



**MISSISSIPPI STATE**  
**UNIVERSITY**<sup>™</sup>

**FOREST AND WILDLIFE RESEARCH CENTER**

**FOREST PRODUCTS DEPARTMENT**

**Fifth Annual Evaluation of Phase I MSU/RTA Alternative Preservative Study**

**Submitted To:**

**Mr. Jim Gauntt**  
**Railway Tie Association**  
**115 Commerce Drive, Suite C**  
**Fayetteville, GA 30214**  
**Email: [jgauntt@rta.org](mailto:jgauntt@rta.org)**

**Submitted By:**

**M.G. Sanders, G. B. Lindsey,**  
**and H. M. Barnes**  
**Forest Products Department**  
**Box 9820**  
**Mississippi State, MS 39762**  
**Phone: (662) 325-8097**  
**Fax: (662) 325-8986**  
**Email: [msanders@cfr.msstate.edu](mailto:msanders@cfr.msstate.edu)**

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## **Fifth Annual Evaluation of Phase I MSU/RTA Alternative Preservative Study**

This report covers the fifth annual evaluation of the full length crossties exposed as part of the MSU/RTA alternative preservative study. A visual evaluation of the exposed top surface was conducted for all ties at both exposure sites. Random ties from various treatment groups, at both sites, were selected to be examined on all four surfaces.

### **General Observations:**

No unexpected results were found. As noted in previous reports, checking and/or splitting appeared worse at Site 2 probably due to more direct sunlight exposure. Ties at Site 1 appeared to be more moist/wet due to the increased shade and leaf litter at this site.

General photographs documenting the condition of the sites and some of the noted deterioration can be seen below (Figures 1 - 11). The tie number denotes the position of exposure as recorded on the plot-maps. Copies of the inspection forms can be found in the appendix.

