NHLA Sawmill Symposium

Quality Control & Lumber Recovery

BENJI RICHARDS
Lumber Services Sales Manager

NHLA | STRONG ROOTS. GLOBAL REACH.

My Background

- NHLA Graduate January-April 1995
- Worked in Concentration yard for 8 years
- Worked as Dry Kiln Manager and Maintenance Manager
- Been with NHLA for 19 years

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Program Objectives

- **Assist our members:**
  - — To be competitive
  - — To become more attractive to a younger workforce
  - — To utilize technology efficiently
  - — To Be More Profitable! $$$$

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Program Progress

- **Program Measurements:**
  - Log Scale/Grading/Bucking
  - Debarker
  - Minimum Opening Face
  - Lumber Size Control
  - Lumber Inspection
    - Accuracy
    - Value Recovery
    - Machine Defects

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Program Process

- **Program Measurements:**
  - — Dip Tank
  - — Air Dry Yard
    - Stacker
    - Forklifts
    - Air Flow
  - — Kiln Drying
  - — Lumber Recovery

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Program Process

- Industry Benchmarks
- Management Tool
  - —Raw Material Cost
- Customized Training
- Profitability

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Educational Opportunities

- Lumber Inspection Training
  - Traditional
  - Online
  - Log Grading Training
  - Sawyer Training
- Quality Control Training
- Safety Training
- Management Training

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Results

- Number of facilities tested to date
  - — 68
- Average recovered losses
  - —$250,000

YES - He said $250,000!

Traditional QC

- Promote within company
  - — Works with inspectors
  - — Travels to customers to settle complaints
  - — Utilized when short-handed
  - — Very few records for history of effectiveness

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NHLA QC

- Highly skilled National Inspectors
  - — 3rd Party Inspection
  - — Creates less opportunity for favoritism
  - — Does not fill in due to lack of employees
- Near real-time reporting

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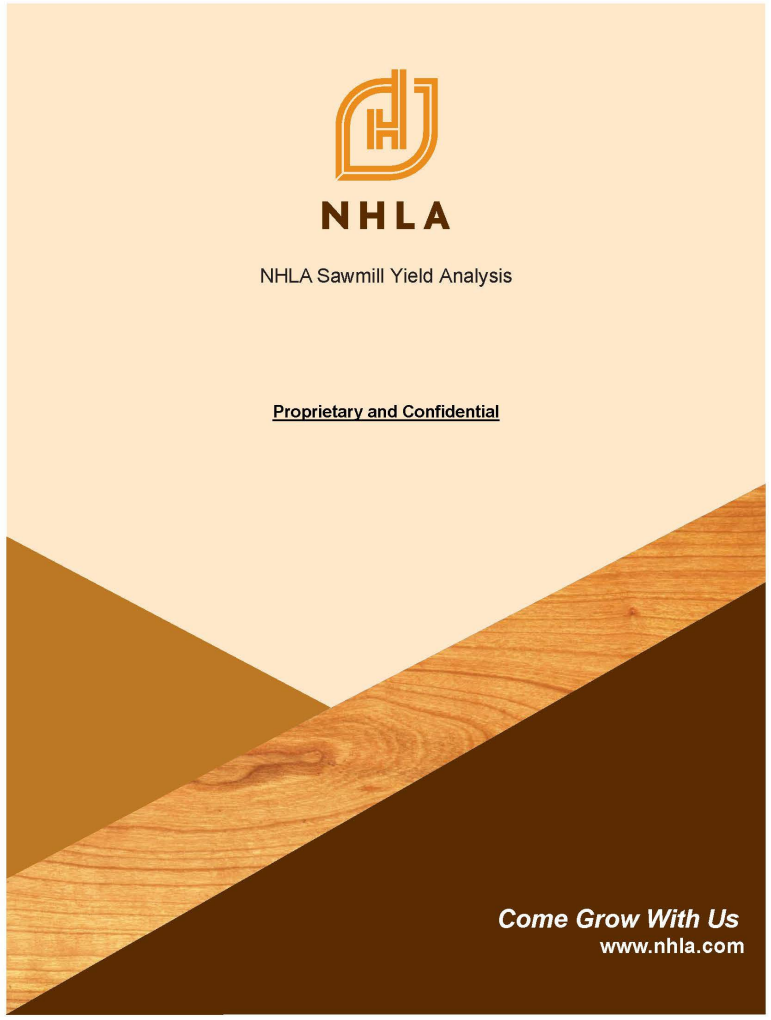
Reports



