
1915	20,054	1,404	1,404	1,604	1,404	1,404	1,203	1,203	1,003	602	201	11432	
1916	11,900	833	833	833	952	833	833	714	714	595	357	7497	
1917	5,018	301	351	351	351	401	351	351	301	301	251	3310	
1918	135,536	8,012	8,012	9348	9348	9348	10683	9348	9348	8012	8012	89471	
1919	10,125	506	608	608	709	709	709	810	709	709	608	6685	
1920	8,606	344	430	516	516	602	602	602	688	602	602	5504	
1921	73,397	2,202	2,936	3670	4,404	4,404	5138	5138	5138	5872	5138	44040	
1922	5,708	171	171	228	285	342	342	400	400	400	457	3196	
1923	56,227	562	1,687	1,687	2249	2811	3374	3374	3936	3936	3936	27552	
1924	14,081	141	141	422	422	563	704	845	845	986	986	6055	
1925	350,125	1751	3501	3501	10,504	10,504	14,005	17,506	21,008	21,008	24,509	127797	
1926	275,423	1377	1377	2754	2754	8263	8263	11,017	13,771	16,525	16,525	82626	
1927	287,252	1436	1436	1436	2873	2873	8618	8618	11,490	14,363	17,235	70378	
1928	464,942	0	2325	2325	2325	4649	4649	13,948	13,948	18,598	23,247	86014	
1929	409,690	0	0	2048	2048	2048	4097	4097	12,291	12,291	16,388	55308	
1930	276,028	0	0	0	1380	1380	1380	2760	2760	8281	8281	26122	
1931	216,133	0	0	0	0	1,081	1,081	1,081	2,161	2,161	4,184	14049	
1932	209,506	0	0	0	0	0	1,048	1,048	1,048	2,095	2,095	7334	
1933	97471	0	0	0	0	0	0	487	487	487	975	2436	
1934	233,441	0	0	0	0	0	0	0	1,167	1,167	1,167	3501	
1935	110,768	0	0	0	0	0	0	0	0	554	554	1108	
1936	223,038	0	0	0	0	0	0	0	0	0	1,115	1115	
1937	155,865	0	0	0	0	0	0	0	0	0	780	780	
1938	157,780	0	0	0	0	0	0	0	0	0	0	0	
TOTALS	3,873,775	23690	29801	35390	46341	55480	69258	81911	104120	120213	140490	709694	
Untreated Renewals		134090	134091	134091	134091	134091	134091	134091	134091	134091	134091	1340909	
Grand Totals		157780	163892	169481	180432	189571	203349	219002	238211	254304	274581	2050603	

TOTAL TIES IN DISTRICT WEST OF YAKIMA

4,561,039 (AA Report of 1936)

TREATED TIES SHIPPED WEST OF ELLENSBURG

3424524

ADDITIONAL TREATED TIES ESTIMATED

135536

3560,130

BALANCE ASSUMED TO BE UNTREATED

1,340,909

OFFICE OF GEN. SGT. T.M. PIES

BRainerd, MINN.

9-8-36

GR 3A

N.P. 1349
6-24RECORD OF PILING TREATED AT SEATTLE
DURING PERIOD OF C. M. COLMAN CONTRACT
BY YEARS 1927 - 1936

YEAR - 1927

DATE		CHARGE	CONDITION		LIN. FT.	CU. FT.	MIXTURE OR ST. CREOSOTE		PENETRATION IN INCHES	TOTAL TREATING HRS.	TREATED SEPARATELY OR COMBINED	CONTRACT FOR COMPLETE SALE	REMARKS
			SEASONED	PARTLY SEASONED			KIND OF TREATMENT	ABSORPTION LBS. PER CU. FT.					
MAY	7 1927	13		S	1680	1747	CREOSOTE	16	1	24	SEPARATELY	CONTRACT	
	9	22		S	1530	1423	"	16	1	32	"	"	
	11	29		S	364	277	"	16	1	19	COMBINED	"	
	12	30		S	1602	1330	"	16	1	30	SEPARATELY	"	
	13	34		S	1495	1241	"	16	1	28	"	"	
	17	38-47		S	1361	1130	"	16	1	49	"	"	1 RETREATMENT
	20	55		S	1481	1333	"	16	1	30	"	"	
	20	56		S	1610	1288	"	16	1	28	"	"	
	24	69		S	1470	1323	"	16	1	22	"	"	
JUNE	23	62		S	1700	1479	"	16	1	20	"	"	
	24	66		S	1595	1324	"	16	1	21	"	"	
	24	71		S	1550	1287	"	16	1	22	"	"	
JULY	4-8	5-20		PS	1595	1388	"	16	1	68	"	"	
AUG.	29	65-109		PS	2837	2789	"	16	1	75	"	"	1 RETREATMENT
	29	66-109		PS	2341	2402	"	16	1	66	"	"	"
	29	73-109		PS	2475	2544	"	16	1	66	"	"	"
	29	74-109		PS	2569	2474	"	16	1	64	"	"	"
	29	80-109		PS	2487	2671	"	16	1	64	"	"	"
SEPT.	2	81-109		PS	2428	2500	"	16	1	91	"	"	2 RETREATMENTS
	2	91-1		G	2470	2365	"	17.6	1	88	"	"	1 "
	2	99-1		G	2511	2411	"	17.2	1	84	"	"	1 "
	8	104-26		G	2235	2215	"	16	1	100	"	"	2 "
	8	114-26		G	2291	2072	"	16	1	84	"	"	2 "
	8	2-26		G	2839	2338	"	16	1	83	"	"	1 "
	17	7-26		G	2552	2469	"	16	1	108	"	"	2 "
	17	8-56		PS	2696	2121	"	16.5	1	55	"	"	1 "
	17	11-56		G	2573	2632	"	16	1	97	"	"	1 "
	17	12-56		G	2564	2515	"	16	1	92	"	"	1 "
	17	17-57		G	2488	2482	"	16	1	89	"	"	1 "
	17	27-57		G	2301	2265	"	16	1	91	"	"	1 "
	17	29-57		G	3116	2433	"	16	1	89	"	"	1 "
	22	38-71		G	3112	2569	"	19	1	88	"	"	2 "
	22	39-71		G	2624	2481	"	18	1	88	"	"	2 "
	22	60-75		PS	1507	1244	"	16	1	60	"	"	1 "
	22	61-75		PS	1526	1276	"	16	1	60	"	"	1 "
	22	62-75		PS	1557	1244	"	16	1	60	"	"	1 "
	22	63-85		PS	1392	1201	"	16	1	48	"	"	1 "
	22	64-85		PS	1485	1237	"	16	1	49	"	"	1 "
	22	65-85		G	2361	2329	"	16	1	84	"	"	1 "
	22	66-85		G	2399	2189	"	16	1	81	"	"	1 "
	24	67-85		PS	1576	1244	"	16	1	66	"	"	2 "
	24	76-91		G	2301	2254	"	18.79	1	90	"	"	2 "
	24	81-91		G	1368	1212	"	16	1	42	"	"	1 "
	26	84-97		PS	2353	2285	"	16	1	64	"	"	1 "

307

N.P. 1349
64243
7

RECORD OF PILING TREATED

YEAR - 1928

DATE	CHARGE	CONDITION		LIN. FT.	CU. FT.	MIXTURE OR CREOSOTE		PENETRATION IN INCHES	TOTAL TREATING HRS.	TREATED SEPARATELY OR COMBINED	CONTRACT OR CANCEL, SALE	REMARKS
		SEASONED	PARTLY SEASONED			KIND OF TREATMENT	ABSORPTION LBS. PER CU. FT.					
MAY 3-1928	81-8	S		2805	2204	CREOSOTE	18	1	42	SEPARATELY	CONTRACT	1 RETREATMENTS
28	82-38	G		2445	2222	"	16	1	82	"	"	2 "
JUNE 4	113-12	S		1459	1210	"	16	1	31	"	"	1 "
22	85	S		158	151	"	16	1	37	COMBINED	"	1 "
AUG. 15	25-47	S		3238	2923	"	16	1	47	SEPARATELY	"	2 "
15	26-47	S		2414	2111	"	16	1	45	"	"	2 "
21	34-47	G		2343	2382	"	16	1	85	"	"	2 "
21	42-47	G		2531	2744	"	16	1	85	"	"	2 "
21	52-65	G		2100	2314	"	16.3	1	69	"	"	1 "
21	56-65	PS		1395	1278	"	16	1	45	"	"	1 "
SEPT. 7	11	S		2488	2728	"	16	1	24	"	"	
7	12	S		2712	2729	"	16	1	24	"	"	
10	20	S		2819	2889	"	16	1	23	"	"	
21	21-65	S		2792	2904	"	16	1	46	"	"	1 RETREATMENT
21	22-65	S		2723	2865	"	16	1	46	"	"	1 "
12	28	S		2942	3135	"	16	1	24	"	"	
21	32-65	S		2984	3042	"	16	1	46	"	"	1 RETREATMENT
21	41-65	S		2959	2853	"	16	1	35	"	"	1 "
21	51-65	S		2940	3054	"	16	1	34	"	"	1 "
21	53-65	S		2792	2514	"	16	1	35	"	"	1 "
21	57-65	S		3116	3017	"	16	1	33	"	"	1 "
OCT. 18	66-89	S		2709	2729	"	16	1	33	"	"	1 "
18	69-89	S		3178	2982	"	16	1	35	"	"	1 "
18	70-89	S		2508	2341	"	16	1	35	"	"	1 "
27	X	S		165	142	"	14	1	24	COMBINED	"	
NOV. 30	50-54	S		2960	3021	"	18.8	1	26	SEPARATELY	"	1 (SPECIAL 20 HRS. RET. GAS)
DEC. 15	61	G		1315	1169	"	16	1	47	"	"	
15	66	S		1333	1180	"	16	1	24	"	"	