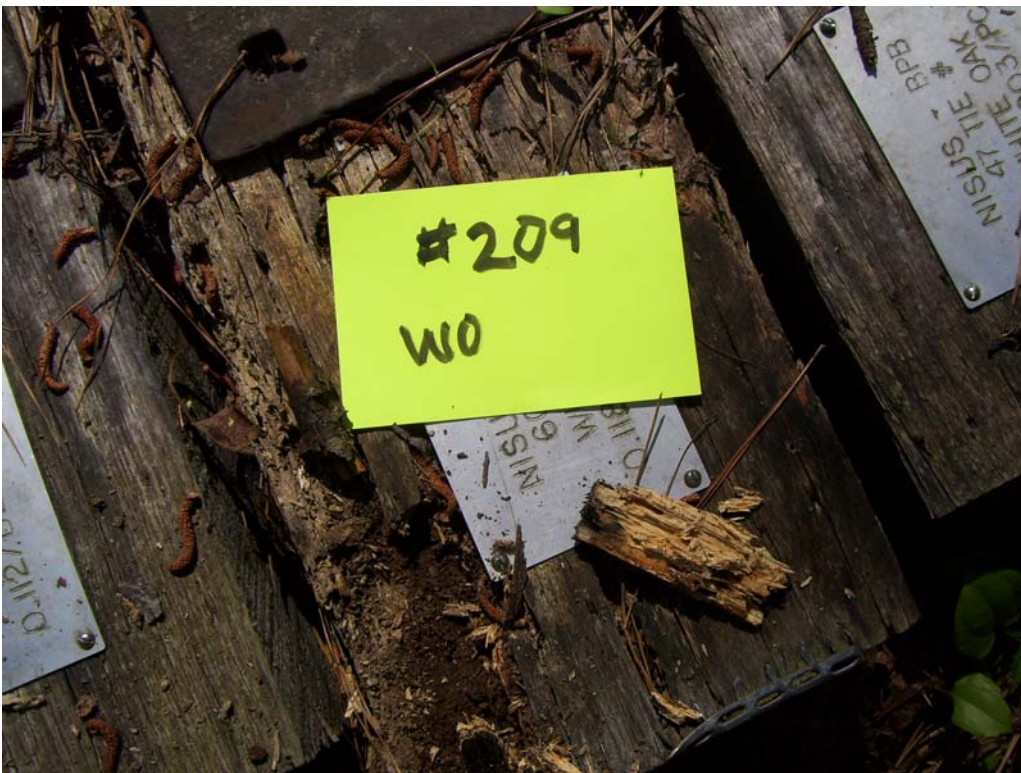


**Figure 1** - An overall view of exposure Site 2 illustrating the conditions at the time of inspection.



**Figure 2** - A general photograph demonstrating the exposure conditions at Site 1 at the time of inspection.

**Site 1 - Dorman Lake Test Site**



**Figure 3** - Tie #209 showing decay.





**Figure 4 - Tie #115 (untreated red oak) with signs of extreme decay and termite activity.**



**Figure 5 - Tie #169 (white oak/untreated) showing signs of obvious decay.**





**Figure 6 - Ties #319-321 with noticeable decay.**



**Site 2 – Formosan Termite Research Facility**



**Figure 7 - Tie with “iron sickness” and decay.**



**Figure 8 - Tie #335 with extensive decay.**





**Figure 9** - tie with severe checking.



**Figure 70** - #334 showing extensive decay.





**Figure 81** – tie with “iron sickness” and checking.



**APPENDIX:**

Plot Map RTA Ties (Dorman - installed 4-08)

Position Row 1 runs North - South (Eastern most row)

			May-12				
			Decay	Termite	Decay	Termite	Comments
1	wo-2	Cedar	x	x	x	x	Cut 5/10
2	wo-3		x	x	x	x	Cut 5/12
3	wo-4		9	10			
4	wo-5		10	10			split
5	wo-7		10	10			
6	wo-6		10	10			
7	wo-1		9	10			
8	wo-10		9	10			
9	wo-8		10	10			
10	wo-9		8	10			
11	wo-21		8	9			live termites/DK top&bottom
12	ro-18		x	x	x	x	Cut 5/10
13	ro-19		x	x	x	x	Cut 5/12
14	ro-20		10	10			
15	ro-7		10	10			
16	ro-6		10	10			check
17	ro-5		10	10			alligator
18	ro-21		10	10			
19	ro-4		10	10			check
20	ro-3		10	10			check
21	ro-2		10	10			check
22	ro-1		10	10			check
23	5	Turada	x	x	x	x	Cut 5/10
24	6		10	10			
25	7		10	10			
26	4		10	10			
27	2		10	10			
28	9		10	10			
29	8		10	10			
30	10		10	10			
31	1		10	10			
32	3		x	x	x	x	Cut 5/12
33	SROBC-7	Seaman	x	x	x	x	Cut 5/10
34	SROBC-7		x	x	x	x	Cut 5/12
35	SROBC-7		10	10			
36	SROBC-7		10	10			
37	SROBC-7		10	10			
38	SROBC-7		10	10			check
39	SROBC-7		10	10			
40	SROBC-5		x	x	x	x	Cut 5/10
41	SROBC-7		10	10			
42	SWOCEF		x	x	x	x	Cut 5/10
43	SWOCEF		x	x	x	x	Cut 5/12
44	SWOCEF		10	10			
45	SWOCEF		10	10			