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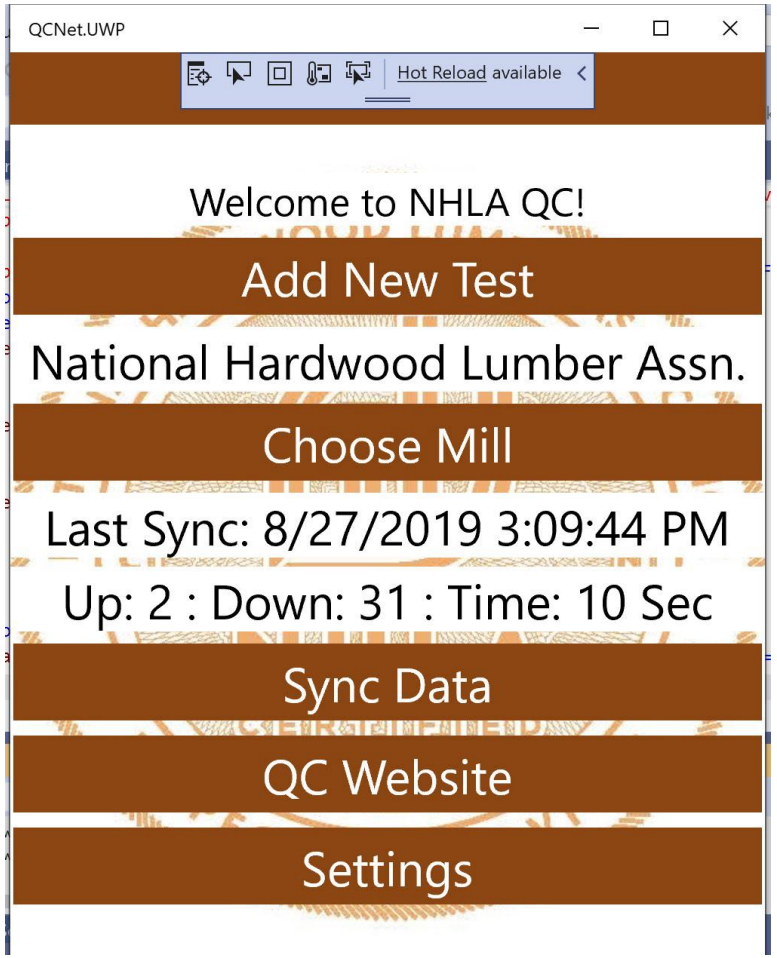
Phone App



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Lumber Recovery Evaluation

Mill: Sample Test

Species: Poplar

Annual Prod Hours: 2,100

Date: 3/22/2023

 # Empl: 23

Annual Prod: 10,750,000

Log Scale Type: Doyle Scale

QC Tech: Benji Richards

Manufacturing Cost/M: 330

Saw Time: 2h:53m

Task	Standard Target	Actual	Recoverable Profit Estimate	Priority
Turns on Log Inventory	30 Days	40	$54,456	
% Uptime	95%	93%	$104,713	
Productivity per Man/Day	46,000	59,339	$0	
% Com&Btr.	>= 68%	72%	$0	
% Lumber Tally	< +/- 1%	-1%	$77,225	
Lbr. Recovery Factor	>= 6.41	6.93	$0	
Total Annually			$236,394	

Note: All calculations are annualized based on annual production and test results for species tested.
Turns on Log Inventory = (CalcAnnProd / 250) * (1- OR%) * (Days Log Inv. - Target) * LogCost * 30%
% Uptime = Calc Annual Production Loss * Sales Avg. - Log Costs
Productivity per Man/Day = ((# Employees * 2000) - (CalcAnnProd / 250) * Sales Avg. - Log Costs) * 250
% Log Over Scale = (Mill Log Scale - Actual Log Scale / Actual Log Scale) * Log Value
% Com&Btr. = USDA Cbtr% weighted - Actual Cbtr% * CalcAnnProd * Sales Avg. Adjusted
% Lumber Tally = % diff. of Mill Tally & Actual Tally * CalcAnnProd * Sales Avg.
Lbr. Recovery Factor = USDA target weighted avg.LRF - Actual LRF * Lbr Value