TOTALS FOR 1928

28

66323

64833

SUMMARY

TOTAL NUMBER OF CHARGES

28

TOTAL CU. FT. TREATED

64833

AVERAGE NUMBER CU. FT. PER CHARGE

231.5

NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE

16

BRED



RECORD OF PILING TREATED

YEARS- 1929-1930

DATE	CHARGE	CONDITION		LIN. FT.	CU. FT.	MIXTURE OR CREOSOTE		PENETRATION IN INCHES	TOTAL TREATING HRS.	TREATED		REMARKS
		SEASONED	PARTLY SEASONED GREEN			KIND OF TREATMENT	ABSORPTION LBS. PER CU. FT.			SEPARATELY OR COMBINED	CONTRACT OR CIVIL SCALE	
FEB. 11-1929	22-29	S		3005	2730	CREOSOTE	22.91	1	31	SEPARATELY	CONTRACT	1 RETREATMENTS
MAR. 21	85-95	S		685	660	"	16	1	36	"	"	1 "
APR. 27	39-80	S		3039	2756	"	18.6	1	24	"	"	1 "
27	44-80	S		2558	2506	"	17.8	1	24	"	"	1 "
MAY 29	45-80	S		1535	1375	"	16	1	35	"	"	2 "
JUNE 26	13-22	G		3176	2911	"	16	1	70	"	"	1 "
27	17-22	G		2014	1696	"	16	1	86	"	"	2 "
27	18-68	G		1663	1426	"	16	1	54	"	"	1 "
JULY 10	4-5	S		815	703	"	16	1	23	"	"	1 "
SEPT. 7	20-36-46	S		1732	1779	"	16	1	29	"	"	2 "
17	E	S		90	83	"	14.15	1.25	16	COMBINED	"	
OCT. 16	54-OLD	PS		835	705	"	16	1	32	SEPARATELY	"	
NOV. 26	E-P	S		90	95	"	16	1	31	COMBINED	"	1 RETREATMENT

TOTALS FOR- 1929

13

21237

19425

SUMMARY

TOTAL NUMBER OF CHARGES

13

TOTAL CU. FT. TREATED

19425

AVERAGE NUMBER CU. FT. PER CHARGE

1494

NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE

4

1930

FEB. 12-1930	117-35	S		2933	2736	CREOSOTE	16	1	39	SEPARATELY	CONTRACT	1 RETREATMENT
12	118-35	S		2760	2589	"	16	1	35	"	"	1 "
19	80-62	PS		355	317	"	16	1	48	"	"	1 "
MAY 27	35-8	S		784	728	"	14	1	11	"	"	CENR STRIPS
JULY 26	480-484	S		350	303	"	16	1	24	COMBINED	"	1 RETREATMENT
AUG. 30	11-82-568	S		896	709	"	16	0.75	24	SEPARATELY	"	1 "

TOTALS FOR 1930

6

8078

7382

SUMMARY

TOTAL NUMBER OF CHARGES

6

TOTAL NUMBER OF CU. FT. TREATED

7382

AVERAGE NUMBER CU. FT. PER CHARGE

1230

NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE

2

N.P. 1349
6-24

RECORD OF PILING TREATED

5
7

YEARS 1931-1932

DATE	CHARGE	CONDITION		LIN. FT.	CU. FT.	MIXTURE OR CREOSOTE		PENETRATION IN INCHES	TOTAL TREATING HRS.	TREATED		REMARKS
		SEASONED	PARTLY SEASONED GREEN			KIND OF TREATMENT	ABSORPTION LBS. PER CU. FT.			SEPARATELY OR COMBINED	CONTRACT OR COMPL. SALE	
FEB. 16-1931	121-124	S		420	508	CREOSOTE	16	1	22	COMBINED	CONTRACT	1 RETREATMENT
25	1191-1293	S		2299	2289	"	14.5	1	23	SEPARATELY	"	1 "
JUNE 17	158-167A	S		1540	1460	MIXTURE	10.5	1	23	"	"	1 "
17	167-6	S		1609	1549	"	10.5	1	24	"	"	
AUG. 10	508	S		119	97	CREOSOTE	16	1	12	COMBINED	"	
28	163 "P"	S		2150	2167	"	16	1.5	22	SEPARATELY	"	
SEPT. 4	197A-571A	S		2090	1689	"	16	1.25	29	"	"	1 RETREATMENTS
4	197B-571B	S		790	698	"	16	1	29	COMBINED	"	1 "
10	576-579	PS		1480	1174	"	16	1	38	SEPARATELY	"	1 "
22	172	PS		2430	2236	"	16	1	55	"	"	1 "
23	173	PS		2340	2244	"	16	1	56	"	"	2 "
23	177	PS		1980	1899	"	16	1	57	"	"	1 "
25	178	PS		2250	2250	"	16	1	58	"	"	2 "
25	179	G		2250	2158	"	16	1	64	"	"	2 "
25	180A	PS		990	949	"	16	1	40	"	"	1 "
TOTALS FOR -1931		15		24737	23307							
SUMMARY												
TOTAL NUMBER OF CHARGES					15							
TOTAL CU. FT. TREATED					23307							
AVERAGE NUMBER CU. FT. PER CHARGE					1554							
NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE					0							
1932												
MARCH 5-1932	1126-129	S		2241	2128	MIXTURE	16	1	34	SEPARATELY	CONTRACT	1 RETREATMENT
26	136	S		400	395	CREOSOTE	16	1	17	COMBINED	"	
29	128-142	G		670	588	"	16	1	64	"	"	1 RETREATMENT
AUG. 12	383	S		1980	1181	"	16	1	17	SEPARATELY	"	
12	384	S		350	349	"	16	1	15	COMBINED	"	
12	384A	S		300	285	"	16	1	15	"	"	
SEPT. 27	215	S		2360	2636	MIXTURE	16.8	1	26	SEPARATELY	"	
28	216	S		445	435	"	16	1	24	COMBINED	"	
TOTALS FOR 1932		8		8747	7997							
SUMMARY												
TOTAL NUMBER OF CHARGES					8							
TOTAL CU. FT. TREATED					7997							
AVERAGE NUMBER CU. FT. PER CHARGE					1000							
NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE					1							

AKN



RECORD OF PILING TREATED

YEARS 1933-1934

DATE	CHARGE	CONDITION		LIN. FT.	CU. FT.	MIXTURE OR CREOSOTE		PENETRATION IN INCHES	TOTAL TREATING HRS.	TREATED		REMARKS
		SEASONED	PARTLY SEASONED GREEN			KIND OF TREATMENT	ABSORPTION LBS. PER CU. FT.			SEPARATELY OR COMBINED	CONTRACT OR COMB. SALE	
FEBY. 2-1933	55-X	S		474	380	CREOSOTE	16	0.5	34	COMBINED	CONTRACT	1 RETREATMENT
MARCH 7	75-77	S		1152	1206	MIXTURE	16	1	29	SEPARATELY	"	1 "
MAY 14	154-176	S		988	943	CREOSOTE	16	1	22	"	"	1 "
JUNE 6	242-244	S		1495	1398	"	16	1	33	"	"	1 "
AUG. 23	133	S		1110	1111	MIXTURE	14.39	1	15	"	"	
OCT. 4	151	S		1080	861	"	16	1	19	"	"	
NOV. 28	630-633	S		1150	941	CREOSOTE	16	1	22	"	"	1 RETREATMENT
28	631-633	S		1000	812	"	16	1	25	"	"	1 "
DEC. 5	643-646	S		440	424	"	16	1	18	"	"	1 "
TOTALS FOR - 1933.		9		17635	16073							
SUMMARY												
TOTAL NUMBER OF CHARGES					9							
TOTAL CU. FT. TREATED					16073							
AVERAGE NUMBER CU. FT. PER CHARGE					1786							
NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE					0							
1934												
MAY 2-1934	260	PS		1454	1317	CREOSOTE	16	1	39	SEPARATELY	COMB. SALE	2 RETREATMENTS
3	261	PS		1437	1257	"	16	1	40	"	"	2 "
3	263	PS		1019	1002	"	16	1	38	"	"	2 "
4	266	PS		1431	1296	"	16	1	37	"	"	2 "
5	273	PS		324	275	"	16	1	39	COMBINED	"	2 "
5	256	PS		1360	1190	"	16	1	41	SEPARATELY	"	1 "
5	257	PS		1421	1243	"	16	1	39	"	"	2 "
5	258	PS		1366	1289	"	16	1	39	"	"	2 "
12	298	S		584	551	"	16	1	19	COMBINED	"	
JULY 2	202 "PS"	S		780	642	"	16	1	20	SEPARATELY	"	
17	11243	S		1290	1484	MIXTURE	19.1	1	25	"	CONTRACT	
AUG. 10	494	PS		961	892	CREOSOTE	16	1	36	"	COMB. SALE	2 RETREATMENTS
10	496	PS		1434	1193	"	16	1	36	"	"	2 "
13	500	PS		1551	1347	"	16	1	44	"	"	2 "
13	502	PS		877	729	"	16	1	44	"	"	2 "
SEPT. 21	320	S		1766	1625	"	16	1	21	"	"	
TOTALS FOR 1934		16		19055	17332							
SUMMARY												
TOTAL NUMBER OF CHARGES					16							
TOTAL CU. FT. TREATED					17332							
AVERAGE NUMBER CU. FT. PER CHARGE					1083							
NUMBER CHARGES WITH 2500 CU. FT. OR MORE					0							