46	SWOCEF	10	10				
47	SWOCEF	10	10				
48	SWOCEF	10	10				
49	SWOCEF	10	10				
50	SWOCEF	10	10				
51	SROC-7	x	x	x	x	Cut 5/10	
52	SWOC-5	x	x	x	x	Cut 5/10	
53	SROBC-5	7	9				
54	SWOBCREF	10	10				
55	SWOBCREF	10	10				
56	SWOBCREF	10	10				
57	SWOBCREF	10	10			check	
58	SWOBCREF	10	10				
59	SWOBCREF	10	10				
60	SWOBCREF	10	10				
61	SWOBCREF	x	x	x	x	Cut 5/12	
62	SROC5	x	x	x	x	Cut 5/10	
63	SROC5	x	x	x	x	Cut 5/12	
64	SROC5	10	10				
65	SROC5	10	10				
66	SROC5	10	10				
67	SROC5	10	10				
68	SROC5	10	10				
69	SROC5	10	10				
70	SROC5	10	10				
71	SROBC5	x	x	x	x	Cut 5/12	
72	SROBC5	10	10				
73	SROBC5	10	10				
74	SROBC5	10	10				
75	SWOBCREF	10	10				
76	SWOCREF	10	10				
77	SROC5	10	10				
78	SROBC5	10	10			check	
79	SROBC5	10	10				
80	SROBC5	10	10			check	
81	SROBC5	10	10				
82	SWOBCREF	10	10				
83	SROBC5	10	10				
84	SROBC5	10	10				
85	wo-136	Lonza	x	x	x	x	Cut 5/10
86	wo-130		x	x	x	x	Cut 5/12
87	wo-129		10	10			
88	wo-121		10	10			
89	wo-127		10	10			
90	wo-124		10	10			
91	wo-128		10	10			
92	wo-122		10	10			
93	wo-123		10	10			
94	wo-125		10	10			

95	ro-105	x	x	x	x	Cut 5/10	_____
96	ro-104	x	x	x	x	Cut 5/12	_____
97	ro-103	10	10				_____
98	ro-102	10	10				_____
99	ro-110	10	10				_____
100	ro-107	10	10				_____
101	ro-106	10	10				_____
102	ro-109	10	10				_____
103	ro-101	10	10				_____
104	ro-108	10	10				_____
105	wo-135	x	x	x	x	Cut 5/10	_____
106	wo-134	x	x	x	x	Cut 5/12	_____
107	wo-138	10	10				_____
108	wo-139	10	10				_____
109	wo-137	10	10				_____
110	wo-132	10	10				_____
111	wo-136	9	10				_____
112	wo-140	10	10				_____
113	wo-133	10	10				_____
114	wo-131	9	10				_____
115	ro-182	4	10			check	_____
116	wo-181	8	10				_____
117	ro-114	x	x	x	x	Cut 5/10	_____
118	ro-120	10	10				_____
119	ro-117	x	x	x	x	Cut 5/12	_____
120	ro-112	10	10				_____
121	ro-113	10	10				_____
122	ro-115	10	10			check	_____
123	ro-119	10	10				_____
124	ro-116	10	10				_____
125	ro-111	10	10				_____
126	ro-118	10	10				_____
127	P3RO7-39	KMG	10	10			_____
128	P3RO7-36		10	10			_____
129	P3RO7-37		10	10			_____
130	P3RO7-38		10	10			_____
131	P3RO7-23		10	10			_____
132	P3RO7-40		10	10			_____
133	P3RO7-26		10	10			_____
134	P3RO7-42		10	10			_____
135	P3RO7-35	x	x	x	x	Cut 5/12	_____
136	P3RO7-41	x	x	x	x	Cut 5/10	_____
137	P3WO7-5	x	x	x	x	Cut 5/10	_____
138	P3WO7-4	x	x	x	x	Cut 5/12	_____
139	P3WO7-6	10	10				_____
140	P3WO7-7	10	10				_____
141	P3WO7-11	10	10				_____
142	P3WO7-17	10	10				_____
143	P3WO7-20	10	10				_____