Lumber Recovery Evaluation

LRF and Overrun by Diameter Class

Scaling Diameter	10" - 12"	13" - 15"	16" - 19"	20" & Up	Totals
Doyle Ftg	717	3,306	5,079	6,344	15,446
Lumber Tally	1,256	5,029	6,786	7,321	20,392
Lumber Value	$778.22	$3,529.18	$5,516.52	$6,345.71	$16,169.62
Manf. Costs	($542)	($1,622)	($1,962)	($2,603)	($6,729)
BE Log Value/M	$329	$577	$700	$590	$611
Overrun %	75.2%	52.1%	33.6%	15.4%	32.0%
Cubic Foot Vol.	186.0	742.7	959.7	1054.2	2,943
LRF	6.75	6.77	7.07	6.94	6.93
C&Btr %	44%	61%	73%	82%	72%
Prod./Hour	5,402	7,227	8,063	6,556	7,064
$Cost/M	($432)	($323)	($289)	($356)	($330)
Tons/MBF Lbr	4.28	4.23	4.21	4.40	4.28
Tons/MBF Logs	7.49	6.43	5.62	5.07	5.66
BE Log Value/Ton	$43.99	$89.74	$124.54	$116.26	$108.07

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Lumber Recovery Evaluation

Overrun and Lumber Recovery Factor by Diam. Class and Log Grade

Log DIB	10" - 12"	10" - 12"	13" - 15"	13" - 15"	13" - 15"	16" - 19"	16" - 19"	20" & Up	Totals
Log Grades	2	3	1	2	3	1	2	1	
Doyle Ftg	494	223	483	2,293	530	4,227	852	6,344	15,446
Lbr BF	844	412	738	3,456	835	5,648	1,138	7,321	20,392
Lbr $	$539	$239	$582	$2,469	$478	$4,713	$803	$6,346	$16,170
Mfr Cst	($356)	($186)	($262)	($1,068)	($291)	($1,612)	($350)	($2,603)	($6,729)
BE Lg$	$371	$237	$662	$611	$352	$734	$532	$590	$611
OR %	70.9%	84.8%	52.8%	50.7%	57.5%	33.6%	33.6%	15.4%	32.0%
CF Vol.	126.7	59.2	126.5	499.0	117.2	804.1	155.6	1054.2	2,943
LRF	6.66	6.95	5.84	6.93	7.13	7.02	7.31	6.94	6.93
C&Btr%	51.8%	28.2%	70.9%	63.5%	45.0%	75.5%	60.0%	82.3%	72%
Prod/Hr	5,534	5,150	6,560	7,540	6,680	8,166	7,587	6,556	7,064
Tons/M BF Lbr	4.18	4.47	4.53	4.17	4.19	4.19	4.26	4.40	4.28
Tons/M Logs	7.15	8.25	6.92	6.28	6.60	5.60	5.69	5.07	5.66
BE Log $/Ton	$51.98	$28.67	$95.72	$97.20	$53.34	$130.89	$93.54	$116.26	$108.07

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Lumber Recovery Evaluation

Lumber Summary					
Thickness	Grade	NHLA Bd Ftg	%	$ MBF HMR	Total Value
4/4	FAS	9,539	46.8%	1000	$9,539.00
4/4	F1F	1,280	6.3%	1000	$1,280.00
4/4	Sel	262	1.3%	990	$259.38
4/4	1C	1,529	7.5%	485	$767.32
4/4	2aC	597	2.9%	350	$208.95
4/4	2bC	135	0.7%	350	$47.25
4/4	3aC	13	0.1%	280	$3.99
4/4	3bC	7	0.0%	100	$0.70
4/4	Below Grade	8	0.0%	0	$0.00
4/4	Miscut	187	0.9%	0	$0.00
6/4	FAS	725	3.6%	1050	$760.03
6/4	F1F	695	3.4%	1050	$728.28
6/4	1C	592	2.9%	475	$281.20
6/4	2aC	958	4.7%	340	$325.72
6/4	2bC	181	0.9%	315	$57.02
6/4	3aC	14	0.1%	315	$4.41
6/4	3bC	12	0.1%	315	$3.78
6/4	Below Grade	14	0.1%	0	$0.00
6/4	Miscut	20	0.1%	0	$0.00
3 1/2	Cant	3,624	17.8%	525	$1,902.60
	Totals	20,392	100%		$16,169.62

Lumber Recovery Evaluation

Log Statistics				
	Sample Test		Mill A	
Average Log Length	15' 3"			
Average Log Diameter	16.42"			
Logs by Scaling Diam	#	%	#	%
10" - 12"	16	18.2%		
13" - 15"	36	36.9%		
16" - 19"	30	26.8%		
20" & Up	18	18.2%		
Total	100	100%		
Logs by Length	#	%	#	%
10	2	2.0%		
12	24	24.0%		
13	1	1.0%		
14	7	7.0%		
15	2	2.0%		
16	62	62.0%		
17	2	2.0%		
Total	100	100%		
Sum Over-Length > 4"	263"	6.3" Avg.		