HED

N.P. 1349
6-24

RECORD OF PILING TREATED

YEARS 1935-1936

DATE	CHARGE	CONDITION		LIN. FT.	CU. FT.	MIXTURE OR CREOSOTE		PENETRATION IN INCHES	TOTAL TREATING HRS.	TREATED		REMARKS
		SEASONED	PARTLY SEASONED			KIND OF TREATMENT	ABSORPTION LBS. PER CU. FT.			SEPARATELY OR COMBINED	CONTRACT OR COMML. SALE	
FEB. 2-1935	66	S		570	589	CREOSOTE	16	1	20	SEPARATELY	CONCL. SALE	
APRIL 5	98	S		700	699	MIXTURE	12	0.75	19	"	"	
9	236	G		1560	1298	CREOSOTE	12	0.75	87	"	"	1 RETREATMENT
9	237	G		1260	1048	"	12	0.75	87	"	"	1 "
9	238	G		260	216	"	12	0.75	86	COMBINED	"	1 "
AUG. 4	178	S		816	743	"	16	1	21	"	"	
7	180	S		1595	1500	"	16	1	20	SEPARATELY	"	
OCT. 5	120	G	22740		1790	MIXTURE	14	0.875	106	"	"	2 RETREATMENTS
5	121	PS			1472	"	14	0.875	64	"	"	1 "
5	122	S			1425	"	14	0.875	66	"	"	2 "
10	123	G			1949	"	14	0.875	99	"	"	2 "
10	124	G			2135	"	14	0.875	93	"	"	2 "
10	125	G			1918	"	14	0.875	131	"	"	2 "
19	128	G			1847	"	14	0.875	113	"	"	1 "
19	129	G			1916	"	14	0.875	100	"	"	1 "
19	130	G			1586	"	14	0.875	103	"	"	1 "
22	131	G			1804	"	14	0.875	112	"	"	2 "
22	132	G		1842	"	14	0.875	111	"	"	2 "	
DEC. 19	735	S		420	378	CREOSOTE	12	0.75	18	"	"	
TOTALS FOR-1935		19		29921	26255							
SUMMARY												
TOTAL NUMBER OF CHARGES					19							
TOTAL CU. FT. TREATED					26255							
AVERAGE NUMBER CU. FT. PER CHARGE					1382							
NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE					0							
1936												
FEB. 21-1936	175	S		453	438	CREOSOTE	16	1	20	SEPARATELY	CONCL. SALE	
22	178	S		1065	1143	"	16	1	19	"	"	
23	183	S		1127	1096	"	16	1	19	"	"	
APRIL 22	230	PS		2082	1749	MIXTURE	14	0.75	78	"	"	2 RETREATMENTS
22	234	G		2010	1688	"	14	0.75	98	"	"	2 "
22	235	G		2234	2140	"	14	0.75	99	"	"	2 "
22	237	G		1994	1874	"	14	0.75	98	"	"	2 "
MAY 1	238	PS		2080	1755	"	14	0.75	75	"	"	2 "
1	239	G		2040	1714	"	14	0.75	99	"	"	2 "
APRIL 27	248	PS		1595	1499	CREOSOTE	16	1	48	"	"	
MAY 1	253	G		2164	1954	MIXTURE	14	0.75	97	"	"	2 RETREATMENTS
1	256	PS		2096	1740	"	14	0.75	59	"	"	1 "
1	257	PS		2100	1827	"	14	0.75	79	"	"	2 "
TOTALS FOR-1936		13		23040	20677							
SUMMARY												
TOTAL NUMBER OF CHARGES					13							
TOTAL CU. FT. TREATED					20677							
AVERAGE NUMBER CU. FT. PER CHARGE					1591							
NUMBER OF CHARGES WITH 2500 CU. FT. OR MORE					0							
Office of Gen. Insp. & Insp. Pers.											BRAND NAME	

DURING PERIOD OF J.M. COLMAN CONTRACT

YEAR 1927

BY YEARS

1927- 1936

Summary

Total number of Charges

0/17

Total FBM treated

3	6	0	6	3	7
---	---	---	---	---	---

	Average FBM per Charge
--	------------------------

12.021

Number of Charges with 30,000 or more

20

6	GR
---	----



RECORD OF LUMBER TREATED AT SEATTLE

YEAR 1928

	DATE	CHARGE	Condition		FBM	KIND OF TREATMENT	ABSORPTION LBS PER CU. FT.	PENETRATION IN.	CONTRACT OR COMMERCIAL SALE	SEPARATELY OR COMBINED	REMARKS	Total TREATING Hours
			Seasoned	Partly Seasoned								
1928	Feb.	8	B	G	1370	CREOSOTE	12.0	0.25	24	CONTRACT	SEPARATELY	24
	MAY	4	10	G	10331	"	12.0	0.75	23	"	"	23
		26	84	G	13683	"	12.0	0.50	24	"	"	24
	Aug.	16	53	G	37252	"	11.89	0.75	21	"	"	21
		19	61	G	36529	"	11.32	0.75	23	"	"	23
		19	61	G	28472	"	13.17	0.50	23	"	"	23
	Sept.	20	J	G	1533	"	8.01	0.125	24	"	"	24
		22	J	G	1128	"	8	0.75	24	"	"	24
		29	110	G	4896	"	8	0.75	24	"	Combined	24
	Oct.	16	75	S	40500	"	9.67	0.75	12	"	Separately	12
		16	76	S	40500	"	10.97	0.75	12	"	"	12
		16	77	S	41715	"	10.70	0.75	11	"	"	11
		16	78	S	40500	"	10.87	0.75	11	"	"	11
		17	83	S	47460	"	14.78	0.50	12	"	"	12
		17	84	S	27807	"	16.36	0.50	12	"	"	12
		18	90	S	26856	"	12.0	0.75	11	"	"	11
	Nov.	30	A	S	630	"	14.08	0.50	12	"	"	12

Totals for 1928

17

401 162

Summary

Total number of Charges

17

Total FBM Treated

401 162

Average FBM per Charge

23 578

Number of charges with 30,000 FBM. or more

7



RECORD OF LUMBER TREATED AT SEATTLE

YEAR 1929

DATE	CHARGE	Condition		FBM	KIND OF TREATMENT	Absorption LBS Per Cu. Ft.	Penetration In.	Contract or Commercial Sale	Separately or Combined	Remarks	Total Treating Hours
		Seasoned	Partly Seasoned GREEN								
1929 Jan. 19	H-1	S		3587	Cresote	16	1.00	Contract	Separately		12
Mar. 15	I	G		2233	"	12	0.75	"	"		24
18	K	G		1509	"	12	0.75	"	"		24
19	84	G		16250	"	14	0.75	"	"		24
29	S	G		1888	"	12	0.75	"	"		24
29	T	G		1216	"	12	0.75	"	"		24
31	U	G		981	"	12	0.75	"	"		24
Apr. 30	79-94	S		41670	"	12	0.75	"	"	1 Retreatment	21
30	85	S		27466	"	12	0.75	"	"		12
30	86-94	S		18078	"	12	0.50	"	"	1 Retreatment	21
May 21	9	G		33894	"	11.89	0.75	"	"		24
21	10	G		25707	"	13.39	0.75	"	"		24
June 14	E-F	PS		1146	"	12.0	0.75	"	"	1 Retreatment	24
14	F	S		1645	"	12.0	0.75	"	"		12
23	19	PS		20601	"	12.29	0.75	"	"		16
24	59	G		5130	"	16.11	0.50	"	"		21
24	J	G		766	"	11.96	0.50	"	"		21
July 9	5	PS		1593	"	7.90	0.75	"	Combined		16
14	8	G		8283	"	14.00	0.50	"	Separately	1 Retreatment	24
—	X	G		150	"	12.00	0.50	"	"		24
Aug. 10	25	G		4658	"	14.0	0.50	"	Combined		18
17	16	PS		18906	"	11.89	0.50	"	Separately		20
Sept. 8	5	G		20376	"	14.27	0.75	"	"		21
25	74	S		8910	"	12.6	0.75	"	"		12
29	78-89	G		8839	"	16.0	0.50	"	"	1 Retreatment	30
Oct. 11	33D	G		957	"	16.0	0.50	"	"		19
24	84	G		8543	"	12.0	0.75	"	"		17
Nov. 7	G	G		137	"	12.0	0.75	"	"		23
8	D	G		907	"	12.0	0.75	"	"		20