144	P3WO7-2		10	10	_____	_____	_____	_____	_____	
145	P3WO7-8		10	10	_____	_____	_____	_____	_____	
146	P3WO7-3		10	10	_____	_____	_____	_____	_____	
147	Woctrl-21		8	9	_____	_____	_____	_____	live termites/check_____	
148	Roctrl-43		9	9	_____	_____	_____	_____	check_____	
149	WO122	Nisus	10	10	_____	_____	_____	_____	_____	
150	WO14		10	10	_____	_____	_____	_____	_____	
151	WO128		10	10	_____	_____	_____	_____	check_____	
152	WO61		10	10	_____	_____	_____	_____	check_____	
153	WO5		10	10	_____	_____	_____	_____	_____	
154	WO1		10	10	_____	_____	_____	_____	check_____	
155	WO71		10	10	_____	_____	_____	_____	check_____	
156	WO98		10	10	_____	_____	_____	_____	_____	
157	WO139		10	10	_____	_____	_____	_____	check_____	
158	WO135		10	10	_____	_____	_____	_____	check_____	
159	WO144		10	10	_____	_____	_____	_____	_____	
160	WO126		10	10	_____	_____	_____	_____	check_____	
161	WO131		10	10	_____	_____	_____	_____	check_____	
162	WO138		10	10	_____	_____	_____	_____	split_____	
163	WO130		10	10	_____	_____	_____	_____	check_____	
164	WO125		10	10	_____	_____	_____	x	x	Cut 5/12_____
165	WO29		10	10	_____	_____	_____	x	x	Cut 5/12_____
166	WO52		x	x	x	x	_____	_____	_____	Cut 5/10_____
167	WO137		10	10	_____	_____	_____	_____	_____	_____
168	WO134		x	x	x	x	_____	_____	_____	Cut 5/10_____
169	WO44ctrl		8	10	_____	_____	_____	_____	_____	fruiting body_____
170	WO94ctrl		x	x	x	x	_____	_____	_____	Cut 5/12_____
171	RO6ctrl		x	x	x	x	_____	_____	_____	Cut 5/12_____

172	RO-51ctrl	8	10				
173	RO21	10	10				
174	RO22	10	10				
175	RO15	10	10			check	
176	RO62	10	10				
177	RO46	10	10				
178	RO2	10	10				
179	RO24	x	x	x	x	Cut 5/12	
180	RO20	x	x	x	x	Cut 5/10	
181	RO37	x	x	x	x	Cut 5/10	
182	RO31	10	10				
183	RO59	10	10				
184	RO89	10	10				
185	RO13	10	10				
186	RO58	10	10				
187	RO57	10	10				
188	RO12	10	10			check	
189	RO56	10	10				
190	RO25	10	10				
191	RO43	10	10			check	
192	RO10	x	x	x	x	Cut 5/12	
193	RO54	x	x	x	x	Cut 5/10	
194	RO38	x	x	x	x	Cut 5/12	
195	RO45	10	10				
196	RO16	10	10				
197	RO72	10	10				
198	RO77	10	10				
199	RO40	10	10				
200	RO55	10	10				
201	RO18	10	10				
202	RO3	10	10				
203	WO49	x	x	x	x	Cut 5/10	
204	WO121	x	x	x	x	Cut 5/12	
205	WO68	10	10				
206	WO11	10	10				
207	WO65	10	10				
208	WO92	10	10				
209	WO60	9	10				
210	WO47	10	10				
211	WO90	10	10				
212	WO69	10	10				
213	MRO8	Merichen	x	x	x	x	Cut 5/10
214	MRO8		10	10			
215	MROB8		x	x	x	x	Cut 5/10
216	MROB8		10	10			
217	MROB8		10	10			
218	MROB8		10	10			
219	MROB8		10	10		check	
220	MROB8		10	10			



221	MROB8	9	10			
222	MROB8	10	10			
223	MROB8	x	x	x	x	Cut 5/12
224	MWO8ctrl	7	10			
225	MWO8ctrl	10	10			
226	MRO8ctrl	10	10			
227	MRO8	x	x	x	x	Cut 5/12
228	MRO8	10	10			
229	MRO8	10	10			
230	MRO8	10	10			
231	MRO8	10	10			
232	MRO8	10	10			
233	MRO8	10	10			
234	MRO8	10	10			
235	MWOB8	x	x	x	x	Cut 5/10
236	MWOB8	10	10			
237	MWOB8	10	10			
238	MWOB8	10	10			
239	MWOB8	10	10			
240	MWOB8	10	10			
241	MWOB8	10	10			
242	MWOB8	10	10			
243	MWOB8	10	10			
244	MWOB8	x	x	x	x	Cut 5/12

Row 2 runs North - South (West row)