Lumber Recovery Evaluation

Lumber by Log Class						
Log Grade	**Diam Class**	**Thickness**	**Grade**	**Bd Ftg**	**Pcs**	**Value**
1	13" - 15" Mins: 6.75	4/4	FAS	358	36	$358.00
			F1F	52	6	$52.00
			Sel	5	1	$4.95
			1C	84	17	$40.74
			2aC	13	3	$4.55
			Miscut	7	1	$0.00
			Total	**519**	**64**	**$460.24**
		6/4	FAS	12	1	$12.18
			F1F	12	1	$12.18
			2aC	27	2	$9.18
			Total	**51**	**4**	**$33.54**
		3 1/2	Cant	168	6	$88.20
			Total	**168**	**6**	**$88.20**
		Total Diam		**738**	**74**	**$581.98**
	16" - 19" Mins: 41.50	4/4	FAS	2724	234	$2,724.00
			F1F	300	32	$300.00
			Sel	119	25	$117.81
			1C	378	71	$183.33
			2aC	78	13	$27.30
			2bC	6	1	$2.10
			Total	**3605**	**376**	**$3,354.54**
		6/4	FAS	360	22	$378.00
			F1F	249	16	$261.45
			1C	137	8	$65.08
			2aC	145	10	$49.30
			Total	**891**	**56**	**$753.83**

Lumber Recovery Evaluation

Lumber by Log Class						
Log Grade	**Diam Class**	**Thickness**	**Grade**	**Bd Ftg**	**Pcs**	**Value**
1	16" - 19" Mins: 41.50	3 1/2	Cant	1152	43	$604.80
			Total	**1152**	**43**	**$604.80**
		Total Diam		**5648**	**475**	**$4,713.17**
	20" & Up Mins: 67.00	4/4	FAS	4845	334	$4,845.00
			F1F	280	29	$280.00
			Sel	43	7	$42.57
			1C	234	42	$113.49
			2aC	68	8	$23.80
			2bC	12	2	$4.20
			3bC	7	1	$0.70
			Below Grade	8	1	$0.00
			Miscut	162	12	$0.00
			Total	**5659**	**436**	**$5,309.76**
		6/4	FAS	234	13	$245.70
			F1F	226	14	$237.30
			1C	165	9	$78.38
			2aC	255	16	$86.70
			2bC	32	2	$10.08
			3aC	14	1	$4.41
			3bC	12	1	$3.78
			Miscut	20	1	$0.00
			Total	**958**	**57**	**$666.35**
		3 1/2	Cant	704	27	$369.60
			Total	**704**	**27**	**$369.60**
		Total Diam		**7321**	**520**	**$6,345.71**
		Tot Log Grd		**13707**	**1069**	**$11,640.85**

Lumber Recovery Evaluation

Lumber by Log Class						
Log Grade	**Diam Class**	**Thickness**	**Grade**	**Bd Ftg**	**Pcs**	**Value**
2	10" - 12" Mins: 9.15	4/4	FAS	139	21	$139.00
			F1F	64	10	$64.00
			1C	170	39	$82.45
			2aC	67	14	$23.45
			Total	**440**	**84**	**$308.90**
		6/4	FAS	23	2	$23.35
			F1F	30	3	$30.45
			1C	11	1	$5.23
			2aC	30	3	$10.20
			2bC	9	1	$2.84
			Total	**103**	**10**	**$72.06**
		3 1/2	Cant	301	14	$158.03
			Total	**301**	**14**	**$158.03**
		Total Diam		**844**	**108**	**$538.98**
	13" - 15" Mins: 27.50	4/4	FAS	957	105	$957.00
			F1F	399	46	$399.00
			Sel	70	14	$69.30
			1C	406	78	$196.91
			2aC	169	27	$59.15
			2bC	73	9	$25.55
			3aC	10	3	$3.15
			Miscut	8	1	$0.00
			Total	**2092**	**283**	**$1,710.06**
		6/4	FAS	64	5	$67.20
			F1F	138	11	$144.90
			1C	159	12	$75.53
			2aC	188	14	$63.92
			2bC	62	5	$19.53