Totals For Year

29

785,866

Summary

Total Number of Charges

29

Total FBM Treated

785,866

Average FBM per charge

9857

Number of charges with 30,000 FBM or More

2

GRV



RECORD OF LUMBER TREATED AT SEATTLE

YEAR 1930

			CONDITION		FBM	KIND OF TREATMENT	Penetration INCHES	Total Treating Hours	Contract or Commercial Sale	Separately or Combined	Remarks	Absorption LBS per CU FT
DATE	CHARGE	Seasoned Partly Seasoned Green										
1930 Feb	7	18	G	597	Cresote	0.75	24	Contract	Combined			12
	12	13-34	G	14516	"	0.75	36	"	Separately	1 Retreatment		12
Mar	5	N-32	G	17620	Mixture	0.50	19	"	"			9.58
	14	150	G	2325	Cresote	0.50	24	"	Combined			12
	20	40	G	23912	Mixture	0.50	22	"	Separately			10.79
	27	49	G	28976	"	0.75	22	"	"			10.00
Apr	1	202	G	711	Cresote	0.50	19	"	Combined			16.00
	3	276	G	5911	"	0.50	24	"	"			16.00
	6	238	G	33	"	Complete	16	"	"			8.00
May	3	67	G	22939	"	0.75	19	"	Separately			13.66
	29	359	G	18060	"	0.75	20	"	"			12.00
	27	360	S	4497	"	0.75	11	"	Combined			12.00
June	13	247	G	6400	Mixture	0.75	24	"	"			10.00
	21	413	S	33	Cresote	—	12	"	"			20.00
	23	N-76	G	35964	"	0.75	22	"	Separately			9.45
	26	427	G	676	"	—	23	"	Combined			16.00
July	25	480	S	678	"	—	12	"	"			16.00
	26	481-484	S	7876	"	0.75	24	"	Separately	1 Retreatment		12.00
	30	491	S	2189	"	0.75	9	"	Combined			12.00
Aug	16	N-80	G	45800	"	0.75	23	"	Separately			2.22
	20	N-81	G	46517	"	0.75	24	"	"			11.30
	25	N-83	G	47920	"	1.00	24	"	"			10.30
	27	N-85	G	46131	"	0.75	20	"	"			11.00
	30	567	S	12473	"	0.75	12	"	"			12.00
Sept	3	N-88	G	22265	Mixture	0.50	24	"	"			15.00
	9	N-89	G	26704	"	0.75	24	"	"			10.40
	10	N-90	G	23695	"	0.75	24	"	"			10.40
	21	672-675	G	2780	Cresote	0.75	32	"	Combined	1 Retreatment		12.00
	22	678	FS	202	"	—	16	"	"			20.00
	26	273-P Plant	S	27033	"	—	14	Commercial Sale		Hemlock Conduit		15.00
Oct	18	664	G	1200	"	0.75	36	Contract	Separately	1 Retreatment		8.00
	1	227-P Plant	G	17696	"	—	15	Commercial Sale		Hemlock Conduit		15.00
	15	241 "	G	3024	"	—	18	"	"	" "		15.00
	24	123	G	12224	Mixture	1.00	23	Contract	"			12.50
Dec	23	844	G	7788	Cresote	—	17	Commercial Sale				15.00
Totals for Year		35		521686								
Summary												
Total Number of Charges						35						
Total FBM Treated						521,686						
Ave. FBM per charge						14,905						
Number of Charges with 30,000 FBM or more						5						



RECORD OF LUMBER TREATED AT SEATTLE

YEAR 1931

	Date	Charge	Condition		FBM	KIND OF TREATMENT	Absorption lbs per Cu. Ft.	Penetration Inches	Total Treating Hours	Contract or Commercial/Sale	Separately or Combined	Remarks
			Seasoned	Partly Seasoned Green								
1931	Jan. 27	H-48	S		700	Mixture	12.00	0.50	12.0	Contract	Separately	
	Feb. 16	123	S		480	Cresote	12.00	0.75	12.0	"	"	
	25	136	PS		300	"	12.00	0.75	14.0	"	Combined	
	26	138	G		282	"	14.00	0.75	22.0	"	"	
	27	N-95	S		4455	Mixture	8.33	0.38	17.0	"	Separately	
	Mar. 6	164	G		1140	Cresote	12.00	1.00	18.0	"	Combined	
	13	165-189	G		84	"	11.00	0.50	24.0	"	"	Retreatment
	15	189	G		452	"	14.00	0.50	20.0	"	"	
	26	H-116	S		42735	Mixture	6.70	1.00	12.0	"	Separately	
	27	H-117	S		44440	"	8.06	1.00	12.0	"	"	
	Apr. 27	309	G		2767	Cresote	16.00	0.75	16.0	"	Combined	
	June 2	H-150	G		14984	Mixture	11.54	0.75	19.0	"	Separately	
	3	H-152	G		43718	"	9.61	1.00	20.0	"	"	
	4	H-154	G		35837	"	8.25	1.00	21.0	"	"	
	5	N-156	S		44784	"	8.3	1.00	12.0	"	"	
	6	N-158	S		2961	"	9.0	1.00	12.0	"	Combined	
	8	N-160	G		11550	Cresote	15.0	—	14.0	Commercial		Hemlock Conduct
	29	444	G		549	"	16.0	—	17.0	Contract	"	
	Sept. 15	204	G		37130	"	10.94	0.75	16.0	"	"	
	16	205	S		9110	"	10.53	0.75	9.0	"	"	
	17	588	G		30	"	16.00	—	18.0	"	Combined	
	Oct. 13	226	S		8772	Mixture	12.00	1.00	12.0	"	Separately	
	29	231	G		17767	"	12.35	0.75	24.0	"	"	
	Nov. 16	N-262	G		7735	"	14.66	1.00	20.0	"	"	
	16	733	G		1044	Cresote	16.00	0.50	18.0	"	Combined	
	25	753	G		639	"	16.00	—	20.0	"	"	
	25	254	G		254	"	8.00	0.75	22.00	"	"	
	Dec. 19	802-A	G		454	"	16.00	—	22.00	"	"	

Totals for Year

78

332673

Summary

Total Number of Charges

78

Total FBM Treated

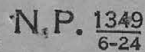
332673

Average FBM per charge

11883

Number of charges with 30,000 or more

6



YEAR. 1932

Summary

Total number of charges	25
Total FBM TREATED	721.035
Ave. FBM per charge	8.841
Number of charges of 30,000 FBM or More	7



RECORD OF LUMBER TREATED AT SEATTLE

YEAR 1933

	Date	Charge	Condition		FBM	Absorption Lbs per 4 ft.	Penetration INCHES	Kind of Treatment	Total Treating hours	Contract or Commercial Sale	Separately or Combined	Remarks
			Seasoned	Partly Seasoned								
1933	Mar.	16	79	G	28586	10.48	0.75	Mixture	18.0	Contract	Separately	
		17	80-87	PS	2000	10.48	0.75	"	14.0	"	"	
		23	83	G	15000	11.50	0.75	"	21.0	"	"	
		23	84	G	43364	11.50	0.75	"	21.0	"	"	
	Apr.	12	65 "P"	PS	64	12.00	0.75	"	15.00	"	"	
		20	83 "P"	G	2791	12.00	0.625	"	19.00	"	Combined	
	May	19	N-98	PS	42355	10.29	0.75	Cresote	15.00	"	Separately	
	July	8	119	PS	9000	12.00	0.75	Mixture	13.00	"	"	
		15	N-113	PS	653	10.24	0.75	"	15.00	"	Combined	
	Aug.	24	134	G	30584	10.18	0.75	"	17.00	"	Separately	
	Oct.	3	150	PS	6013	10.00	—	"	14.00	"	"	
	Nov.	9	165	PS	8352	12.00	0.50	"	14.00	"	"	
	Dec.	1	647	PS	820	8.00	0.625	Cresote	14.00	"	Combined	
		1	110	PS	358	20.00	0.625	"	13.00	"	"	

Totals for Year 14 189,970

Summary

Total Number of charges 14
Total FBM Treated 189,970
Average FBM per charge 13,569
Number of charges with 30,000 FBM or more 3

YEAR-1934

1934	Apr.	2	173	G	7200	12.0	0.75	Mixture	17.00	Contract	Separately	
		8	202	G	1845	20.0	—	Cresote	21.00	"	"	
	May	1	263	PS	2100	16.0	1.00	"	14.00	"	Combined	
		18	N 235	S	989	20.0	—	Mixture	12.00	"	"	Tie Plugs
	June	21	N 241	PS	21516	10.58	0.75	Cresote	16.00	"	Separately	
		21	N 247	PS	18304	10.84	0.75	"	16.00	"	Combined	
		28	412	G	622	20.00	—	"	17.00	"	Separately	
	Aug.	1	483	S	168	10.00	0.75	"	8.00	"	Combined	
	July	24	N 244	G	8728	10.21	0.75	Mixture	19.00	"	Separately	
	Aug.	14	523	S	789	20.00	—	Cresote	12.00	"	Combined	Tie Plugs
	Oct.	18										
Totals for Year		10			62461							

Summary

Total Number of charges 10
Total FBM Treated 62,461
Average FBM per charge 6,246
Number of charges of 30,000 FBM or more 0

N.P. 1349
6-24SHEET No. 8

RECORD OF LUMBER TREATED AT SEATTLE

YEAR 1935

1935	Date	Charge		Condition	FBM	KIND OF TREATMENT	Absorption Lbs per Cu. Ft.	Penetration Inches	Total Treating Hours	Contract or Commercial Sale	Separately or Combined	Remarks
				Seasoned Partly Seasoned GREEN								
	Feb.	1	N 17	S	989	Mixture	20.0	—	12	Contract	Combined	Tie plugs
	Mar.	13	77	S	989	"	20.0	—	11	"	"	" "
		26	205	G	1440	Cresote	12.0	1.00	24	"	"	
	Sept.	7	118	G	39 500	Mixture	9.86	0.75	19	"	Separately	Separately
		10	119	G	41 166	"	10.00	0.75	22	"	"	
		18	—	G	1660	Cresote	12.00	0.75	20	"	Combined	
	Oct.	8	126	G	13 252	Mixture	14.28	0.75	16	"	Separately	
		9	330	PS	701	Cresote	14.00	—	13	"	"	
	Dec.	4	692	G	1484	"	20.00	—	20	"	Separately	Tie Plugs
		24	749	G	640	"	10.00	0.625	20	"	"	

Totals for Year

10

102 321

Summary

Total Number of charges

10

Total FBM Treated

102 321

Average FBM per Charge

10 232

Number of charges of 30,000 FBM or more

2

YEAR 1936

1936	Jan.	7	13	G	4728	Cresote	12.0	1.00	20	Contract	Combined	
		28	86	PS	1056	"	12.0	0.75	16	"	"	
	Mar.	3	207	G	3826	"	12.0	0.75	20	"	Separately	
		19	147	G	18 300	Mixture	12.0	0.75	20	"	"	
	Apr.	1	172	G	11 898	"	11.71	0.75	21	"	"	
	May	6	441	G	1200	Cresote	12.0	0.75	22	"	Combined	
		6	736	G	14 658	Mixture	12.0	0.75	28	"	Separately	1 Retreatment
		8	738	G	33 720	"	12.0	0.75	23	"	"	
	July	31	705	G	17 830	Cresote	12.0	0.75	24	"	"	
		31	711	G	10 613	"	12.0	0.75	19	"	"	
	Aug.	1	706	G	7369	"	12.0	0.75	20	"	Combined	
		1	711	G	1567	"	12.0	0.75	19	"	"	
		1	724	PS	6161	"	12.0	0.75	16	"	"	
		1	730	S	1523	"	12.0	0.75	9	"	"	
		14	759	G	2037	"	12.0	1.00	20	"	"	

Totals for Year to date

15

131 466

(Incomplete)

Summary

Total Number of charges

15

Total FBM Treated

131 466

Average FBM per Charge

8 764

Total number of charges of 30,000 FBM or more

1

Apr 7-36

GRV



In compliance with your letter of July 2nd, following are statements of created and treated cross ties and switch ties on hand at treating plants as of September 1st, 1936, together with statement of ties due on unfilled orders as of that date:

	<u>#1</u>	<u>#2</u>	<u>#3</u>	<u>#4</u>	<u>#5</u>	<u>TOTAL</u>
<u>CREATED CROSS TIES</u>						
inerd	75,624	30,258	81,604	67,782	59,256	314,524
edise	None	None	75,129	141,685	154,625	371,439
ttle	None	None	53,372	203,428	78,848	335,648
AL	75,624	30,258	210,105	412,895	292,729	1,021,611
<u>ATED CROSS TIES</u>						
inerd	230	160	None	None	4,580	4970
edise	None	None	1,427	8,393	None	9,820
ttle	None	None	None	None	None	None
AL	230	160	1,427	8,393	4,580	14,790
ND TOTAL...	75,854	30,418	211,532	421,288	297,309	1,036,401
<u>DUE ON UNFILED ORDERS</u>						
inerd	None	None	None	None	None	None
edise	None	None	None	836	None	836
ttle	None	None	None	None	1,204	1,204
L	---	---	---	836	1,204	2,040
						1,204

(STATEMENT OF SWITCH TIES ON ATTACHED SHEET)

Paradise @ 65000 lbs = 5.7 mos say 6 mos.
Suck & less Total less & suck 6 mos

Start acct 1st Camp April 1st.

Seattle cap 60,000

9/9/36

Switch Ties Treated at Seattle -

<u>Year</u>	<u>F.B.M.</u>
1927	595,617
1928	1,063,202
1929	1,262,798
1930	---
1931	1,240,854
1932	719,990
1933	560,853
1934	653,094
1935	617,083
1936 to 8/31	<u>1,240,311</u>

7,953,802 FBM or 189,376 Cross Tie Equiv.

$$805 \mid 72514 \quad (9)$$

7953

$$7953 \mid 72514$$

Piling Purchased	Ln. Ft.	Cu. Ft.	2 1/2 Sills Tol		
Feb. 1934	185	172	1.85	92.50	5-37'
✓	1925	1788	19.25	962.50	25/30 25/33 10/35
Mar.	210	195	2.10	105.00	6/35
Apr	700	808	5.88	294.00	20/35
✓	2380	1994	20.47	1023.40	34/70
✓	2380	1994	20.47	1023.40	34/70
✓	2380	1994	20.47	1023.40	34/70
✓	2380	2083	20.47	1023.40	34/70
May	1595	1499	15.95	797.50	6/55 4/60 7/65 6/75
✓	2352	2058	20.23	1011.36	14/68 20/70
✓	2354	2060	20.24	1012.22	13/68 21/70
✓	2310	1936	19.81	993.30	33/70
✓	2306	1932	19.83	991.58	2/68 31/70
✓	2129	1862	18.31	915.47	3/55 4/60 12/62 14/70
✓	2195	1921	18.88	943.85	3/55 2/60 25/68 3/70
✓	930	814	8.00	399.90	5/30 10/35 5/38 4/48
July	195	175	1.95	97.50	3/65
Pcs. 480	46 86 60 22	25285	25.22	12710.28	Recaps Length Pcs.
					30 - 30
					33 - 25
					35 - 46
					37 - 5
					38 - 6
					48 - 5
					55 - 12
					60 - 12
					62 - 12
					65 - 10
					68 - 54
					70 - 258
					75 - 6
	28906				Total Pcs. 480

Cross Lins

Pcs

FBM

Contract Chgs.

Jan 1935

62402

-2636837

17139.44

Feb

55669

2342858

15279.58

Mar

64264

2539489

16557.68

Apr

56351

2046711

13303.62

May

27304

1065717

7044.46

June

9839

424723

3005.50

July

953

28112

182.73

Aug

1397

52155

339.01

277919

11136602

72852.02

✓

Sw Lins

Jan 1936

—

—

Feb

—

—

Mar

—

—

Apr

324529

2606.43

May

20802

176.62

June

647311

5515.09

July

198709

1768.17

Aug

48960

432.48

1240311

10,498.79

<u>Lumber - 1936</u>		Contract Chgs.
Jan	4728	64.06
-	1056	14.31
Feb.	—	—
Mar.	18300	247.97
-	3826	51.84
Apr	11898	161.22
	4739	62.00
May	18810	132.47
	24112	299.73
	19627	338.89
	14400	195.12
June	1200	16.26
July	28433	406.12
Aug	585	7.63
-	938	12.24
-	10097	136.82
-	2027	27.46
-	15406	160.99
	180082	2335.13

<u>Tie Plugs</u>		
Mar. 200000	1978	20.67
June 200000	1978	20.67
	3956	41.34

Anchor Logs Purchased	Len H.	Cut H.	2% Sales Tax	Cost	
Apr. 1936 ✓	178	40	.61	30.55	47 Pcs.
May -	36	8	.15	7.65	9
✓ -	6	2	.03	1.50	2
June ✓	16	10	.09	3.40	4
	236	60	.86	43.10	62

Paving Blks	FBM	Pcs.		
May -	26667	30000	29.90	1395.00

Halvick No 1

(A) Cross Trees Treated at Sull
Cuts Paid Trading Plant

Year	No. Per	7/18/11	Total Cost	Per Tree	Per ft Bark
1927	-	-	-		
28					
29					
30					
31					
dec 32					
Total					
sub-1932501-133					
1933					
1934					
1935					
1936					
Sub Total					
Grand Total					

Schult No 2

③ Schult Trees
Cost Paid Treating Plant Sickness

Year	ft BM	Total Cost	Per ft BM
1927			
28			
29			
30			
31			
dec 1-1932			
Total			
dec 1-32-1-1-33			
1933			
1934			
1935			
1936			
Sub Total			
Grand Total			

Slalut 8² 3

① Lumber

Cost Paid Treating Plant Seattle

Year	J/B/M	Total Cost	Cost Per J/B/M
1927			
28			
29			
30			
31			
Dec 1-1932			
Total			
Dec 1-1932-1-1-33			
1933			
1934			
1935			
1936			
Sub Total			
Grand Total			

Stallman No 4

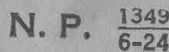
① Pilmy

Cost Paid Treating Plant Seattle

Year	No PCs	Ln ft	Cu ft	Total Ln	Per ft	Per cu ft
1927						
28						
29						
30						
31						
Dec. 1-1932						
Total						
Dec 1-1932 to 1-1-33						
33						
34						
35						
36						
Sub Total						
Grand Total						

Лекция № 5

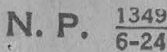
(F) Treated Pulping Purchased at Seattle



Statement No. 1

'A' Cross Lies Treated at Seattle

Year	No. Pcs	F.B.M.	Total Cost (Constant chg)	Cost Per Tie	Cost Per F.B.M.	Per M for B.M.
1927	176045	7156109	48071.76	.273	.00 671	671
1928	468231	18576498	124,687.40	.266	.00 671	671
1929	405893	15,985,271	105,511.84	.260	.00 660	660
1930	262784	10,278,167	67,657.74	.250	.00 658	658
1931	223030	8,496,532	56,158.00	.252	.00 661	661
to Dec. 1st, 1932	203102	8045321	52,891.87	.260	.00 657	657
Total	1,739,085 ✓	68,537,878 ✓	454,978.61 ✓	.26 ✓	.00 664	664 - base 6 ^{SD} = .14
12-1-32 to 1-1-33	41153	1,536,379	10,032.36	.244	.00 653	653
1933	102,963	4,018,917	26,263.35	.255	.00 653	653
1934	246,455	9,589,697	62,598.23	.254	.00 653	653
1935	112,276	4,342,906	28,417.59	.253	.00 654	654
1-1-36 to 9-1-1936	277,979	11,136,602	72,852.02	.262	.00 654	654
Total	780,826	30,624,501	200,163.55	.256	.00 654	654 - base 6 ^{SD} = .04
Grand Total	2,519,911	99,162,399	655,142.16	.260	.00 661	661 - base 6 ^{SD} = .11
Average		39.351				



Statement No. 5
'E' Printed Piling Purchased at Seattle

Treated #6 Crustate per cu ft = 1.81 gal @ 12¢
1 cu ft = 57 cu ft

year	no. of res.	Lin. Ft.	Cum. Ft.	Int. Sales Est.	Total Cost Inst. Chg.	Cost per Sq. Ft.
1927	966	51799	43271		31128 50	.7177
28	17	1330	1114		758 10	.6804
29	-	-	-		-	-
30	-	-	-		-	-
31	64	4420	3928		2634 10	.6705
32		16197	15984		9429 58	.5899
33	-	-	-		-	-
34	246	16840	14607		8591 49	.5881
35	496	28526	29630		13025 95	.4396
To 9-1-36	480	28906	25285		{ 12 710 28 254 22 * }	.5127
Total	2269	148018	133919		78532 22	.5864

* Washington Sales Tax 2%.

28500 / 3000

* Washington Sales Tax 2 %.					
-----------------------------	--	--	--	--	--

N. P. 1349
6-24

Statement # 2

B Switch Dies Treated at Seattle

	Year	TBM	Total Cost (Contract Chg)	Per TBM Cost	
	1927	595617	583726	\$ 9.799	
	1928	1063202	1053652	9.911	
	1929	1262798	1220564	9.671	
	1930	-	-	-	
	1931	1240854	1185706	9.556	
X	1-1-32 to 12-1-32	719790	647791	9.000	
	Total	4882461	4691639	9.609	- Base 9 ⁰⁰ = 4609
+	12-1-32 to 1-1-33	-	-	-	
	1933	560853	481393	8.583	
	1934	653094	532776	8.157	
	1935	617083	495706	8.032	
	To Sept 1 - 1936	1240311	1049879	8.464	
	Total	3071341	2559754	8.334	- Base 8 ⁰⁰ = 334
	Grand Total	7953802	7251393	9.116	= \$502

$$\begin{array}{r} 9.12 \\ 6.50 \\ \hline 2.62 \\ 1.62 \\ \hline 6.50 \\ 1.62 \\ \hline 8.12 \end{array}$$

N. P. 1349
6-24

Statement No. 3

'C' Lumber Treated at Seattle

year	7 P.M.	Total Cost (Contract Chg)	Cost per 7 P.M.	Cost per M ft. P.M.	
1927	361 162	11 057 26	.0306	30.60	
1928	510 502	5 211 54	.0102 ⁽²⁾	10.20	
1929	300 892	3 475 80	.0116	11.60	
1930	43 741 ⁽¹⁾ 476 645	1 550 96 7 407 47	.0354 .0155	15.50	
1931	318 813	7 020 18	.0220	22.20	
1932	9634 #	-	-	-	
1-1-32 to 12-1-32	196 663	2 545 00	.0129	12.90	
Total	2,218,052	38,268.21	.0173	17.30	Base 9 ⁰⁰ = 8 ³⁰
12-1-32 to 1-1-33	-	-	-	-	
1933	189 582	2 483 99	.0131	13.10	
1934	38 366	508 28	.0132	13.20	
1935	109 837	1 524 58	.0139	13.90	
9-1-1936	180 082	2 335 13	.0130	13.00	
Total	517 867	6 851 98	.0132	13.20	
Grand Total	2,735,919	45,120.19	.0165	16.50	

For Graybar Co.

(1) Conduit

Lumber Purchased - (Paving Blocks)

1936 26 667 1 395.00
27 90 * } .0534

Grand Total 276 2586 46 543 09 .0168

* 2% Wash. Sales Tax.

TOTAL 2762586

Statement # 4
D'Kling Traded at Seattle

Year	No. of Pcs.	Lin. Ft.	Cu. Ft.	Total Cost (Contract Price)	Cost per Lin. Ft.	Cost per Cu. Ft.
1927	1183	83325	77032	26076.96	.3129	.3385
28	1920	66380	64985	15503.28	.2335	.2385
29	520	21235	19425	5408.80	.2547	.2784
30	185	9138	8366	2076.52	.2272	.2482
31	215	6847	6669	1254.55	.1832	.1881
1-1-32 to 12-1-32		3611	3396	847.74	.2348	.2497
Total	4023	190536	179873	51167.85	.2685	.2845
12-1-32 to 1-1-33	-	-	-	-	-	-
1933	3	8415	7696	1458.88	.1733	.1896
34	38	1290	1484	274.06	.2124	.1846
35	-	-	-	-	-	-
36 to 36(9-1)	-	-	-	-	-	-
Total	38	9705	9180	1732.94	.1785	.1887
Grand Total	4061	200241	189053	52900.79	.2641	.2798

N. P. 1349
6-24

No. 6
Stubs & Anchor Logs
Treated at Seattle

Year	Res.	Lin. Ft.	Cu. Ft.	Total Cost (Contracting)	Per Cu. Ft.
1927	-	41	-	-	-
28	-	-	-	-	-
29	-	-	-	-	-
30	311	2768	1394	210 59	.1513
31	216	1966	1014	212 69	.2101
32	-	-	-	-	-
Total -	527	4734	2408	423 28	
33	1284	11714	7003	1047 71	.1497
34	-	-	-	-	-
35	-	-	-	-	-
36	-	-	-	-	-
Total -	1811	16448	9411	1470 99	.1563

Treated Stubs & Anchor Logs Purchased

1927	-	-	-	-	-
28	-	-	-	-	-
29	-	-	-	-	-
30	-	-	-	-	-
31	-	-	-	-	-
32	-	-	-	-	-
Total -					
1933	20	125	68	23 50	.3455
1934	256		474	183 60	.3881
1935	-	-	-	-	-
To 9-1- 1936	62	236	60	43 10 86 *	.7333
Total -	338	361	602	251 06	.4169

* Wash. Sales Tax 2%.



No. 7
"A" - Tie Plugs treated at Seattle.

Year	Pcs	FBM	Total Cost (Contract Chg)	Per Tm.
1927	-			
28	-			
29	-			
30	-			
31	-			
31	-			
Total				
32	-			
33	-			
34	300 000	2 967	36 68	.0124
35	450 000	4 451	50 39	.0113
To Sept 1 - 36	400 000	3 956	41 34	.0104
Total	1 150 000	11 374	128 41	.0113

G. N. Treating Plant Kelly and 9/4/36

G. N. Inspector Robinson - Plant Supt.

A) Treatment of cross ties seasoned 50-50 mixture
10- to 12 hrs.

② Seasoned switch ties about two hours longer - both
8# per cu ft. $3/4$ " penetration

B) Bridge Timber + Lumber 50-50 mixture

① Green western Douglas fir 16 hrs seasoning
Average 21 cylinder hours

② Douglas Fir - Oregon Pilum - full sap 1" penetration
10# empty cell treatment straight creosote - claim.
get better cylinder seasoning and preservative
penetration with creosote boiling than with
mixture

Treat Oregon pilum 80-95 ft G. N. specification for
N. Dakota Highway work. Treating some long
piles at present for Fargo Marshall Bridge
Green piles direct from woods require 42 cylinder
hrs - seasoned piles as low as 24 cylinder hrs.
Plant is very well equipped for cylinder
vacuum seasoning and that explains
their time results.

(2) 9/4/36

(2) Plant

Have two cylinders 8' dia 122 ft long
Charge of 4 lengths 30 ft piles = 2100 cu ft.

Total cylinder time of plant per year about
equally divided between G.N. contract and
Commercial work although output for
G.N. contract greater per cylinder hr greater
because of large amount of seasoned stock.

Commercial material treatment in transit
from Coast (Douglas fir lumber & piling) to
Montana, Dakota, Iowa, Kansas & Nebraska
Competition with West Coast Wood Preserving
Co. Seattle St. Helens - Dallas Oregon plants.

G.N. Treats several hundred thousand ZMA
ties at about same cost as zinc treatment.
Both ZMA and 50-50 treated ties are
stored in yard.

Summers plant operated by G.N. compared to
treatment of relatively small number of
Zinc pine ties. Output devoted largely to lumber.

Seattle Treating Cost 9/3/26

$$\text{Equivalent Tie} = 748 \times 8 = 37.33 \text{ ft BM} = 311 \text{ in ft.}$$

$$1000 \text{ ft BM} \div 37.33 = 26.78 \text{ ties per M}$$

$$\text{Treating Cost } 6^{\text{50}} \div 26.78 = .2427 \text{ per tie}$$

$$\text{Present Ave cost} \quad .2600$$

$$\text{Straight Cost @ } 6^{\text{50}} \quad .2427$$

$$\text{Difference} \quad .0173 = 7.12\%$$

$$\text{Reduction } .25 \text{ per M} \div 26.78 = .00933$$

Seattle Trading Contract ① 9/31/36

Items discussed with Mr. Horvick & Mr. Barall in meetings Aug. 31st & Sept 1-1936

A) Creosote & Storage

The Creosoting Co have been purchasing their Creosote through Bermuth Lembecke who are brokers for Japanese & European oil which has been at a lower price than domestic oil delivered by vessels.

During the Italian Ethiopian war for a period foreign oil was not available so that one shipment of domestic oil (Barrett) was received in Shamer Manalond Dec. 4-1935 695,000 gals to Spec. No. 1. A R E A.

Residue in this lot was OK except for large amount of anthracene.

Foreign oil which they purchase does not have residue over 20% at 355°

Domestic oil has at times residue as high as 35 to 40%, which is highly objectionable from the standpoint of appearance of the finished product. Japanese oil usually Spec. Grav. 1.06 Residue 14 to 16%

(2)

Storage Tank Crusole 1- 300,000 gals

" " " 1- 740,000 "

" " " 1- 740,000 "

" " " Total 3- 1,780,000 gals.

The 300,000 gal tank to be set aside
for the W.P. oil.

Republic Crussoting Co plant at Euendall
Wash. buy all their tar for production
of Crusole. They receive about 2 tankers ^{per year} with
tar products from Atlantic Seaboard.

(B) Treatment of Trees for "Kilnwick"

① Treated from beging 1926 up to 1930 incl 2,150,000

② Treated up to and including 1936 3,400,000

(3)

(C) Development of Price for Treating unseasoned & ties from seasoning piles

From Statement to Aug. 30 - 1936

① Unloading + stacking green ties	.01125
② Removing seasoned ties to conveyor	.00250
③ Total	.01375
Profit	.00137
Total	.01512

.01512 per tie = 40¢ per M say 45¢

Switch ties likewise taken unseasoned from stock piles was taken as 60¢ per M ~~say~~

(D) From J.L. Burnham

① No rates in effect for treating in transit at St. Helens from Portland or Tacoma

Local rate Portland to St. Helens = $6\frac{1}{2}$ ¢ per cent

Round trip assumed at 75% = 9.75¢

Passage transit privilege = 1.00¢

Total 10.75 say 11¢ per cent

Green tie 125# \times 11¢ = 13.75 per tie

Copied Envelope
9-3-36

Statement No 1

Estimated Cost of treated tie treated under contract at Seattle and deliv'd to the Division, Based on 300,000 ties per year (equivalent 748-8')

(A) Direct Cost of Ties & Treatment

① Cost of green tie $37\frac{1}{3}$ ft 11/16" @ $\frac{1}{2}^c$	4480
② Sales tax @ 2% on 75%	.0067
③ Cost of Contract treatment	.2600
④ Cost of Creosote 1.35 gal @ $\frac{1}{32}^c$	.1790
⑤ Cost of Petroleum 1.65 gal @ 2.1^c	.0347
⑥ Treating Suppman 2,400	.0080
Sub Total	9364

(C) Indirect Items Freight & etc.

① Haul on green ties average haul 148 miles - $125^{\#}$ @ $.003$	.0278
② Haul treated tie average haul 100 miles - $130^{\#}$ @ $.00225$	.0146
Sub Total	.0424

Summary

① (A) Direct Cost & etc	9364
② (B) Indirect Items etc	.0424
Total Cost	9788

Seattle Wash
Aug. 30-1936

②
Salmon No 1

B Interest & Taxes

① Interest on Preservatives	\$52,650 @ 6% for 6 mos	\$1579.50	.0054
② Taxes on Preservatives	26,325 @ 32% x .0355		.0010
③ Taxes on Seaming Ties	4547 @ 32% x .0355		.0052
④ Interest on Seaming Ties	4547 @ 6% - 12 mos.		.0273
			<u>.0389</u>

Summary

A Direct Costs		\$9364
B Interest & Taxes		.0389
C Indirect Items Freight etc		\$.0424
Totals		<u>1.0177</u>

Seattle Wash.
Aug. 30. 1936

Statement No 2

Estimated Cost of treating Inland Empire ties at
Paradise and Shipping to Seattle Plant Territory.
Based on 300,000 ties per year (equivalent 7x8-8')

(A) Direct Cost of Ties & Treatment

Cost of green ties 37 1/3 N. Blk @ 13 ⁰⁰	\$.4850
Cost of Treatment (Direct Items)	.3498
Cost of Treatment (Indirect Tax)	.0037
Cost of Treatment (Indirect Overhead rate)	.0236
Sub Total	\$.8621

Interest + depreciation on Investment (.0220)

(C) Indirect Items Freight etc.

1 Haul on green ties average haul 146 miles - 125 ⁰⁰ @ .003	.0274
2 Haul on treated ties average haul 662 miles - 136 ⁰⁰ @ .0015	.0645
Sub Total	.0919

<u>Summary</u>	
1 (A) Direct Cost	.8621
2 (B) Indirect Items etc	.0919
Total	.9540

Seattle Wash
Aug. 30 - 1936

② Exhibit No 2

(B) Interest & Taxes

① Interest on Seaming Ties \$485 @ 6% - 12 mos	.0291
② Taxes on Seaming Ties \$485 @ 1.63% .63	.0079
Sub Total	.0370

Summary

(A) Direct Cost	\$.8621
(B) Interest & Taxes	.0370
(C) Indirect Items Freight & etc	.0919
Total	\$.9910

Seattle Wash.
Aug. 30 - 1936

Statement 8- 3

Estimated Cost of Treating Coast Fir logs at Paradise and shipping back to Seattle Plant Territory Based on 300,000 ties per year (equivalent 7x8-8')

A Direct Cost of Ties & Treatment

① Cost of green ties 37 1/3 Blk @ 12 ⁰⁰	\$4480
② Sales tax does not apply	—
③ Cost of Treatment (direct items)	.3498
④ Cost of Treatment (Indirect Tax)	.0037
⑤ Cost of Treatment (Indirect Amortized etc)	.0236
Sub Total	.8251

Interest + depreciation on Investment (.0220)

B Indirect Items Freight + etc

① Haul on green ties average haul 688 miles 125 [#] @ .003	.1290
② Haul on treated ties average haul 662 miles 135 [#] @ .0015	.0645
Sub Total	.1935

Summary

① A Direct Cost	\$8251
② B Indirect Items + etc	\$1935
Total	1.0186

Seattle Wash.

Aug. 30 - 1936

② Helms No 3

B Interest & Taxes

① Interest on Seaming Ties \$448 @ 6% - 12 mo.	.0269
② Taxes on Seaming Ties \$448 @ 1.63%	.0073
Sub Total	.0342

Summary

A Direct Costs	\$8251
B Interest & Taxes	.0342
C Indirect Denis Freight etc	.1935
Total	1.0528

Seattle Wash.
Aug. 30. 1936

① Normal Program Station #4

Estimated cost of treating trees (Equivalent 7+8-8')
at Paradise based on 450,000 per year

(A) Directly Assignable Items

① Creosote 1.35 gal @ .128 plus Co. freight .008		.1836
② Petroleum 1.65 gal @ 2.1¢ plus Frt @ .0279		.0460
③ Unloading & Cross piling		.0200
④ Loading for transfer to machines		.0140
⑤ Handling through machines		.0180
⑥ Loading for shipment		.0120
⑦ Fuel Coal @ 1 ¹⁰ / ₁₀ per ^{ton} plus Co. Freight @ .0015		.0110
⑧ Plant Labor (Operation + Repairs) 15,172.04		.0337
⑨ Supervision (Local) 3,801.90		.0084
⑩ Supervision (General) 5,144.76		.0112
⑪ Material + Supplies		.0049
Sub Total		<u>.3628</u>

B Indirect Overhead + etc

① Interest on Investment 185,534 @ 6% (11,132.04)	.0277
② Depreciation on Plant 179,354 @ 3% = 5,380.62	.0120
③ Taxes on Plant - Year 1935 280.73	.0006
④ Insurance on Plant 1935 Premium 147.57	.0003
⑤ Interest on Preservatives 90,450 @ 6% for 1 mo = 452.25	.0010
⑥ Taxes on Preservatives Included in (3)	—
⑦ Insurance on Preservatives Included in (4)	—
Sub. Total	.0386

C Indirect Taxes

① Federal Retirement Act @ 3 1/2% of Payroll (1,173)	.0041
--	-------

Summary

① A Directly Assignable Items	.3628
② B Indirect Overhead + etc	.0386
③ C Indirect Taxes	.0041
Total Cost	\$.4055

Seattle Wash.

Aug. 30 - 1936

①

Statement No 5

Estimated Cost of treating ties, normal program of 450,000
 ties plus 300,000 Seattle ties at Paradise Total
 750,000 ties (equivalent 7' x 8" - 8')

(A) Directly Assignable Items

① Cresote 1.35 gal @ $\$1.28$ plus Co. freight $\$0.008$	.1836
② Petroleum 1.65 gal. @ 2.14 plus frt @ $\$0.0279$	.0460
③ Unloading + Cross piling	.0200
④ Loading for transfer to machines	.0140
⑤ Handling through machines	.0180
⑥ Loading for shipment	.0120
⑦ Fuel, Coal @ $1\frac{1}{2}$ per ton plus Co Freight @ $\$0.0015$	.0110
⑧ Plant Labor (Operation + Repair) $\$21,110.64$	.0281
⑨ Supervision (Local) $\$3,961.05$	.0053
⑩ Supervision (General) $\$5,144.76$	.0069
⑪ Material + Supplies	.0049
Sub Total	<u>3498</u>

B) Indirect Overhead etc

① Interest on Investment $185,534 @ 6\%$ ($11,132.04$)	.0148
② Depreciation on Plant $179,354 @ 3\%$ (5380.62)	.0072
③ Taxes on Plant - year 1935 - 280.73	.0004
④ Insurance on Plant 1935 Premium 147.57	.0002
⑤ Interest on Preliminaries $90,450 @ 6\%$	.0010
⑥ Taxes on Preliminaries Included in (3)	—
⑦ Insurance on Preliminaries Included in (4)	—
Sub Total	.0236

C) Indirect Taxes

① Federal Unemployment Act. $@ 3\frac{1}{2}\%$ of Payroll (7043)	.0037
--	-------

Summary

① A Directly Assignable Items	.3498
② B) Indirect Overhead etc	.0236
③ C) Indirect Tax	.0037
Total Cost	.3771

Seattle Wash
 Aug. 30-1936

① Statement No 6

Estimated segregation of costs to Contractor on treating material at Seattle Plant, for cross ties only. Based on average of 300,000 pcs 7x8x8 tie equivalents per year.

Contract price \$6.50 per M for 12 hr. treatment is equivalent to .243 per tie (7x8x8)

Actual price paid contractor for treatment of all cross ties to Aug. 1st 1936 was .2600 per tie covering all additional charges for overtime.

A Direct Assignable Costs

① Unloading and stacking green ties	\$.01125
② Removing seasoned ties to conveyor	.00250
③ Conveyor work	.00250
④ Boring, adzing, In creasing + charging retorts	.00900
⑤ Loading out treated ties for shipment	.00625
⑥ Fuel - Steam power	.02000
⑦ Plant Labor - operation + repairs	.02100
⑧ Material and Supplies	.01000
Sub Total	.08250

(B) Directly Assignable Taxes

① State Industrial Tax & Workman's Compensation 2.15¢ per hr.	\$.0017
② Federal Social Security Act 2.1% of Labor	.0011
③ Business & Occupational Tax 1/4% on Gross Business	.0008
Sub Total	.0036

(C) Overhead + etc

① General & Plant Supervision	.0120
② Amortization of Plant \$300,000 in 10 years	.1000
③ Interest on Investment 300,000 @ 6%	.0330
④ Taxes on Plant	.0120
⑤ Insurance on Plant	.0010
⑥ Sub Total	.1580

Summary

① (A) Direct Assignable Costs	\$.0825
② (B) Directly Assignable Taxes	.0036
③ (C) Overhead + etc	.1585
Total	\$.2446

Payments Received
Profit

.2600
\$.0154

Seattle Wash Profit % of Cost
Aug. 30 - 1936

6.13%



Estimated Breakdown of Seattle Contractors Charge for treating cross ties

Contact Price of \$6.50 per M for 12 hour treatment
in equivalent of 24.3¢ per tie 8x8

Actual Price Paid Contractors for treatment of all cross ties
August 1st 1936 = \$0.2600 per tie, covering
all additional charges for materials.

Unloading & Stacking Green ties	*01125
Removing dry ties & Conveyors	.00250
Conveyor work	.00250
Boring, Adjoining & Mousing & Chipping Joints	.00900
Loading out treated ties for shipment	.00625
Fuel	*02000
Plant Labor - operation and repairs	*02100
Material and Supplies	.01000
	<u>*08250</u>

Estimated Additional Items of Expense

Supervision	*0120
Interest on investment @ 6%	.0300
Amortization of plant in 10 years	*1000
Taxes on plant	.0120
Maintenance on plant	.0010

State Industrial Tax & Workmen's Compensation	*0017
Social Security Act 2.1% of Labor item	*0004
Business & Occupational Tax 1/4% on Gross Income	<u>.0008</u>

Total *2404

Miscellaneous items 0196
*2600

702

and Petroleum

Statement No 7

Comparative Ceresote Prices based on quotations current for year 1936.

(A) Costs delivered at Paradise

① 20% Lihigh @ $11\frac{1}{2}$ ¢	.0230
② 80% domestic @ $13\frac{1}{8}$ ¢	.1050
③ Average cost per gal.	<u>.1280</u>
④ Company freight St Paul @ $.0015 = .0088$ @ 80%	.0070
⑤ Company freight Lihigh @ $.0015 = .0051$ @ 20%	.0010
⑥ Total Cost Average Company Freight	<u>.0080</u>
⑦ Total Cost Including Co. Frt (3) + (6)	<u>.1360</u>

(B) Cost delivered at Seattle

① Foreign oil @ 13¢	.1300
② Wash. Sales Tax @ 2%	<u>.0026</u>
③ Total Cost delivered	<u>.1326</u>

(C) Petroleum at Paradise

① Cost of oil @ 2.1¢	.0210
② Company frt 7.87# - 584 miles @ $.003$	<u>.0069</u>
③ Total Cost	<u>.0279</u>

Seattle Wash.

Aug. 30-1936

Statement No 8

Statement of material treated under Contract at Seattle.

Year	No Ties	From Ties	%	Sub Total ft Blk	%	Piling + Timber		Total ft Blk
1927	176,045	6,577,348	73.2	595,602	6.6%	1,805,958	20.2	8,973,906
1928	468,231	17,480,622	88.1	1,063,188	5.4	1,303,680	6.5	19,847,490
1929	405,893	15,153,337	89.4	1,262,814	7.4	533,988	3.2	16,950,139
1930	262,784	9,810,602	93.9	—	—	637,434	6.1	10,448,036
1931	223,030	8,376,453	83.1	1,240,848	12.4	458,094	4.5	10,025,395
1932	244,255	9,118,853	88.7	719,964	7.0	438,816	4.3	10,277,633
1933	102,963	3,843,952	80.5	560,868	11.8	366,286	7.6	4,771,606
1934	246,455	9,700,986	91.5	653,100	6.5	240,072	2.4	10,094,158
1935	112,276	4,191,637	79.4	617,064	11.7	469,812	8.9	5,278,513
1936	276,582	10,325,727	84.2	1,448,034	11.8	484,764	4.0	12,258,525
Total	2,518,514	94,024,515	86.3	8,161,482	7.5	6,739,404	6.2	108,935,401
1936	340,000	12,693,322	—	500,000	—	—	—	13,193,322
Totals	2,858,514	106,717,837	—	8,661,482	—	—	—	122,118,723

⊗ Includes up to Aug. 1st 1936

Seattle Wash.

Aug. 30-1936

Comparisons of unit prices for treating cross ties
switch ties, timber & etc as between the N.P. contract
with West Coast Wood Preserving Co. at Seattle and the
G.N. contracts at Hillyard.

Material	N. P. Contract Jan 1-1927	G.N. Contract Jan 1-1936	G.N. Contract June-1926
① Cross Ties - Douglas or S. Inland Fir - ft. B.M.	\$6.50	\$8.96	8.33
② Cross Ties Douglas Fir - Eggnail 7x8-8	.2407	.3319	.3085
③ Cross Ties - Tamarack or Larch - ft. B.M.	\$6.50	\$7.92	8.33
④ Cross Ties - Tamarack or Larch per tie	.2407	.2933	.3085
⑤ Cross Ties - Lodgepole or Ponderosa Pine - ft. B.M.	\$6.50	\$7.50	8.33
⑥ Cross Ties - Lodgepole or Ponderosa Pine per Tie	.2407	.2777	.3085
⑦ Switch Ties - Fir & Larch - ft. B.M.	\$8.00	\$12.00	12.00
⑧ Switch Ties - Pine - ft. B.M.	—	10.00	12.00
⑨ Bridge Timber Lumber - Fir + Larch ft. B.M.	10.45	12.00	12.00
⑩ Bridge Timber Lumber - Pine ft. B.M.	—	10.00	12.00
⑪ Piling - Fir + Larch - per cu. ft.	.14	.15	—
⑫ Piling - Cedar - per cu. ft.	—	.14	—
⑬ Piling - Pine - per cu. ft.	—	.13	—
⑭ Cross Ties - Green - ft. B.M. (fir)	\$7.52	10.62	—
⑮ Cross Ties - Green per tie (fir)	.2785	.3933	—

	(2) N. P. Contract Jan 1-1927	G. N. Contract June 1-1936	B. N. Contract June 1936
(16) Spiket-ties - green ft BLM - (fir)	9.02	\$13.66	—
(17) Bridge Timber Lumber - green ft BLM (fir)	11.47	13.66	—
(18) Bridge Timber Lumber - green (usual lots fir) ft BLM	11.72	13.66	—
(19) Bridge Timber Lumber Green (small lots fir) ft BLM	13.05	13.66	—
(20) Piling green fir cu ft	.2012	.17	—

Note Item (18) based on 30,000 ft BLM or over. Item (19) based on charges less than 30,000 ft BLM.

Item (20) based on treating green piling requiring a total cylinder time of 42 hrs.

The copy of G. N. June 1936 contract is not complete as to schedule of prices.

Note - G. N. June 1-1936 Contract provides that contractor shall pay to the G. N. rental for plant of \$50,000 per year in case G. N. offers for treatment 1,750,000 cu ft or 21,000,000 ft BLM. This equal to 561,736 cross ties 7x8-8. The rental therefore is equal to about 9¢ per tie. The G. N. guarantees to offer for treatment 1,500,000 cu ft per year. In the event less than 1,750,000 cu ft. is offered the rental drops to \$35,000 per year. A rental of \$35,000 applied to 1,500,000 cu ft of Cross ties is equal to 482,312 pcs. 7x8-8 ft ties or 7.2¢ per tie.

Amount Pugh (A)

The N.P. Seattle Contractor has an investment of about \$300,000 in treating plant and seasoning yard. The depreciation charge based on 10 year period is 10¢ per tie.

Seattle Wash.

Aug. 30-1936

Pugh (A)

The G.N. 1936 contract provides that the G.N. shall in addition assume the cost to the contractor of all taxes contributions or assessments imposed by Federal Social Security Act or any similar acts in the State of Washington + etc.