		Decay	Termite	Decay	Termite	Comments
245	6	x	x	x	x	Cut 5/10
246	14	10	10			
247	79	10	10			
248	73	x	x	x	x	Cut 5/12
249	75	10	10			
250	?	10	10			
251	80	10	10			
252	?	10	10			
253	62	10	10			
254	82	10	10			
255	68	10	10			
256	74	10	10			
257	37	x	x	x	x	Cut 5/10
258	26	10	10			
259	53	x	x	x	x	Cut 5/10
260	59	10	10			
261	52	10	10			
262	48	10	10			
263	45	10	10			
264	67	x	x	x	x	Cut 5/10
265	51?	10	10			

266	?		10	10			
267	88		10	10			
268	46		x	x	x	x	Cut 5/12
269	12		10	10			check
270	20		x	x	x	x	Cut 5/12
271	31		x	x	x	x	Cut 5/12
272	17		10	10			
273	4		10	10			
274	10?		10	10			
275	16		10	10			
276	5		10	10			
277	27		10	10			
278	36		10	10			
279	24		10	10			
280	?		10	10			
281	22		10	10			
282	39		10	10			
283	25		10	10			
284	?		10	10			
285	WO30	Enviro	x	x	x	x	Cut 5/10
286	RO6		x	x	x	x	Cut 5/10
287	RO7		10	10			
288	RO8		10	10			
289	RO9		10	10			
290	RO1		10	10			check
291	RO2		10	10			
292	RO3		10	10			check
293	RO4		10	10			
294	RO5		10	10			
295	RO10		x	x	x	x	Cut 5/12
296	6	BioP					
297	1						
298	7						
299	8						
300	9						
301	10						
302	2						
303	3						
304	4						
305	5						
306	12						control?
307	9469						
308	9459						
309	9460						
310	9471						
311	9472						
312	9470						
313	9464						
314	11						control?

315	9468							
316	9466							
317	9467							
318	roctrl	Enviro	9	9				
319	roctrl		8	9				
320	woctrl		7	10				
321	woctrl		6	9			fruiting body	
322	WO22		10	10				
323	WO23		10	10				
324	WO24		10	10				
325	WO25		10	10				
326	WO27		10	10				
327	WO28		10	10				
328	WO29		10	10				
329	WO21		10	10				
330	WO26		x	x	x	x	Cut 5/12	
331	MWO8	Meri	x	x	x	x	Cut 5/12	
332	MWO8		10	10				
333	MWO8		10	10			check	
334	MWO8		10	10				
335	MWO8		10	10				
336	MWO8		10	10				
337	MWO8		10	10				
338	MWO8		10	10				
339	MWO8		10	10				
340	MWO8		10	10				
341	MWO8		x	x	x	x	Cut 5/10/heart rot	



Plot Map RTA Ties (McNeill)

Position Row 1 runs East - West (Northern most row)

March-13

			Decay	Termite	Decay	Termite	Comments
Turada	1	1	x	x	x	x	cut 4/10_____
	2	2	10	10			
	3	3	10	10			
	4	4	10	10			large check_____
	5	5	10	10			
	6	6	10	10			
	7	7	10	10			
	8	8	9	10			DK present upon delivery_____
	9	9	8	10			
	10	10	x	x	x	x	cut 5/12_____
Envirosaf	11	11RO	x	x	x	x	cut 5/12_____
	12	15RO	10	10			large check_____
	13	14RO	10	10			large check_____
	14	13RO	10	10			large check_____
	15	12RO	10	10			large check_____
	16	20RO	10	10			
	17	19RO	10	10			large check_____
	18	18RO	10	10			large check_____
	19	17RO	10	10			large check_____
	20	16RO	x	x	x	x	large check/cut 4/10_____
	21	35WO	x	x	x	x	cut 4/10_____
	22	34WO	10	10			
	23	33WO	10	10			large check_____
	24	32WO	10	10			large check_____
	25	31WO	10	10			large check_____
	26	40WO	10	10			large check_____
	27	39WO	10	10			large check_____
	28	38WO	10	10			
	29	37WO	10	10			large check_____
	30	36WO	x	x	x	x	cut 5/12_____
Seaman	31	SROC5	x	x	x	x	cut 4/10_____
	32	SROC5	10	10			
	33	SROC5	10	10			large check_____
	34	SROC5	10	10			pic 09/ large check_____
	35	SROC5	10	10			large check_____
	36	SROC5	10	10			
	37	SROC5	10	10			
	38	SROC5	10	10			
	39	SROC5	10	10			large check_____
	40	SROC5	x	x	x	x	cut 5/12_____
	41	SROBC5	x	x	x	x	split/cut 4/10_____
	42	SROBC5	10	10			
	43	SROBC5	10	10			
	44	SROBC5	10	10			
	45	SROBC5	10	10			large check_____
	46	SROBC5	10	10			
	47	SROBC5	10	10			