Lumber Recovery Evaluation

Lumber by Log Class						
Log Grade	**Diam Class**	**Thickness**	**Grade**	**Bd Ftg**	**Pcs**	**Value**
2	13" - 15" Mins: 27.50	6/4	Below Grade	14	1	$0.00
			Total	**625**	**48**	**$371.08**
		3 1/2	Cant	739	29	$387.98
			Total	**739**	**29**	**$387.98**
		Total Diam		**3456**	**360**	**$2,469.11**
	16" - 19" Mins: 9.00	4/4	FAS	349	32	$349.00
			F1F	110	10	$110.00
			Sel	14	3	$13.86
			1C	97	18	$47.05
			2aC	66	10	$23.10
			2bC	9	1	$3.15
			Total	**645**	**74**	**$546.16**
		6/4	FAS	32	2	$33.60
			F1F	31	2	$32.55
			1C	50	4	$23.75
			2aC	140	8	$47.60
			2bC	30	2	$9.45
			Total	**283**	**18**	**$146.95**
		3 1/2	Cant	210	8	$110.25
			Total	**210**	**8**	**$110.25**
		Total Diam		**1138**	**100**	**$803.36**
		Tot Log Grd		**5438**	**568**	**$3,811.45**
3	10" - 12" Mins: 4.80	4/4	FAS	30	4	$30.00
			F1F	17	3	$17.00
			1C	51	12	$50.49
			2aC	63	11	$22.05
			2bC	16	4	$5.60

Lumber Recovery Evaluation

Lumber by Log Class						
Log Grade	**Diam Class**	**Thickness**	**Grade**	**Bd Ftg**	**Pcs**	**Value**
3	10" - 12" Mins: 4.80	4/4	**Total**	**177**	**34**	**$125.14**
		6/4	F1F	9	1	$9.45
			1C	9	1	$4.28
			2aC	46	4	$15.64
			2bC	24	2	$7.56
			Total	**88**	**8**	**$36.93**
		3 1/2	Cant	147	6	$77.18
			Total	**147**	**6**	**$77.18**
		Total Diam		**412**	**48**	**$239.24**
	13" - 15" Mins: 7.50	4/4	FAS	137	15	$137.00
			F1F	58	6	$58.00
			Sel	11	2	$10.89
			1C	109	20	$52.87
			2aC	73	12	$25.55
			2bC	19	3	$6.65
			3aC	3	1	$0.84
			Miscut	10	1	$0.00
			Total	**420**	**60**	**$291.80**
		6/4	1C	61	4	$28.98
			2aC	127	9	$43.18
			2bC	24	2	$7.56
			Total	**212**	**15**	**$79.72**
		3 1/2	Cant	203	8	$106.58
			Total	**203**	**8**	**$106.58**
		Total Diam		**835**	**83**	**$478.09**
		Tot Log Grd		**1247**	**131**	**$717.33**
	Total Lumber	**Total Mins: 173.20**		**20392**	**1768**	**$16,169.62**

Lumber Recovery Evaluation

Logs Report										
	Log Grd	Diam Class	Sm Diam	Lg Diam	Len	Doyle Ftg	CF	Lbr Bd Ftg	LRF	OR %
Logs	1	13" - 15"	13.000	17.500	198	81	21.1			
			13.500	21.000	201	81	27.6			
			14.000	18.000	198	100	23.2			
			14.500	20.750	198	100	28.2			
			15.250	19.000	197	121	26.4			
			Count	**5**		**483**	**126.5**	**738**	**5.8**	**52.8%**
		16" - 19"	16.000	19.000	198	144	27.6			
			16.000	17.250	197	144	24.8			
			16.000	20.000	199	144	29.4			
			16.000	20.500	174	126	26.5			
			16.500	18.000	200	144	27.1			
			16.500	19.000	196	144	28.1			
			16.500	18.000	152	108	20.6			
			17.000	22.000	200	169	34.8			
			17.000	25.000	175	148	35.5			
			17.000	18.000	176	148	24.5			
			17.000	18.500	200	169	28.7			
			17.000	24.250	196	169	38.3			
			17.250	18.000	196	169	27.7			
			17.500	20.000	153	127	24.5			
			17.500	20.000	200	169	32.0			
			17.500	18.500	204	180	30.0			
			17.750	19.250	198	169	30.8			
			18.000	21.000	195	196	33.8			
			18.500	20.500	199	196	34.4			
			18.750	23.000	198	196	39.4			
			18.750	24.000	198	196	41.3			
			19.000	26.000	194	225	45.0			