	48	SROBC5	10		10				
	49	SROBC5	10		10				
	50	SROBC5	x		x	x	x	cut 5/12	
	51	SWOCREF	x		x	x	x	cut 4/10	
	52	SWOCREF	10		10				
	53	SWOCREF	10		10				
	54	SWOCREF	10		10			large check	
	55	SWOCREF	10		10				
	56	SWOCREF	10		10				
	57	SWOCREF	10		10				
	58	SWOCREF	10		10				
	59	SWOCREF	10		10			large check	
	60	SWOCREF	x		x	x	x	cut 5/12	
	61	SWOBCREF	x		x	x	x	cut 4/10	
	62	SWOBCREF	10		10			large check	
	63	SWOBCREF	10		10			large check	
	64	SWOBCREF	10		10				
	65	SWOBCREF	10		10			large check	
	66	SWOBCREF	10		10				
	67	SWOBCREF	10		10			large check	
	68	SWOBCREF	10		10			large check	
	69	SWOBCREF	10		10			large check	
	70	SWOBCREF	x		x	x	x	cut 5/12	
	71	SROBC7	x		x	x	x	cut 4/10	
	72	SROBC7	10		10			large check	
	73	SROBC7	10		10				
	74	SROBC7	10		10				
	75	SROBC7	10		10			large check	
	76	SROBC7	10		10				
	77	SROBC7	10		10			large check	
	78	SROBC7	10		10				
	79	SROBC7	10		10			large check	
	80	SROBC7	x		x	x	x	cut 5/12	
	81	ctrlSROC7	x		x	x	x	cut 4/10	
	82	ctrlSWOC5	x		x	x	x	cut 4/10	
	83	ctrlSWOC5	8		10			pic 09/active DK/FB	
Lonza	84	209	x		x	x	x	cut 4/10	
	85	206	10		10			large check	
	86	204	10		10			large check	
	87	201	x		x	x	x	cut 5/12	
	88	208	10		10			large check	
	89	203	10		10				
	90	205	10		10			large check	
	91	207	10		10				
	92	210	10		10			large check	
	93	202	x		x	x	x	cut 5/12	
Nisus	94	240	x		x	x	x	cut 4/10	
	95	237	x		x	x	x	cut 5/12	
	96	243	10		10				
	97	238	10		10			large check	
	98	245	10		10			large check	

	99	239	10	10			large check
	100	247	10	10			large check
	101	241	10	10			
	102	233	10	10			large check
	103	242	10	10			large check
	104	203	x	x	x	x	cut 4/10
	105	227	x	x	x	x	cut 5/12
	106	207	10	10			large check
	107	200	10	10			large check
	108	229	10	10			
	109	206	10	10			large check
	110	216	10	10			large check
	111	220	10	10			
	112	212	10	10			large check
	113	222	10	10			
	114	217	x	x	x	x	cut 4/10
	115	264	10	10			large check
	116	287	10	10			large check
	117	253	10	10			large check
	118	283	10	10			large check
	119	219	x	x	x	x	cut 5/12
	120	276	10	10			large check
	121	292	10	10			
	122	269	10	10			large check
	123	289	10	10			large check
	124	225	x	x	x	x	cut 4/10
	125	204	x	x	x	x	cut 5/12
	126	234	10	10			large check
	127	215	10	10			large check
	128	231	10	10			large check
	129	213	10	10			
	130	205	10	10			large check
	131	208	10	10			large check
	132	210	9	10			split
	133	226	10	10			
	134	305	x	x	x	x	cut 4/10
	135	201	10	10			large check
	136	313	10	10			
	137	294	10	10			
	138	308	10	10			large check
	139	301	10	10			
	140	291	10	10			large check
	141	309	10	10			large check
	142	296	10	10			
	143	314	10	10			
Lonza	144	236	x	x	x	x	cut 5/12
	145	232	10	10			
	146	238	10	10			
	147	234	10	10			
	148	231	10	10			large check
	149	233	10	10			large check



	150	235	10	10			large check
	151	239	10	10			
	152	240	10	10			
Nisus	153	237	x	x	x	x	cut 4/10
	154	272	x	x	x	x	cut 4/10
	155	223	10	10			
	156	256	x	x	x	x	cut 5/12
	157	297	10	10			
	158	295	10	10			split
	159	267	10	10			split
	160	299	10	10			
	161	261	10	10			
	162	214	10	10			
Lonza	163	275	10	10			
	164	281	8	10			fruiting body
Nisus	165	282	7	10			fruiting body/loose plate
	166	315	10	10			large check
	167	316	10	10			
	168	249	10	10			
	169	248	8	10			pic 09/DK active

Row 2 runs East - West (middle row)

March-13

			Decay	Termite	Decay	Termite	Comments
Lonza	170	220	x	x	x	x	cut 4/10
	171	218	10	10			
	172	214	10	10			large check
	173	219	10	10			
	174	212	10	10			
	175	217	10	10			large check
	176	216	10	10			large check
	177	211	10	10			
	178	213	10	10			large check
	179	215	x	x	x	x	cut 5/12
	180	224	x	x	x	x	cut 4/10
	181	228	10	10			large check
	182	221	10	10			large check
	183	222	10	10			
	184	230	10	10			large check
	185	225	10	10			large check
	186	226	10	10			large check
	187	229	10	10			large check
	188	223	10	10			large check
	189	227	x	x	x	x	cut 5/12
Cedarcide	190	19W	x	x	x	x	cut 4/10
	191	20W	10	10			large check
	192	15W	10	10			split
	193	16WC	10	10			large check
	194	18W	10	10			split
	195	17W	10	10			shake
	196	10R	x	x	x	x	cut 4/10
	197	9RC	10	10			large check
	198	8R	x	x	x	x	cut 5/12
	199	11W	x	x	x	x	cut 5/12
	200	12W	10	10			split
	201	13W	10	10			split
	202	14W	10	10			split
	203	11R	10	10			cross grain/shake
	204	12R	10	10			split
	205	13R	10	10			split
	206	14R	10	10			
	207	15R	10	10			split
	208	16R	9	10			alligator
	209	17R	8	10			alligator
	210	22R	10	10			large check
	211	22W	10	10			split
Mericher	212	MWOB8	x	x	x	x	cut 4/10
	213	MWOB8	10	10			large check
	214	MWOB8	10	10			large check
	215	MWOB8	10	10			
	216	MWOB8	10	10			large check