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Lumber Recovery Evaluation

Logs Report										
	Log Grd	Diam Class	Sm Diam	Lg Diam	Len	Doyle Ftg	CF	Lbr Bd Ftg	LRF	OR %
Logs	1	16" - 19"	19.000	24.000	201	225	42.4			
			19.000	21.000	176	197	32.0			
			19.500	25.000	199	225	45.0			
			Count	**25**		**4227**	**804.1**	**5648**	**7.0**	**33.6%**
		20" & Up	20.000	22.500	197	256	40.5			
			20.000	26.000	198	256	47.9			
			20.000	27.000	204	272	51.6			
			20.000	21.000	144	192	27.5			
			21.000	23.000	198	289	43.6			
			21.000	26.500	192	289	49.4			
			21.500	25.000	201	289	49.5			
			21.500	27.000	198	289	53.1			
			23.000	24.500	200	361	51.3			
			23.000	31.250	198	361	66.7			
			23.500	25.000	198	361	52.9			
			24.500	26.500	200	400	59.1			
			25.000	27.000	201	441	61.8			
			25.000	33.000	199	441	76.5			
			25.500	33.000	202	441	79.0			
			26.000	32.000	156	393	59.8			
			26.500	35.000	199	484	86.1			
			27.500	37.500	202	529	97.7			
			Count	**18**		**6344**	**1054.2**	**7321**	**6.9**	**15.4%**
		Total	**Count**	**48**		**11054**	**1984.7**	**13707**	**6.9**	**24.0%**
	2	10" - 12"	11.000	12.000	148	37	8.9			
			11.000	13.000	199	49	13.1			
			11.250	12.500	151	37	9.7			
			11.750	13.000	168	43	11.7			

Lumber Recovery Evaluation

Logs Report										
	Log Grd	Diam Class	Sm Diam	Lg Diam	Len	Doyle Ftg	CF	Lbr Bd Ftg	LRF	OR %
Logs	2	10" - 12"	12.000	14.000	125	40	9.6			
			12.000	13.250	152	48	11.0			
			12.000	15.500	155	48	13.4			
			12.200	13.000	153	48	11.0			
			12.500	14.000	151	48	12.1			
			12.500	15.000	150	48	12.9			
			12.750	15.000	152	48	13.3			
			Count	**11**		**494**	**126.7**	**844**	**6.7**	**70.9%**
		13" - 15"	13.000	14.000	200	81	16.6			
			13.000	14.500	198	81	17.0			
			13.500	15.000	200	81	18.5			
			13.500	15.000	153	61	14.1			
			13.500	15.500	200	81	19.1			
			13.500	14.000	198	81	17.0			
			13.750	16.000	184	76	18.5			
			14.000	16.000	196	100	20.1			
			14.000	15.000	153	75	14.6			
			14.000	15.750	197	100	19.8			
			14.000	15.250	180	94	17.5			
			14.250	15.000	199	100	19.4			
			14.500	20.500	125	63	17.6			
			14.500	18.000	152	75	18.3			
			14.500	15.000	149	75	14.7			
			14.500	15.500	196	100	20.1			
			15.000	19.000	155	91	20.5			
			15.000	16.250	175	106	19.4			
			15.000	16.500	151	91	17.0			
			15.250	17.000	177	106	20.9			

Lumber Recovery Evaluation

Logs Report										
	Log Grd	Diam Class	Sm Diam	Lg Diam	Len	Doyle Ftg	CF	Lbr Bd Ftg	LRF	OR %
Logs	2	13" - 15"	15.500	21.750	197	121	31.4			
			15.500	17.500	196	121	24.3			
			15.500	18.000	150	91	19.2			
			15.750	17.750	199	121	25.4			
			15.750	25.000	198	121	38.0			
			Count	**25**		**2293**	**499.0**	**3456**	**6.9**	**50.7%**
		16" - 19"	16.000	19.500	197	144	28.3			
			17.500	19.000	199	169	30.1			
			18.000	21.000	198	196	34.3			
			18.250	19.500	200	196	32.4			
			18.500	23.000	155	147	30.5			
			Count	**5**		**852**	**155.6**	**1138**	**7.3**	**33.6%**
		Total	**Count**	**41**		**3639**	**781.4**	**5438**	**7.0**	**49.4%**
	3	10" - 12"	10.000	12.000	199	36	11.0			
			10.750	12.000	154	27	9.1			
			12.000	13.500	153	48	11.3			
			12.000	13.750	148	48	11.2			
			12.000	15.000	201	64	16.7			
			Count	**5**		**223**	**59.2**	**412**	**7.0**	**84.8%**
		13" - 15"	13.000	16.500	198	81	19.7			
			13.000	16.000	197	81	18.9			
			13.750	15.000	198	81	18.6			
			14.000	17.500	152	75	17.2			
			15.000	16.000	152	91	16.6			
			15.500	18.750	196	121	26.2			
			Count	**6**		**530**	**117.2**	**835**	**7.1**	**57.5%**
		Total	**Count**	**11**		**753**	**176.4**	**1247**	**7.1**	**65.6%**
	Total	**Total**	**Count**	**100**		**15446**	**2942.5**	**20392**	**6.9**	**32.0%**

Lumber Size Control

Mill: Sample **Sawyer:** **Species: Poplar**

Date: 7/27/2023 2:29:43 AM **Saw Filer:** **Thickness: 4/4**

Key #: **Feed Speed:** **Run Time:** **Target: 1.125**

Machine: Resaw **QC Tech: Benji Richards**

Width Avg	Length Avg	Std Dev	Avg Thick	WB Std Dev	WB Thick
6.650	14.4	0.015	1.176	0.014	1.176

Average Board Measurements

Lead Top	Middle Top	Trail Top
1.184	1.169	1.157

Lead Bottom	Middle Bottom	Trail Bottom
1.183	1.179	1.187

Impact on Yield

Variation From Target	* Est. % Yield Loss
0.051	-5.1%

* Estimated Yield Loss based on studies of an average 1% for every .010" over thickness.

Lumber Size Control

Mill: Sample **Sawyer:** **Species: Poplar**

Date: 7/27/2023 10:35:10 PM **Saw Filer:** **Thickness: 4/4**

Key #: **Feed Speed:** **Run Time:** **Target: 1.125**

Machine: H. Saw R.H. **QC Tech: Benji Richards**

Width Avg	Length Avg	Std Dev	Avg Thick	WB Std Dev	WB Thick
7.550	13.6	0.022	1.158	0.017	1.158

Average Board Measurements

Lead Top	Middle Top	Trail Top
1.151	1.174	1.146

Lead Bottom	Middle Bottom	Trail Bottom
1.154	1.174	1.150

Impact on Yield

Variation From Target	* Est. % Yield Loss
0.033	**-3.3%**

* Estimated Yield Loss based on studies of an average 1% for every .010" over thickness.

Lumber Size Control

Mill: Sample **Sawyer:** **Species: Poplar**

Date: 7/27/2023 10:36:05 PM **Saw Filer:** **Thickness: 4/4**

Key #: **Feed Speed:** **Run Time:** **Target: 1.125**

Machine: Gang Saw **QC Tech: Benji Richards**

Width Avg	Length Avg	Std Dev	Avg Thick	WB Std Dev	WB Thick
6.000	12.3	0.009	1.110	0.008	1.110

Average Board Measurements

Lead Top	Middle Top	Trail Top
1.107	1.113	1.113

Lead Bottom	Middle Bottom	Trail Bottom
1.105	1.109	1.114

Impact on Yield

Variation From Target	* Est. % Yield Loss
(0.015)	**1.5%**

* Estimated Yield Loss based on studies of an average 1% for every .010" over thickness.

Edger/Trimmer Test

Mill: Sample

Edger Op:

Species: Poplar

Date: 7/27/2023 1:42:05 AM

Trimmer Op:

Hr Ftg: 3000

QC Tech: Benji Richards

Phase	Edge	#	Thick	Strip Width	Length	Hr Ftg Loss	%
Over Edge	Right	1	4/4	0.500	16	11	
		3	4/4	0.500	16	11	
		4	4/4	0.750	16	15	
	Tot #	3	Avg Width	0.583	Right Total	37	88%
Over Edge	Left	2	4/4	0.250	12	5	
	Tot #	1	Avg Width	0.250	Left Total	5	12%
	Tot #	4	Avg Width	0.500	Over Edge Total	42	100%
Over Trim		1	4/4	7.500	2	15	
		2	4/4	7.500	2	15	
	Tot #	2	Avg Width	7.500	Total	30	100%
	Tot #	2	Avg Width	7.500	Over Trim Total	30	100%
					Total	**72**	
					Est. Daily Value	**$289**	
					Est. Yearly Value	**$72,250**	

Edger/Trimmer Test

Mill: Sample **Edger Op:** **Species: Poplar**

Date: 7/11/2018 **Trimmer Op:** **Hr Ftg: 7000**

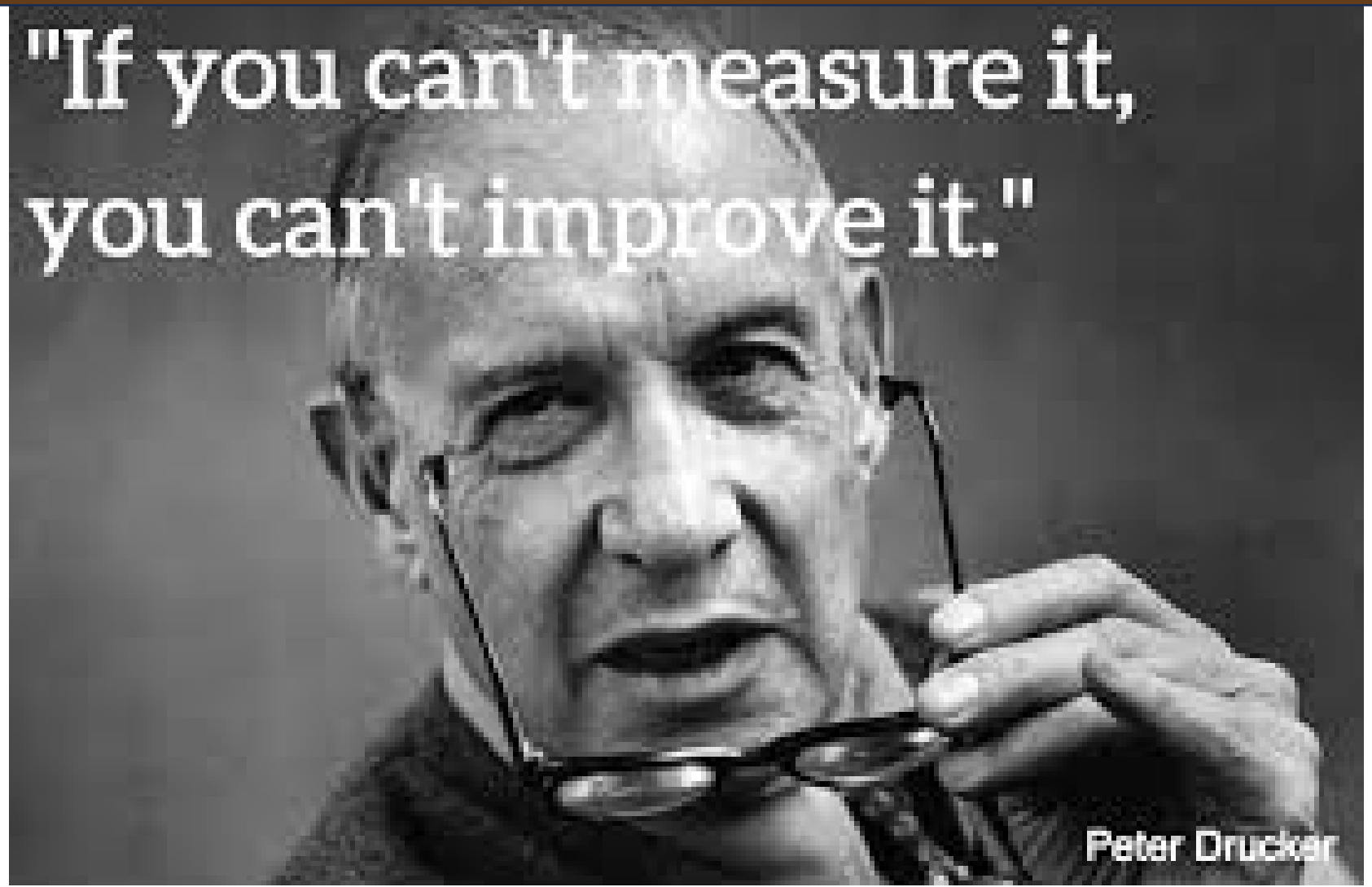
QC Tech: Mark Bear

Phase	Edge	#	Thick	Strip Width	Length	Hr Ftg Loss	%
Over Edge	Left	1	4/4	1.000	10	12	
		7	4/4	1.750	10	19	
		13	4/4	0.750	12	11	
		16	4/4	1.250	12	17	
		24	4/4	1.750	10	19	
	Tot #	5	Avg Width	1.300	Left Total	79	27%
Over Edge	Right	2	4/4	0.625	10	8	
		3	4/4	1.500	10	17	
		4	4/4	0.750	12	11	
		5	4/4	1.000	10	12	
		6	4/4	1.125	10	13	
		8	4/4	0.500	12	8	
		9	4/4	1.000	10	12	
		10	4/4	1.000	10	12	
		11	4/4	0.750	10	9	
		12	4/4	1.250	12	17	
		14	4/4	0.500	12	8	
		15	4/4	0.750	12	11	
		17	4/4	0.750	10	9	
		18	4/4	0.375	12	7	
		19	4/4	0.500	10	7	
		20	4/4	1.500	10	17	
		21	4/4	1.000	12	14	
		22	4/4	0.375	12	7	
		23	4/4	1.000	10	12	

Edger/Trimmer Test

Phase	Edge	#	Thick	Strip Width	Length	Hr Ftg Loss	%
Over Edge	Right	25	4/4	0.375	10	6	
	Tot #	20	Avg Width	0.831	Right Total	218	73%
	Tot #	25	Avg Width	0.925	Over Edge Total	297	100%
					Total	**297**	
					Est. Daily Value	**$1,187**	
					Est. Yearly Value	**$296,875**	

Summary



Questions?