217	MWOB8		10		10				large check
218	MWOB8	x		x		x	x		cut 5/12
219	MRO8	x		x		x	x		cut 5/12
220	MRO8	x		x		x	x		cut 4/10
221	MRO8		10		10				large check
222	MRO8		10		10				pic 09
223	MRO8		9.5		10				large check
224	MRO8		10		10				
225	MRO8		10		10				large check
226	MRO8		10		10				split
227	MWOB8		10		10				
228	MWOB8		10		10				large check
229	MRO8		10		10				
230	MRO8		10		10				large check
231	MWO8		10		10				
232	MWO8	x		x		x	x		cut 4/10
233	MWO8		10		10				
234	MWO8		10		10				large check
235	MWO8		10		10				
236	MWO8		10		10				
237	MWO8		10		10				
238	MWO8		10		10				large check
239	MWO8		10		10				large check
240	MWO8		10		10				
241	MROB8	x		x		x	x		cut 4/10
242	MROB8		10		10				split
243	MROB8	x		x		x	x		cut 5/12
244	MWO8	x		x		x	x		cut 5/12
245	MROB8		10		10				large check
246	MROB8		10		10				
247	MROB8		10		10				large check
248	MROB8		10		10				large check
249	MROB8		10		10				large check
250	MROB8		10		9				spike kill
251	MROB8		10		9				pic 09/DK
252	MROCONT		10		10				
253	MWOCONT		10		10				pic 09/DK top side
254	MWOCONT		10		10				
255	75								
256	67								
257	68								DK top side
258	69								DK top side
259	71								
260	74								DK top side
261	82								
262	77								
263	93								
264	?								DK top side
265	66								
266	65								
267	73								

BioPres



KMG	270	1	x		x	x	x	cut 5/12
	271	14		10	10			large check
	272	12		10	10			large check
	273	16		10	10			
	274	15		10	10			large check
	275	18		10	10			
	276	19		10	10			
	277	10	x		x	x	x	cut 4/10
	278	30	x		x	x	x	cut 4/10
	279	33		10	10			large check
	280	34		10	10			
	281	24		10	10			
	282	27		10	10			large check
	283	28		10	10			
	284	29		10	10			large check
	285	32		10	10			large check
	286	13		10	10			large check
	287	31	x		x	x	x	cut 5/12
	288	9		10	10			large check
	289	25		10	10			
	290	22		9	10			
	291	44		10	10			large check
Koppers	292	11	x		x	x	x	cut 5/12
	293	?		10	10			
	294	?		10	10			
	295	?		10	10			
	296	19	x		x	x	x	cut 4/10
	297	15		10	10			
	298	?		10	10			
	299	?		10	10			large check
	300	47	x		x	x	x	cut 4/10
	301	44		10	10			large check
	302	41		10	10			
	303	55		10	10			large check
	304	60		10	10			
	305	43	x		x	x	x	cut 5/12
	306	51		10	10			
	307	?		10	10			
	308	76		10	10			large check
	309	65		10	10			
	310	61	x		x	x	x	cut 4/10
	311	70		10	10			
	312	72		10	10			
	313	71		10	10			
	314	64		10	10			
	315	2?		10	10			large check
	316	?		10	10			
	317	34	x		x	x	x	cut 4/10
	318	38	x		x	x	x	cut 5/12
	319	?		10	10			
	320	29		10	10			

	321	?	10	10				
	322	21?	10	10				
	323	31	10	10				
	324	35	10	10				
	325	23	10	10			large check	
	326	66	x	x	x	x	cut 5/12	
	327	67	10	10				
	328	42	10	10				
	329	49	10	10				
	330	7	10	10				
	331	8	10	10				
	332	WO	x	x	x	x	cut 5/12	
	333	RO	x	x	x	x	FST Alate wings found/cut 5/12	
Enviro	334	RO	6	9.5			pic 09/DK/large check	
	335	ctrl	6	10			large check	
	336	ctrl	10	10			large check	
	337	ctrl	10	10				

**Report Authorized By:**



**Date: 6/11/13**

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H. M. Barnes, PhD  
Thompson Professor of Wood Science & Technology  
Department of Forest Products  
Wood Protection Testing Laboratory  
Phone: 662-325-3056  
Fax: 662-325-8126  
Email: [mbarnes@cfr.msstate.edu](mailto:mbarnes@cfr.msstate.edu)

**Report Prepared By:**



**Date: 6/11/13**

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Michael G. Sanders  
Senior Research Associate  
Department of Forest Products  
Wood Protection Testing Laboratory  
Phone: 662-325-8097  
Fax: 662-325-8126  
E-mail: [msanders@cfr.msstate.edu](mailto:msanders@cfr.msstate.edu)

Applicable Standards:

None: