

PLAINTIFF'S EXHIBIT

CT-1411

TITLE PAGE-STOCK NO. 100TP

INDUSTRIAL HYGIENE SURVEY
IHS 86-10
HILLSBORO PLANT
AUGUST 4 - 7, 1986

Smead MFG. CO. HASTINGS MN. LOS ANGELES CHICAGO
LOGAN OH. MCGREGOR TX. LOCUST GROVE GA.

CTD019692

Pre-Report

CertainTeed

96-10
IHS
Prelim
G.O. 10.1

To Jack Anderson	Mail Code #257 Hillsboro	From O. H. Kittilstad	Mail Code 1125/4	Ext. 7505
Subject ASBESTOS SAMPLING RESULTS - PRELIMINARY			Date October 10, 1986	

I apologize for the delay in providing the results of our asbestos survey at Hillsboro.

Unfortunately, we found out that our contract laboratory, NATLSCO, had not used the analytical procedures prescribed in the OSHA Standard. After much discussion with OSHA and NATLSCO, the latter agreed to redo the analyses of all samples using the method in the Standard.

We expect to get the results by next week and will provide them to you as soon as possible.

Basically what happened was that NATLSCO used the "B" counting rules instead of the "A" rules. While most experts say the results shouldn't vary much between the methods, we felt it was necessary to insure compliance with the Standard.

Janis did count the samples using "A" rules. However, since we can't meet the quality control requirements in the Standard, we must rely on the NATLSCO results for compliance when they come in.

I have enclosed a copy of the results using Janis' analyses and the NATLSCO "B" results for your information. You will note, in general, the results are below 0.01 f/cc.

You will note that NATLSCO only found one exposure in excess of 0.1 f/cc, viz., the Mixer Operator (H. Cox) on August 8, 1986. NATLSCO found none over 0.2 f/cc.

Janis' analyses tend to be a little higher than NATLSCO. Considering the known lack of precision at these low levels, however, the overall results are in fairly good agreement.

Janis measured one exposure over 0.2 f/cc, viz., the Mixer Operator again. She also found six others over 0.1 f/cc.

OHK/1h

Enclosure

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TWA's

SAS

13:06 THURSDAY, OCTOBER 2, 1986

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OBS	EMPLOYEE NAME	SMPL DATE	JOB POSITION	TWAMIN	TWASTAR	TWA <i>JANU</i>	NTWASTAR	NTWA <i>NTW</i>
1	ANDERSON, L.	860804	MECHANIC	521	2.320	0.004452	1.9883	0.003816
2	AREA	860806		1491	6.249	0.004191	10.0440	0.006736
3	AREA	860807		320	0.000	0.000000	0.0000	0.000000
4	BANIK, R.	860804	COUPLING CUT OFF OPERATOR	435	0.000	0.000000	0.0000	0.000000
5	BANIK, R.	860805	COUPLING CUT OFF OPERATOR	519	79.226	0.152651	25.9370	0.049975
6	BASON, S.	860806	MACHINE TENDER	450	14.087	0.031305	8.3480	0.018551
7	BLEDSE, L.	860805	TRUCK DRIVER - FINISHING LINE	518	8.960	0.017297	8.0169	0.015477
8	BOURLAND, D.	860806	MIXER OPERATOR	471	29.149	0.061888	18.5074	0.039294
9	BREWER, K.	860804	COUPLING STACKER	321	4.627	0.014414	3.7015	0.011531
10	BREWER, K.	860806	COUPLING STACKER	464	13.948	0.030061	8.0991	0.017455
11	BROOKS, B.	860805	INSPECTOR	520	14.480	0.027846	14.0127	0.026948
12	BROWN, C.	860804	BORING MILL #3 OPERATOR	440	15.947	0.036243	17.7523	0.040346
13	BROWN, C.	860806	BORING MILL #3 OPERATOR	485	44.545	0.091846	15.7483	0.032471
14	BROWN, T.	860805	SPECIALTY LATHE OPERATOR	520	12.733	0.024486	6.1306	0.011790
15	CAGLE, J.	860804	MACHINIST	225	0.000	0.000000	0.0000	0.000000
16	CAGLE, J.	860805	MACHINIST	451	0.633	0.001403	3.7970	0.008419
17	CHAMBERS, J.	860805	MIXER OPERATOR	483	14.147	0.029291	4.7158	0.009764
18	CLEMENTS, B.	860828	SUPERVISOR	464	10.476	0.022577	5.7139	0.012315
19	CLEMENTS, J.	860805	PRODUCTION SUPERINTENDENT	418	5.714	0.013670	9.5232	0.022783
20	CLINARD, T.	860804	LOADER	460	11.521	0.025045	6.2540	0.013596
21	COASTER, A.	860804	BORING MILL #2 OPERATOR	437	5.197	0.011892	1.9488	0.004459
22	COASTER, A.	860806	BORING MILL #2 OPERATOR	485	10.403	0.021450	6.9356	0.014300
23	COLE, B.	860806	SUPERVISOR	447	0.000	0.000000	0.0000	0.000000
24	COOK, M.	860806	MANDREL HANDLER	471	19.191	0.040746	17.9119	0.038030
25	COVEY, R.	860804	TOOL GRINDER	476	0.000	0.000000	0.0000	0.000000
26	COVEY, R.	860806	TOOL GRINDER	480	15.298	0.031871	5.3994	0.011249
27	COX, H.	860806	MIXER OPERATOR	455	32.049	0.070437	23.3083	0.051227
28	COX, H.	860808	MIXER OPERATOR	462	102.013	0.220807	61.7962	0.133758
29	EAGANS, R.	860804	SWEEPER OPERATOR	466	47.134	0.101145	23.5669	0.050573
30	EDDLEMAN, T.	860806	SHIFT MECHANIC	444	14.761	0.033245	5.7139	0.012869
31	ETTER, L.	860806	SUPERVISOR	472	20.791	0.044048	10.1288	0.021459
32	FARRIS, C.	860805	MATERIAL HANDLER	524	16.162	0.030844	17.8344	0.034035
33	FERGUSON, M.	860806	JANITOR	449	20.530	0.045724	6.8434	0.015241
34	FLAHERTY, C.	860805	LATHE OPERATOR	523	15.357	0.029364	5.9448	0.011367
35	FOSTER, J.	860805	REWORK SAW OPERATOR	514	34.284	0.066700	16.1895	0.031497
36	GIDLEY, R.	860804	ELECTRICIAN	100	0.000	0.000000	0.0000	0.000000
37	GIDLEY, R.	860805	ELECTRICIAN	470	10.218	0.021740	8.1741	0.017392
38	GOODMAN, M.	860805	TRAY LOADER	493	1.401	0.002842	2.8025	0.005685
39	GREER, J.	860806	TRAY LOADER	460	6.131	0.013327	5.2548	0.011423
40	HARRIS, C.	860804	CRUSHER OPERATOR	227	37.898	0.166952	15.2866	0.067342
41	HARRIS, C.	960804	CRUSHER OPERATOR	241	35.987	0.149325	16.5605	0.068716
42	HARRIS, R.	860804	BULK CEMENT UNLOADER	398	9.196	0.023105	3.6783	0.009242
43	HAWKINS, D.	860828	RELIEF OPERATOR	469	13.597	0.028990	5.8271	0.012424
44	HILL, F.	860806	TRUCK MECHANIC	330	7.663	0.023222	6.1306	0.018577
45	HILL, F.	860910	SHIFT MECHANIC	455	0.000	0.000000	0.0000	0.000000
46	HORNACK, A.	860805	FM LATHE SMALL OPERATOR	529	14.972	0.028302	10.3252	0.019518
47	HUGHS, J.	860804	EQUIPMENT OPERATOR	225	3.292	0.014629	1.9749	0.008778
48	HUGHS, J.	860806	EQUIPMENT OPERATOR	499	9.413	0.018863	5.9448	0.011913
49	HUMPHREY, L.	860805	HYDROTESTER OPERATOR	514	24.786	0.048222	16.3482	0.031806
50	HUTYRA, P.	860804	MACHINIST	463	5.302	0.011452	4.9707	0.010736
51	JONES, C.	860806	BOILER OPERATOR	465	4.798	0.010318	6.3971	0.013757
52	KINERT, J.	860804	SUPERVISOR	452	7.006	0.015501	4.0036	0.008858
53	LACY, R.	860804	LOADER	465	6.744	0.014502	3.6783	0.007910
54	LANDRUM, J.	860806	SUPERINTENDENT	470	13.242	0.028175	5.8854	0.012522

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13:06 THURSDAY, OCTOBER 2, 1986 2

7BS	EMPLOYEE NAME	SMPL DATE	JOB POSITION	TWAMIN	TWASTAR	TWA <i>JOHIL</i>	NTWASTAR	NTWA <i>NATLIL</i>
55	LENART, B.	860804	SUPERVISOR	518	3.6207	0.006990	1.9749	0.0038126
56	MACH, E.	860806	SHIFT MECHANIC	457	14.3935	0.031496	6.3971	0.0139981
57	MAREK, F.	860827	SUPERVISOR	472	25.9936	0.055071	25.5032	0.0540322
58	MCPHERSON, D.	860805	LAB TECHNICIAN	271	0.0000	0.000000	0.0000	0.0000000
59	MCPHERSON, D.	860806	LAB TECHNICIAN	520	7.9964	0.015378	6.3971	0.0123022
60	MEADOR, C.	860805	SHIFT MECHANIC	483	11.4590	0.023725	6.8754	0.0142348
61	MILLER, J.	860814	MECHANIC	480	7.2124	0.015026	5.7700	0.0120207
62	NELSON, O.	860805	LATHE OPERATOR	462	0.0000	0.000000	0.0000	0.0000000
63	NELSON, O.	860806	LATHE OPERATOR	484	26.1571	0.054044	16.3482	0.0337773
64	OWENS, J.	860806	MACHINE TENDER	480	17.3099	0.036062	16.9893	0.0353944
65	PAVELKA, R.	860806	PRESS OPERATOR	473	0.0000	0.000000	0.0000	0.0000000
66	PAVELKA, R.	860807	PRESS OPERATOR	525	37.2739	0.070998	16.6752	0.0317622
67	PAYNE, J.	860806	BOILER OPERATOR	441	7.2276	0.016389	6.1951	0.0140479
68	PEDERSON, D.	860804	MACHINIST	504	4.4877	0.008904	1.9233	0.0038161
69	POSTON, W.	860811	FM LATHE SINGLE 1/2 OPERATOR	486	2.8850	0.005936	9.1358	0.0187979
70	RODECKER, R.	860805	RELIEF OPERATOR	429	29.6423	0.069096	6.4674	0.0150756
71	RODECKER, R.	860806	RELIEF OPERATOR	32	2.4896	0.077799	1.4937	0.0466795
72	RODRIGUEZ, R.	860805	PIPE HANDLER	999	65.5080	0.065574	15.2083	0.0152235
73	RODRIGUEZ, S.	860805	PIPE HANDLER	499	9.4126	0.018863	5.9448	0.0119134
74	ROUSEY, M.	860804	MECHANIC	457	0.0000	0.000000	1.9233	0.0042086
75	RUSSELL, J.	860806	TRAY LOADER	440	9.3418	0.021231	5.6051	0.0127389
76	RUTH, M.	860804	ELECTRICIAN	469	20.5154	0.043743	10.5782	0.0225549
77	SALINAS, C.	860806	RELIEF OPERATOR	450	4.4586	0.009908	6.6879	0.0148620
78	SEBIK, A.	860805	LIFT TRUCK OPR.-WALL OPERATION	520	7.7694	0.014941	6.7983	0.0130736
79	SELLERS, B.	860805	COUPLING TESTER	522	24.7651	0.047443	9.2262	0.0176747
80	SHAW, JR., L.	860805	LIFT TRUCK OPR. - FINISH. LINE	496	4.6958	0.009467	6.2610	0.0126230
81	SHUFFIELD, D.	860806	MANDREL HANDLER	452	5.7393	0.012697	7.3045	0.0161604
82	SIMECEK, B.	860805	MECHANIC	529	79.1866	<u>0.149691</u>	28.0985	0.0531162
83	SLOVAK, J.	860805	SUPERVISOR - WALL	515	14.0821	0.027344	2.9135	0.0056574
84	SLOVAK, J.	860806	SUPERVISOR - WALL	488	15.3865	0.031530	-6.2508	0.0128090
85	SONNENBURG, L.	860813	HYDROTESTER #1 OPERATOR	485	0.0000	0.000000	10.2994	0.0212358
86	STRICKLAND, R.	860804	EQUIPMENT OPERATOR	465	6.1712	0.013271	3.8976	0.0083819
87	SULAK, G.	860805	MACHINE TENDER	472	30.3609	0.064324	21.9533	0.0465112
88	SUSTALA, R.	860805	CEMENT DRIVER	362	6.5103	0.017984	2.6041	0.0071937
89	TITSWORTH, W.	860814	TRUCK MECHANIC	479	6.6022	0.013783	5.6590	0.0118142
90	VENABLE, JR., C.	860805	COUPLING TESTER	523	12.2611	0.023444	17.0590	0.0326176
91	WESTMORELAND, T.	860805	SUPERVISOR	500	14.8156	0.029631	6.1306	0.0122611
92	WILSON, J.	860805	BOILER OPERATOR	414	6.5685	0.015866	8.7580	0.0211545
93	WOODARD, C.	860805	MANDREL HANDLER	489	41.8321	0.085546	11.5399	0.0235990
94	WOODRUFF, T.	860804	MECHANIC	520	0.0000	0.000000	2.5151	0.0048367
95	WOOTEN, J.	860827	PRESS OPERATOR	467	48.5638	<u>0.103991</u>	33.6580	0.0720729

CTD019695

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To J. Anderson	Mail Code #257 Hillsboro	From <i>O. H. Kittilstad</i> O. H. Kittilstad	Mail Code 1125/4	Ext. 7505
Subject INDUSTRIAL HYGIENE SURVEY IHS 86-10 ASBESTOS SAMPLING RESULTS - PRELIMINARY REPORT			Date November 4, 1986	

cc: J. McGinley - 2125/2B

Attached is a preliminary report of sampling results for samples taken at your plant August 4-7, 1986 (Table I). These are the official results, based on NATLSCO's analysis using the A counting rules as described in the OSHA Standard 1910.1001, Appendix A.

The results show no time weighted average (TWA) exposures over the 0.1 f/cc action level. There were four individual samples found to exceed 0.1, but none exceed 0.2 f/cc.

When applying the OSHA confidence levels for asbestos (see Table I, column "LCL/UCL") we can say with 95% confidence that the PEL (0.2 f/cc) was not exceeded because all UCL's (upper confidence levels) were less than 1.

For a more thorough explanation of the OSHA confidence levels and how they are calculated, refer to the Corporate Health and Safety Health Maintenance Manual section on "Exposure Sampling Confidence Levels."

There are four employees listed below whose 8 hour TWA's could not be calculated due to voided samples. They are:

Cox, Mixer Operator
Cole, Supervisor
Mach, Shift Mechanic
Lacy, Loader

These employees should be resampled as soon as possible. If you have any questions or comments, please contact me. A Final Industrial Hygiene Report on this survey will be issued in the near future.

OHK/lh

Attachment

CTD019696

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 1

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0001A	MIXER OPERATOR CHAMBERS, J. 860805 1ST	ASBESTOS	7:57- 11:21	204	.004		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0001B			11:21- 16:00	279	.022	.014	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.056 .088
0002A	MIXER OPERATOR COX, H. 860806 2ND	ASBESTOS	16:05- 19:50	225	.053		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0002B			19:50- 23:40	230	.086	0.07	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.286 .413
0003A	MIXER OPERATOR BOURLAND, D. 860806 3RD	ASBESTOS	23:59- 4:17	258	0.02		<i>Employee wore 3M 8710 Respirator</i> OSHA PEL = 0.2 F/CC	
0003B			4:17- 7:50	213	0.08	.047	<i>Employee wore 3M 8710 Respirator</i> OSHA PEL = 0.2 F/CC	.189 .283
0004A	MIXER OPERATOR COX, H. 860808 2ND	ASBESTOS	15:48- 19:56	248	.183		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0004B			19:56- 23:30	214	--		SAMPLE VOIDED, ANALYTICAL ERROR	
0005A	MACHINE TENDER SULAK, G. 860805 1ST	ASBESTOS	7:56- 11:20	204	.039		OSHA PEL = 0.2 F/CC	
0005B			11:20- 15:48	268	.042	.041	OSHA PEL = 0.2 F/CC	.167 0.24

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 2

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0006A	MACHINE TENDER BASON, S. 860806 2ND	ASBESTOS	16:04- 19:52	228	.017		OSHA PEL = 0.2 F/CC	
0006B			19:52- 23:34	222	.038	.027	OSHA PEL = 0.2 F/CC	0.11 .162
0007A	MACHINE TENDER OWENS, J. 860806 3RD	ASBESTOS	23:54- 4:14	260	.027		OSHA PEL = 0.2 F/CC	
0007B			4:14- 7:54	220	.018	.023	OSHA PEL = 0.2 F/CC	.094 .136
0008A	PRESS OPERATOR RODRIGUEZ, R. 860805 1ST	ASBESTOS	7:44- 11:15	211	.012		OSHA PEL = 0.2 F/CC	
0008B			11:15- 15:47	272	.029	.021	OSHA PEL = 0.2 F/CC	.092 .121
0009A	PRESS OPERATOR PAVELKA, R. 860806 3RD	ASBESTOS	0:01- 4:10	249	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0009B			4:10- 7:54	224	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0010A	PRESS OPERATOR PAVELKA, R. 860807 3RD	ASBESTOS	23:07- 3:35	268	.022		OSHA PEL = 0.2 F/CC	
0010B			3:35- 7:52	257	.015	.019	OSHA PEL = 0.2 F/CC	.077 0.11

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 3

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0011A	PRESS OPERATOR WOOTEN, J. 860827 1ST	ASBESTOS	8:03- 11:48	225	.077		OSHA PEL = 0.2 F/CC	
0011B			11:48- 15:50	242	.057	.066	OSHA PEL = 0.2 F/CC	.273 .391
0012A	MANDREL HANDLER WOODARD, C. 860805 1ST	ASBESTOS	7:57- 11:20	203	.008		OSHA PEL = 0.2 F/CC	
0012B			11:20- 16:06	286	.037	.025	OSHA PEL = 0.2 F/CC	.099 .154
0013A	MANDREL HANDLER SHUFFIELD, D. 860806 2ND	ASBESTOS	16:06- 19:47	221	.004		OSHA PEL = 0.2 F/CC	
0013B			19:47- 23:38	231	.006	.005	OSHA PEL = 0.2 F/CC	.021 .031
0014A	MANDREL HANDLER COOK, M. 860806 3RD	ASBESTOS	0:00- 4:12	252	.006		OSHA PEL = 0.2 F/CC	
0014B			4:12- 7:51	219	0.03	.017	OSHA PEL = 0.2 F/CC	.068 .104
0015A	TRAY LOADER GOODMAN, M. 860805 1ST	ASBESTOS	7:45- 15:58	493	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0016A	TRAY LOADER RUSSELL, J. 860806 2ND	ASBESTOS	16:09- 19:44	215	.004		OSHA PEL = 0.2 F/CC	

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 4

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0016B			19:44- 23:29	225	.006	.005	OSHA PEL = 0.2 F/CC	0.02 .028
0017A	TRAY LOADER GREER, J. 860806 3RD	ASBESTOS	0:02- 4:07	245	.016		OSHA PEL = 0.2 F/CC	
0017B			4:07- 7:42	215	.005	0.01	OSHA PEL = 0.2 F/CC	.042 .063
0018A	RELIEF OPERATOR RODECKER, R. 860805 1ST	ASBESTOS	7:48- 11:25	217	.006		OSHA PEL = 0.2 F/CC	
0018B			11:25- 14:57	212	.047	.027	OSHA PEL = 0.2 F/CC	.103 .162
0019A	RELIEF OPERATOR SALINAS, C. 860806 2ND	ASBESTOS	16:06- 19:47	221	.004		OSHA PEL = 0.2 F/CC	
0019B			19:47- 23:36	229	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET .004
0020A	RELIEF OPERATOR RODECKER, R. 860806 1ST	ASBESTOS	11:16- 11:48	32	<DET		11:16-11:35 UNLOADING TRUCK LOAD OF CROCIDOLITE FIBER EMPLOYEE WORE 3M 8710 RESPIRATOR	
0021A	RELIEF OPERATOR HAWKINS, JR., D. 860828 2ND	ASBESTOS	15:56- 19:58	242	0.01		OSHA PEL = 0.2 F/CC	
0021B			19:58- 23:45	227	0.01	0.01	OSHA PEL = 0.2 F/CC	0.04 .058

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TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 5

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0022A	SUPERVISOR COLE, B. 860806 2ND	ASBESTOS	16:10- 19:46	216	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0022B			19:46- 23:37	231	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0023A	SUPERVISOR ETTER, L. 860806 3RD	ASBESTOS	23:55- 4:11	256	.022		OSHA PEL = 0.2 F/CC	
0023B			4:11- 7:47	216	.004	.014	OSHA PEL = 0.2 F/CC	.055 .086
0024A	SUPERVISOR CLEMENTS, B. 860828 1ST	ASBESTOS	15:59- 19:56	237	.002		OSHA PEL = 0.2 F/CC	
0024B			19:56- 23:43	227	.001	.002	OSHA PEL = 0.2 F/CC	.006 .009
0025A	SUPERINTENDENT LANDRUM, J. 860806 1ST	ASBESTOS	8:22- 13:16	294	<DET		EMPLOYEE WORKING AS SHIFT SUPERVISOR THIS DAY OSHA PEL 0.2 F/CC	
0025B			13:16- 16:12	176	.005	.002	EMPLOYEE WORKING AS SHIFT SUPERVISOR THIS DAY OSHA PEL 0.2 F/CC	.008 .013
0026A	LATHE OPERATOR, TAIL FLAHERTY, C. 860805 1ST	ASBESTOS	7:16- 12:52	336	.027		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0026B			12:52- 15:59	187	<DET	.016	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	0.06 .103

CTD019701

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 6

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0027A	LATHE OPERATOR, HEAD NELSON, O. 860805 1ST	ASBESTOS	7:18- 12:52	334	.016		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0027B			12:52- 15:00	128	--		SAMPLE VOIDED, HOSE DISCONNECTED	
0028A	LATHE OPERATOR, HEAD NELSON, O. 860806 1ST	ASBESTOS	7:22- 13:04	342	.046		OSHA PEL = 0.2 F/CC	
0028B			13:04- 15:26	142	.032	.042	OSHA PEL = 0.2 F/CC	.168 .252
0029A	HYDROTETER OPERATOR HUMPHREY, L. 860805 1ST	ASBESTOS	7:12- 12:03	291	.013		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0029B			12:16- 15:59	223	.107	.054	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.209 .326
0030A	HYDROTETER #1 OPERATOR SONNENBURG, L. 860813 1ST	ASBESTOS	7:45- 11:41	236	0.01		OSHA PEL = 0.2 F/CC	
0030B			11:41- 15:50	249	.018	.014	OSHA PEL = 0.2 F/CC	.058 .084
0031A	INSPECTOR BROOKS, B. 860805 1ST	ASBESTOS	7:21- 8:26	65	--		SAMPLE VOIDED, HYDROBREAK - SAMPLE WET	
0031B			8:26- 12:54	268	.008		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	

CTD019702

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 7

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0031C			12:54- 16:01	187	.066	.032	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.125 .195
0032A	PIPE HANDLER FARRIS, C. 860805 1ST	ASBESTOS	7:14- 12:50	336	.029		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0032B			12:50- 15:58	188	.024	.027	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.111 .162
0033A	PIPE HANDLER RODRIGUEZ, S. 860805 1ST	ASBESTOS	7:18- 12:00	282	.013		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0033B			12:22- 15:59	217	<DET	.006	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.021 0.04
0034A	PIPE HANDLER RODRIGUEZ, R. 860805 1ST	ASBESTOS	7:20- 12:53	333	.012		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0034B			12:53- 15:56	183	.038	.021	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.092 .121
0035A	COUPLING CUT OFF OPERATOR BANIK, R. 860804 1ST	ASBESTOS	8:43- 12:51	248	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0035B			12:51- 15:58	187	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0036A	COUPLING CUT OFF OPERATOR BANIK, R. 860805 1ST	ASBESTOS	7:21- 12:56	335	.086		OSHA PEL = 0.2 F/CC	

CTD019703

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 8

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0036B			12:56- 16:00	184	.101	.091	OSHA PEL = 0.2 F/CC	.375 0.54
0037A	BORING MILL #2 OPERATOR COASTER, A 860804 1ST	ASBESTOS	8:41- 12:50	249	--		EMPLOYEE WORE 3M 8710 RESPIRATOR SAMPLE VOIDED, FILTER HEAVILY LOADED	
0037B			12:50- 15:58	188	.011		EMPLOYEE WORE 3M 8710 RESPIRATOR	
0038A	BORING MILL #2 OPERATOR COASTER, A 860806 1ST	ASBESTOS	7:29- 13:04	335	.024		OSHA PEL = 0.2 F/CC	
0038B			13:04- 15:34	150	.011	0.02	OSHA PEL = 0.2 F/CC	.078 .121
0039A	BORING MILL #3 OPERATOR BROWN, C. 860804 1ST	ASBESTOS	8:40- 12:50	250	--		SAMPLE VOIDED, HEAVY PARTICULATE	
0039B			12:50- 16:00	190	0.07		OSHA PEL = 0.2 F/CC	
0040A	BORING MILL #3 OPERATOR BROWN, C. 860806 1ST	ASBESTOS	7:26- 13:05	339	.003		OSHA PEL = 0.2 F/CC	
0040B			13:05- 15:31	146	.062	.021	OSHA PEL = 0.2 F/CC	.081 .128
0041A	COUPLING STACKER BREWER, K. 860804 1ST	ASBESTOS	8:40- 11:59	199	--		SAMPLE VOIDED, HEAVY PARTICULATE	

CTD019704

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 9

NO.	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
86								
00418			12:28- 14:30	122	.017		OSHA PEL = 0.2 F/CC	

0042A	COUPLING STACKER BREWER, K. 860806 1ST	ASBESTOS	7:25- 12:01	276	.009		OSHA PEL = 0.2 F/CC	
0042B			12:24- 15:32	188	<DET	.006	OSHA PEL = 0.2 F/CC	.022 .036

0043A	FM LATHE SINGLE 1/2 OPERATOR POSTON, W. 860811 1ST	ASBESTOS	7:43- 11:44	241	.022		OSHA PEL = 0.2 F/CC	
0043B			11:44- 15:49	245	.002	.012	OSHA PEL = 0.2 F/CC	.046 .073

0044A	FM LATHE MULTI 1/4 OPERATOR HORNACK, A 860805 1ST	ASBESTOS	7:12- 12:57	345	.012		OSHA PEL = 0.2 F/CC	
0044B			12:57- 16:01	184	<DET	.006	OSHA PEL = 0.2 F/CC	.022 .043

0045A	COUPLING ^{Tester Small} SMALL OPERATOR VENABLE, JR., C. 860805 1ST	ASBESTOS	7:12- 12:59	347	.021		OSHA PEL = 0.2 F/CC	
0045B			12:59- 15:55	176	<DET	.013	OSHA PEL = 0.2 F/CC	.047 .082

0046A	COUPLING ^{Tester Small} SMALL OPERATOR SELLERS, B. 860805 1ST	ASBESTOS	7:18- 12:58	340	.013		OSHA PEL = 0.2 F/CC	
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CTD019705

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 10

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00468			12:58- 16:00	182	.026	.017	OSHA PEL = 0.2 F/CC	.071 .102
0047A	REWORK SAW OPERATOR FOSTER, J. 860805 1ST	ASBESTOS	7:19- 12:51	332	.065		<i>Employee wore 3M 8710 Respirator</i> OSHA PEL = 0.2 F/CC	
0047B			12:51- 15:53	182	.022	0.05	<i>Employee wore 3M 8710 Respirator</i> OSHA PEL = 0.2 F/CC	.195 .302
0048A	FITTINGS MAKER BROWN, T. 860805 1ST	ASBESTOS	7:16- 12:49	333	<DET		EMPLOYEE WORKED AS A PIPE HANDLER ON AND OFF THROUGHOUT DAY OSHA PEL = 0.2 F/CC	
0048B			12:49- 15:56	187	.004	.001	EMPLOYEE WORKED AS A PIPE HANDLER ON AND OFF THROUGHOUT DAY OSHA PEL = 0.2 F/CC	.003 .007
0049A	TRUCK DRIVER - FINISHING LINE BLEDSOE, L. 860805 1ST	ASBESTOS	7:20- 12:57	337	.015		OSHA PEL = 0.2 F/CC	
0049B			12:57- 15:58	181	.003	.011	OSHA PEL = 0.2 F/CC	.041 .065
0050A	TRUCK DRIVER - FINISHING LINE SHAW, JR., L. 860805 1ST	ASBESTOS	7:20- 12:02	282	.003		OSHA PEL = 0.2 F/CC	
0050B			12:26- 16:00	214	<DET	.001	OSHA PEL = 0.2 F/CC	.004 .008
0051A	TRUCK DRIVER - WALL OPERATION SEBIK, A. 860805 1ST	ASBESTOS	7:20- 12:55	335	.006		OSHA PEL = 0.2 F/CC	

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 11

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0051B			12:55- 16:00	185	.002	.004	OSHA PEL = 0.2 F/CC	.017 .027
0052A	CRUSHER OPERATOR HARRIS, C. 860804 1ST	ASBESTOS	8:11- 11:58	227	.103		<i>Employee wore 3M 8710 Respirator</i> OSHA PEL = 0.2 F/CC	
0052B			12:45- 16:46	241	.084	.093	<i>Employee wore 3M 8710 Respirator</i> OSHA PEL = 0.2 F/CC	.384 .549
0053A	TOOL GRINDER COVEY, R. 860804 1ST	ASBESTOS	7:59- 15:55	476	--		SAMPLE VOIDED, HEAVY PARTICULATE	
0054A	TOOL GRINDER COVEY, R. 860806 1ST	ASBESTOS	7:54- 13:14	320	.004		EMPLOYEE PAINTING OUTSIDE THIS DAY OSHA PEL = 0.2 F/CC	
0054B			13:14- 15:54	160	0.02	.009	EMPLOYEE PAINTING-OUTSIDE THIS DAY OSHA PEL = 0.2 F/CC	.038 .056
0055A	SUPERVISOR WESTMORELAND, T. 860805 1ST	ASBESTOS	7:22- 12:48	326	<DET		OSHA PEL = 0.2 F/CC	
0055B			12:48- 15:42	174	.008	.001	OSHA PEL = 0.2 F/CC	.002 0.01
0056A	SUPERVISOR - WALL SLOVAK, J. 860805 1ST	ASBESTOS	7:20- 13:04	344	.014		OSHA PEL = 0.2 F/CC	
0056B			13:04- 15:55	171	--		SAMPLE VOIDED, FILTER TORN	

CTD019707

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 12

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0057A	SUPERVISOR - WALL SLOVAK, J. 860806 1ST	ASBESTOS	7:23- 13:05	342	.017		OSHA PEL = 0.2 F/CC	
0057B			13:05- 15:31	146	.022	.019	OSHA PEL = 0.2 F/CC	.076 .111
0058A	PRODUCTION SUPERINTENDENT CLEMENTS, J. 860805 1ST	ASBESTOS	7:24- 11:47	263	.024		OSHA PEL = 0.2 F/CC	
0058B			13:05- 15:40	155	<DET	.014	OSHA PEL = 0.2 F/CC	.051 .088
0059A	LAB TECHNICIAN MCPHERSON, D. 860805 1ST	ASBESTOS	7:24- 11:55	271	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0060A	LAB TECHNICIAN MCPHERSON, D. 860806 1ST	ASBESTOS	7:19- 13:07	348	.001		OSHA PEL = 0.2 F/CC	
0060B			13:07- 15:59	172	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0061A	BOILER OPERATOR WILSON, J. 860805 1ST	ASBESTOS	9:04- 12:35	211	<DET		OSHA PEL = 0.2 F/CC	
0061B			12:35- 15:58	203	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0062A	BOILER OPERATOR PAYNE, J. 860806 2ND	ASBESTOS	16:12- 19:44	212	<DET		OSHA PEL = 0.2 F/CC	

CTD019708

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 13

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0062B			19:44- 23:33	229	.022	.011	OSHA PEL = 0.2 F/CC	.038 .067
0063A	BOILER OPERATOR JONES, C. 860806 3RD	ASBESTOS	12:11- 16:20	249	<DET		OSHA PEL = 0.2 F/CC	
0063B			16:20- 19:56	216	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0064A	ELECTRICIAN RUTH, M 860804 1ST	ASBESTOS	8:05- 11:58	233	.022		OSHA PEL = 0.2 F/CC	
0064B			12:47- 16:43	236	.032	.027	OSHA PEL = 0.2 F/CC	.111 .159
0065A	ELECTRICIAN GIDLEY, R. 860804 1ST	ASBESTOS	8:20- 10:00	100	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0066A	ELECTRICIAN GIDLEY, R. 860805 1ST	ASBESTOS	7:31- 11:46	255	.002		EMPLOYEE WORKING ON AIR CONDITIONER IN SECURITY OFFICE OSHA PEL = 0.2 F/CC	
0066B			12:32- 16:07	215	.017	.009	OSHA PEL = 0.2 F/CC	.035 .054
0067A	JANITOR FERGUSON, M. 860806 1ST	ASBESTOS	11:45- 15:59	254	.004		OSHA PEL = 0.2 F/CC	
0067B			16:45- 20:00	195	<DET	.001	OSHA PEL = 0.2 F/CC	.003 .009

CTD019709

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 14

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0068A	MACHINIST CAGLE, J. 860804 1ST	ASBESTOS	8:00- 11:45	225	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0069A	MACHINIST HUTYRA, P. 860804 1ST	ASBESTOS	8:02- 11:52	230	.004		OSHA PEL = 0.2 F/CC	
0069B			12:41- 16:34	233	.001	.003	OSHA PEL = 0.2 F/CC	0.01 .015
0070A	MACHINIST PEDERSON, D. 860804 1ST	ASBESTOS	8:03- 16:27	504	.001	.001	OSHA PEL = 0.2 F/CC	.004 .007
0071A	MACHINIST CAGLE, J. 860805 1ST	ASBESTOS	8:15- 11:55	220	.006		OSHA PEL = 0.2 F/CC	
0071B			12:42- 16:33	231	<DET	.002	EMPLOYEE WELDED FOR APPROX. 5 MINS. OSHA PEL = 0.2 F/CC	.006 .013
0072A	MECHANIC ANDERSON, L. 860804 1ST	ASBESTOS	8:01- 16:42	521	.003	.003	OSHA PEL = 0.2 F/CC	.011 .019
0073A	MECHANIC WOODRUFF, T. 860804 1ST	ASBESTOS	8:04- 16:44	520	.001	.001	OSHA PEL = 0.2 F/CC	.005 .009
0074A	MECHANIC ROUSEY, M. 860804 1ST	ASBESTOS	8:22- 15:59	457	<DET	<DET	OSHA PEL = 0.2 F/CC	.002 .003
0075A	MECHANIC SIMECEK, B. 860805 1ST	ASBESTOS	7:55- 16:44	529	.058	.058	OSHA PEL = 0.2 F/CC	.216 0.36

CTD019710

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 1'

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0076A	MECHANIC MILLER, JR., W. 860814 1ST	ASBESTOS	7:35- 11:33	238	.006		OSHA PEL = 0.2 F/CC	
0076B			11:33- 15:35	242	.009	.008	OSHA PEL = 0.2 F/CC	.031 .044
0077A	MECHANIC/SHIFT MEADOR, C. 860805 1ST	ASBESTOS	7:58- 11:25	207	.036		OSHA PEL = 0.2 F/CC	
0077B			11:25- 16:01	276	.008	0.02	OSHA PEL = 0.2 F/CC	.078 .118
0078A	MECHANIC/SHIFT EDDLEMAN, T. 860806 2ND	ASBESTOS	16:11- 19:45	214	<DET		OSHA PEL = 0.2 F/CC	
0078B			19:45- 23:35	230	.011	.004	OSHA PEL = 0.2 F/CC	.014 .029
0079A	MECHANIC/SHIFT MACH, E. 860806 3RD	ASBESTOS	0:09- 4:16	247	.006		OSHA PEL = 0.2 F/CC	
0079B			4:16- 7:46	210	--		SAMPLE VOIDED, ANALYTICAL ERROR	
0080A	MECHANIC/SHIFT HILL, F. 860910 1ST	ASBESTOS	7:50- 11:38	228	0.02		OSHA PEL = 0.2 F/CC	
0080B			11:38- 15:25	227	.002	.011	OSHA PEL = 0.2 F/CC	.043 .069

CTD019711

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 16

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0081A	MECHANIC/TRUCK HILL, F. 860806 1ST	ASBESTOS	10:15- 13:02	167	<DET		OSHA PEL = 0.2 F/CC	
0081B			13:02- 15:45	163	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0082A	MECHANIC/TRUCK TITSWORTH, W. 860814 1ST	ASBESTOS	7:30- 11:28	238	.006		OSHA PEL = 0.2 F/CC	
0082B			11:28- 15:29	241	.004	.005	OSHA PEL = 0.2 F/CC	0.02 .029
0083A	SUPERVISOR MAREK, F. 860827 1ST	ASBESTOS	7:53- 11:43	230	.004		OSHA PEL = 0.2 F/CC	
0083B			11:43- 15:45	242	.039	.022	OSHA PEL = 0.2 F/CC	.084 .134
0084A	SUPERVISOR KINERT, J. 860804 1ST	ASBESTOS	8:05- 11:55	230	.004		OSHA PEL = 0.2 F/CC	
0084B			13:02- 16:44	222	.001	.003	OSHA PEL = 0.2 F/CC	0.01 .016
0085A	CEMENT DRIVER SUSTALA, R. 860805 1ST	ASBESTOS	8:20- 14:22	362	.002	.002	EMPLOYEE MADE 3 TRIPS TO WACO THIS DAY OSHA PEL = 0.2 F/CC	.009 .016
0086A	BULK CEMENT UNLOADER HARRIS, R. 860804 1ST	ASBESTOS	8:21- 11:59	218	<DET		OSHA PEL = 0.2 F/CC	

CTD019712

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 17

NO.	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00868			12:43- 15:43	180	.018	.008	OSHA PEL = 0.2 F/CC	.028 .049
0087A	EQUIPMENT OPERATOR STRICKLAND, R. 860804 1ST	ASBESTOS	8:14- 11:58	224	<DET		OSHA PEL = 0.2 F/CC	
0087B			12:42- 16:43	241	.003	<DET	OSHA PEL = 0.2 F/CC	.001 .006
0088A	EQUIPMENT OPERATOR HUGHES, JR., J. 860804 1ST	ASBESTOS	8:14- 11:59	225	.003		OSHA PEL = 0.2 F/CC	
0089A	EQUIPMENT OPERATOR HUGHES, JR., J. 860806 1ST	ASBESTOS	7:58- 11:59	241	.007		OSHA PEL = 0.2 F/CC	
0089B			12:27- 16:45	258	<DET	.001	OSHA PEL = 0.2 F/CC	.003 .012
0090A	LOADER LACY, R. 860804 1ST	ASBESTOS	8:10- 11:58	228	--		SAMPLE VOIDED, ANALYTICAL ERROR	
0090B			12:46- 16:43	237	<DET		OSHA PEL = 0.2 F/CC	
0091A	LOADER CLINARD, T. 860804 1ST	ASBESTOS	8:20- 11:58	218	.001		OSHA PEL = 0.2 F/CC	
0091B			12:42- 16:44	242	.008	.005	OSHA PEL = 0.2 F/CC	.018 .028

CTD019713

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

11:28 FRIDAY, OCTOBER 31, 1986 18

NO. 86	POSITION/AREA (NAME-CLOCK NO.) DATE/SHIFT	ANALYSIS FOR	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0092A	SWEEPER OPERATOR EAGANS, R. 860804 1ST	ASBESTOS	8:09- 11:57	228	.077		OSHA PEL = 0.2 F/CC	
0092B			12:46- 16:44	238	0.01	.043	CLEANED ON TOP OF TANKS IN B PLANT DURING THIS SAMPLE OSHA PEL = 0.2 F/CC	.168 .263
0093A	SUPERVISOR LENART, B. 860804 1ST	ASBESTOS	8:12- 16:50	518	<DET	<DET	OSHA PEL = 0.2 F/CC	.003 .005

CTD019714

Report

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CertainTeed 

To Jack Anderson	Mail Code #257 Hillsboro	From <i>Owen H. Kittilstad</i> Owen H. Kittilstad	Mail Code 1125/4	Ext. 7505
Subject INDUSTRIAL HYGIENE SURVEY (IHS 86-10) Hillsboro A/C Pipe Plant - August 4-6, 1986			Date December 3, 1986	

cc: M. Simmons - 2125/2B
J. McGinley - 2125/2B
J. Clements - Hillsboro
B. Haigh - Hillsboro

Attached is the report for the Industrial Hygiene Survey conducted at your plant the week of August 4-6, 1986.

If you have any questions or comments, please contact me.

OHK/lh

Attachment

CTD019715

Industrial Hygiene Survey (IHS 86-10)
Hillsboro A/C Pipe Plant
August 4-6, 1986

An Industrial Hygiene Survey was conducted at the Hillsboro A/C Pipe Plant by Owen Kittilstad and Janis Woodson of Corporate Health and Safety on August 4-6, 1986.

This survey was conducted to assess employee exposure to asbestos for compliance with the initial monitoring requirements of the OSHA Asbestos Standard 29CFR1910.1000 (d)(2) as revised on 6/20/86.

This report is an employee exposure record as defined in Corporate Procedure GE003.02 and OSHA Standard 29CFR1910.20 and must be retained for 30 years. Upon request, this record must be made available to those Federal officials, employee designees or employees as provided for in Corporate Procedure AD011, Paragraphs 7 and 8.

Appendix I of this report documents the air sampling methodologies; the analysis techniques; and the current standards used in evaluating the data. The field and in-house laboratory notes on this survey are on file in Corporate Health and Safety.

SUMMARY

All employee exposures were found to be less than the 0.1 f/cc TWA Action Level defined in 29CFR1910.1001 (b).

Hillsboro A/C Pipe Plant
Production Schedule
August 4-6, 1986

	Monday 8/4/86 1st Shift	Tuesday 8/5/86 1st Shift	Wednesday 8/6/86 1st Shift	Wednesday 8/6/86 2nd Shift	Wednesday 8/6/86 3rd Shift
	6"150 773 pcs. No downtime	8"150 372 pcs. 8"150 c/s 86 pcs. No downtime	8"150 523 pcs. No downtime	8"150 486 pcs. down: 30 min.	8"150 486 pcs. down: 45 min.

MANUFACTURING DEPT.

FINISHING DEPT.:

Small Coupling Tester	8"150 1508 pcs.	6"150 1671 pcs.	6"150 1279 pcs.	
Lathe Line #1	12"150 481 pcs. 12"150 MEO 1/2 167 pcs.	6"150 1294 pcs.	6"150 1389 pcs.	
Lathe Line #3		8"200 1/2 FM 38 pcs.	8"200 102 pcs.	
Cplg. Cutoff	6"150 100 sticks	6"150 138 sticks	6"150 21 sticks 8"150 92 sticks	
Boring Mill 2-3	6"150 2066 pcs.	6"150 2898 pcs.	6"150 1032 pcs. 8"150 1690 pcs.	
Small FM Lathe	8"150 1/2 FM 39 pcs.	8"150 1/2 FM 58 pcs.	8"200 1/2 FM 58 pcs.	
Rework Saw	12"150 Random 47 pcs. 12"150 1/2 MEO 119 pcs. 12"150 1/4 MEO 22 pcs.	12"150 1/2 MEO 5 pcs. 12"150 1/4 MEO 5 pcs. 6"150 Rand 70 pcs. 6"150 1/2 MEO 259 pcs. 6"150 1/4 MEO 71 pcs.	6"150 Random 24 pcs. 6"150 1/2 MEO 544 pcs. 6"150 1/4 MEO 21 pcs.	
Fittings				6"150 TBIC 18 pcs.

CTD019717

Industrial Hygiene Survey (IHS 86-10)
Hillsboro A/C Pipe Plant
August 4-6, 1986

DISCUSSION

Exposure samples, with a few exceptions, were obtained by Corporate Health and Safety personnel. Several samples e.g., employees absent during the survey period and samples which had to be voided for technical reasons, i.e., too dusty to count, were subsequently obtained by Barry Haigh and forwarded to Corporate Health and Safety.

Representative 8 hour TWA exposures were determined for each employee in each job classification in each work area for each shift which was in operation during the period of this survey, with the exception of office employees.

Until such time as we can be reasonably assured that the samples accurately confirm that exposures are below the 0.1 f/cc action level measured in this survey, we recommend that the monitoring frequency requirements in paragraphs IV A2 and 3 of the Health Maintenance Manual, Asbestos Unit Program, be continued. Analysis of the samples by a certified laboratory using procedures required by the OSHA Standard is required. Corporate Health & Safety will arrange for such analysis.

The CertainTeed Asbestos Unit Program in the Health Maintenance Manual is being revised to conform with the changes in the current OSHA Standard 29CFR1910.1001 dated June 20, 1986. Until the new unit program is issued, you should refer to the OSHA Standard previously provided to you for compliance with the Standard.

All asbestos sampling and analysis was conducted in accordance with the requirements of 29CFR1910.1001, Appendix A.

FINDINGS

Exposure Sampling

The results of personal exposures from this initial monitoring survey are reported in Table I and summarized in Table II.

None of the TWA exposures exceeded 0.1 f/cc. Applying the OSHA confidence level equation in the CertainTeed Health Maintenance Manual "Exposure Confidence Levels" Section we can state with 95% confidence that the measured TWA exposures did not exceed the 0.2 f/cc PEL.

Miscellaneous Environmental Samples

The results of area/environmental samples taken during this survey are reported in Table III. An area sample (0094A) in the lunch room measured less than detectable as did an office area sample (0095A).

Two outdoor samples (0096A & 0101A) taken at the plant perimeter fence (see Figure 1) measured less than detectable.

Industrial Hygiene Survey (IHS 86- 10)
Hillsboro A/C Pipe Plant
August 4-6, 1986

Respiratory Protection

We found no exposures during this survey which would mandate the use of respiratory protection as required by 29CFR1910.1001 (g).

One can anticipate, however, that respiratory protection may be required for operations not observed during this survey, such as mechanical breakdowns, emergency situations involving the release of asbestos fiber, occasional maintenance operations, etc. for which engineering and work practice controls are not feasible to reduce exposures below the PEL of 0.2 f/cc.

Where respirators are required, the provisions of 29CFR1910.1001 (g)(2), (3) and (4) must be complied with.

We observed during this survey that several employees were wearing 3M 8710 Disposable Respirators. These respirators are no longer approved for asbestos exposure. The OSHA standard is silent on the respirator, protection requirements for employees who wish to use respirators when they are not required by the standard.

We recommend that the use of disposable respirators be discontinued for protection against asbestos fiber exposure, including for those employees desiring to wear protection when their exposures are below 0.2 f/cc.

We further recommend that a respiratory protection program meeting the requirements of 29CFR1910.1001 (g) be established for work situations where feasible engineering and work practice controls are not sufficient to reduce exposure levels to below 0.2 f/cc. Available respirators meeting the requirements of 29CFR1910.1001(g)(2) are listed in Table IV.

MISCELLANEOUS

It is our standard procedure in taking personal exposure samples, to inform each employee of the purpose of the sample and what they should and should not do to invalidate the results.

Specific do's and don'ts are: To go about their work as normal, not to remove the sampler, disconnect the tubing or filter holder, or purposely contaminate the sampling filter. We request they inform us of any loss of integrity of the sample such as sampling cassette accidentally coming off, dropping or otherwise subjecting the devices to unnecessary impacts. We strongly encourage plant management to similarly inform the employees when conducting their sampling programs.

Industrial Hygiene Survey (IHS 86-10)
Hillsboro A/C Pipe Plant
August 4-6, 1986

Each employee must be informed in writing of the exposure results in this survey by OSHA regulation. We suggest a copy of the attached tables be posted on the employees bulletin board. Also, a Fiber Exposure Notification Form (FEN) must be completed as outlined in the Health Maintenance Manual Asbestos Unit Program, Section VII.C.

Industrial Hygiene Survey (IHS 86-10)
Hillsboro A/C Pipe Plant
August 4-6, 1986

RECOMMENDATIONS

We recommend the following:

- IHS 86-10 1. that periodic monitoring be continued as described in the Health Maintenance Manual Asbestos Unit Program paragraphs IV A2 and 3.
- IHS 86-10 2. that disposable respirators be discontinued for protection against asbestos fiber exposure.
- IHS 86-10 3. that a respiratory program meeting the requirements of 29CFR1910.1001 (g) be established.
- IHS 86-10 4. that employees be informed of the results of this survey.
- IHS 86-10 5. that Corporate Health & Safety be informed of the status of these recommendations on a quarterly basis.

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 1

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0001A	MIXER OPERATOR CHAMBERS, J. 466-50-2715	ASBESTOS 860805 1ST	7:57- 11:21	204	.004		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0001B			11:21- 16:00	279	.022	.014	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.056 .088
0002A	MIXER OPERATOR COX, H. 462-56-8738	ASBESTOS 860806 2ND	16:05- 19:50	225	.053		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0002B			19:50- 23:40	230	.086	0.07	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.286 .413
0003A	MIXER OPERATOR BOURLAND, D. 463-96-0080	ASBESTOS 860806 3RD	23:59- 4:17	258	0.02		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0003B			4:17- 7:50	213	0.08	.047	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.189 .283
0004A	MIXER OPERATOR COX, H. 462-56-8738	ASBESTOS 860808 2ND	15:48- 19:56	248	.183		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0004B			19:56- 23:30	214	--		SAMPLE VOIDED, ANALYTICAL ERROR	
0005A	MACHINE TENDER SULAK, G. 467-78-9972	ASBESTOS 860805 1ST	7:56- 11:20	204	.039		OSHA PEL = 0.2 F/CC	
0005B			11:20- 15:48	268	.042	.041	OSHA PEL = 0.2 F/CC	.167 0.24

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TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 2

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0006A	MACHINE TENDER BASON, S. 450-86-9295	ASBESTOS 860806 2ND	16:04- 19:52	228	.017		OSHA PEL = 0.2 F/CC	
0006B			19:52- 23:34	222	.038	.027	OSHA PEL = 0.2 F/CC	0.11 .162
0007A	MACHINE TENDER OWENS, J. 461-60-7680	ASBESTOS 860806 3RD	23:54- 4:14	260	.027		OSHA PEL = 0.2 F/CC	
0007B			4:14- 7:54	220	.018	.023	OSHA PEL = 0.2 F/CC	.094 .136
0008A	PRESS OPERATOR RODRIGUEZ, R. 467-66-6473	ASBESTOS 860805 1ST	7:44- 11:15	211	.012		OSHA PEL = 0.2 F/CC	
0008B			11:15- 15:47	272	.029	.021	OSHA PEL = 0.2 F/CC	.092 .121
0009A	PRESS OPERATOR PAVELKA, R. 466-62-1484	ASBESTOS 860806 3RD	0:01- 4:10	249	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0009B			4:10- 7:54	224	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0010A	PRESS OPERATOR PAVELKA, R. 466-62-1484	ASBESTOS 860807 3RD	23:07- 3:35	268	.022		OSHA PEL = 0.2 F/CC	
0010B			3:35- 7:52	257	.015	.019	OSHA PEL = 0.2 F/CC	.077 0.11

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 3

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0011A	PRESS OPERATOR WOOTEN, J. 453-42-4133	ASBESTOS 860827 1ST	8:03- 11:48	225	.077		OSHA PEL = 0.2 F/CC	
0011B			11:48- 15:50	242	.057	.066	OSHA PEL = 0.2 F/CC	.273 .391
0012A	MANDREL HANDLER WOODARD, C. 462-72-4703	ASBESTOS 860805 1ST	7:57- 11:20	203	.008		OSHA PEL = 0.2 F/CC	
0012B			11:20- 16:06	286	.037	.025	OSHA PEL = 0.2 F/CC	.099 .154
0013A	MANDREL HANDLER SHUFFIELD, D. 460-72-4925	ASBESTOS 860806 2ND	16:06- 19:47	221	.004		OSHA PEL = 0.2 F/CC	
0013B			19:47- 23:38	231	.006	.005	OSHA PEL = 0.2 F/CC	.021 .031
0014A	MANDREL HANDLER COOK, M. 460-27-5489	ASBESTOS 860806 3RD	0:00- 4:12	252	.006		OSHA PEL = 0.2 F/CC	
0014B			4:12- 7:51	219	0.03	.017	OSHA PEL = 0.2 F/CC	.068 .104
0015A	TRAY LOADER GOODMAN, M. 464-90-3460	ASBESTOS 860805 1ST	7:45- 15:58	493	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0016A	TRAY LOADER RUSSELL, J. 453-23-6450	ASBESTOS 860806 2ND	16:09- 19:44	215	.004		OSHA PEL = 0.2 F/CC	

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 4

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00168			19:44- 23:29	225	.006	.005	OSHA PEL = 0.2 F/CC	0.02 .028
0017A	TRAY LOADER GREER, J. 463-96-0791	ASBESTOS 860806 3RD	0:02- 4:07	245	.016		OSHA PEL = 0.2 F/CC	.
0017B			4:07- 7:42	215	.005	0.01	OSHA PEL = 0.2 F/CC	.042 .063
0018A	RELIEF OPERATOR RODECKER, R. 461-35-2186	ASBESTOS 860805 1ST	7:48- 11:25	217	.006		OSHA PEL = 0.2 F/CC	
0018B			11:25- 14:57	212	.047	.027	OSHA PEL = 0.2 F/CC	.103 .162
0019A	RELIEF OPERATOR SALINAS, C. 462-11-2635	ASBESTOS 860806 2ND	16:06- 19:47	221	.004		OSHA PEL = 0.2 F/CC	
0019B			19:47- 23:36	229	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET .004
0020A	RELIEF OPERATOR RODECKER, R. 461-35-2186	ASBESTOS 860806 1ST	11:16- 11:48	32	<DET		11:16-11:35 UNLOADING TRUCK LOAD OF CROCIDOLITE FIBER EMPLOYEE WORE 3M 8710 RESPIRATOR	
0021A	RELIEF OPERATOR HAWKINS, JR., D. 450-06-1740	ASBESTOS 860828 2ND	15:56- 19:58	242	0.01		OSHA PEL = 0.2 F/CC	
0021B			19:58- 23:45	227	0.01	0.01	OSHA PEL = 0.2 F/CC	0.04 .058

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TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 5

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0022A	SUPERVISOR COLE, B. 462-34-4578	ASBESTOS 860806 2ND	16:10- 19:46	216	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0022B			19:46- 23:37	231	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0023A	SUPERVISOR ETTER, L. 465-52-1987	ASBESTOS 860806 3RD	23:55- 4:11	256	.022		OSHA PEL = 0.2 F/CC	
0023B			4:11- 7:47	216	.004	.014	OSHA PEL = 0.2 F/CC	.055 .086
0024A	SUPERVISOR CLEMENTS, B. 455-60-9790	ASBESTOS 860828 1ST	15:59- 19:56	237	.002		OSHA PEL = 0.2 F/CC	
0024B			19:56- 23:43	227	.001	.002	OSHA PEL = 0.2 F/CC	.006 .009
0025A	SUPERINTENDENT LANDRUM, J. 452-40-2453	ASBESTOS 860806 1ST	8:22- 13:16	294	<DET		EMPLOYEE WORKING AS SHIFT SUPERVISOR THIS DAY OSHA PEL 0.2 F/CC	
0025B			13:16- 16:12	176	.005	.002	EMPLOYEE WORKING AS SHIFT SUPERVISOR THIS DAY OSHA PEL 0.2 F/CC	.008 .013
0026A	LATHE OPERATOR, TAIL FLAHERTY, C. 455-60-5071	ASBESTOS 860805 1ST	7:16- 12:52	336	.027		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0026B			12:52- 15:59	187	<DET	.016	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	0.06 .103

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TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 6

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0027A	LATHE OPERATOR, HEAD NELSON, O. 464-48-5854	ASBESTOS 860805 1ST	7:18- 12:52	334	.016		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0027B			12:52- 15:00	128	--		SAMPLE VOIDED, HOSE DISCONNECTED	
0028A	LATHE OPERATOR, HEAD NELSON, O. 464-48-5854	ASBESTOS 860806 1ST	7:22- 13:04	342	.046		OSHA PEL = 0.2 F/CC	
0028B			13:04- 15:26	142	.032	.042	OSHA PEL = 0.2 F/CC	.168 .252
0029A	HYDROTESTER OPERATOR HUMPHREY, L. 462-11-3507	ASBESTOS 860805 1ST	7:12- 12:03	291	.013		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0029B			12:16- 15:59	223	.107	.054	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.209 .326
0030A	HYDROTESTER #1 OPERATOR SONNENBURG, L. 466-70-1977	ASBESTOS 860813 1ST	7:45- 11:41	236	0.01		OSHA PEL = 0.2 F/CC	
0030B			11:41- 15:50	249	.018	.014	OSHA PEL = 0.2 F/CC	.058 .084
0031A	INSPECTOR BROOKS, B. 451-92-8647	ASBESTOS 860805 1ST	7:21- 8:26	65	--		SAMPLE VOIDED, HYDROBREAK - SAMPLE WET	
0031B			8:26- 12:54	268	.008		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	

CTD019727

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 7

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0031C			12:54- 16:01	187	.066	.032	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.125 .195
0032A	PIPE HANDLER FARRIS, C. 455-25-0492	ASBESTOS 860805 1ST	7:14- 12:50	336	.029		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0032B			12:50- 15:58	188	.024	.027	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.111 .162
0033A	PIPE HANDLER RODRIGUEZ, S. 451-39-4387	ASBESTOS 860805 1ST	7:18- 12:00	282	.013		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0033B			12:22- 15:59	217	<DET	.006	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.021 0.04
0034A	PIPE HANDLER RODRIGUEZ, R. 450-06-1622	ASBESTOS 860805 1ST	7:20- 12:53	333	.012		EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	
0034B			12:53- 15:56	183	.038	.021	EMPLOYEE WORKED ON BOTH FINISHING LINES THIS DAY OSHA PEL = 0.2 F/CC	.092 .121
0035A	COUPLING CUT OFF OPERATOR BANIK, R. 466-23-6565	ASBESTOS 860804 1ST	8:43- 12:51	248	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0035B			12:51- 15:58	187	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0036A	COUPLING CUT OFF OPERATOR BANIK, R. 466-23-6565	ASBESTOS 860805 1ST	7:21- 12:56	335	.086		OSHA PEL = 0.2 F/CC	

CTD019728

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 8

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0036B			12:56- 16:00	184	.101	.091	OSHA PEL = 0.2 F/CC	.375 0.54
0037A	BORING MILL #2 OPERATOR COASTER, A. 464-48-8196	ASBESTOS 860804 1ST	8:41- 12:50	249	--		EMPLOYEE WORE 3M 8710 RESPIRATOR SAMPLE VOIDED, FILTER HEAVILY LOADED	
0037B			12:50- 15:58	188	.011		EMPLOYEE WORE 3M 8710 RESPIRATOR	
0038A	BORING MILL #2 OPERATOR COASTER, A. 464-48-8196	ASBESTOS 860806 1ST	7:29- 13:04	335	.024		OSHA PEL = 0.2 F/CC	
0038B			13:04- 15:34	150	.011	0.02	OSHA PEL = 0.2 F/CC	.078 .121
0039A	BORING MILL #3 OPERATOR BROWN, C. 461-60-6037	ASBESTOS 860804 1ST	8:40- 12:50	250	--		SAMPLE VOIDED, HEAVY PARTICULATE	
0039B			12:50- 16:00	190	0.07		OSHA PEL = 0.2 F/CC	
0040A	BORING MILL #3 OPERATOR BROWN, C. 461-60-6037	ASBESTOS 860806 1ST	7:26- 13:05	339	.003		OSHA PEL = 0.2 F/CC	
0040B			13:05- 15:31	146	.062	.021	OSHA PEL = 0.2 F/CC	.081 .128
0041A	COUPLING STACKER BREWER, K. 409-31-5880	ASBESTOS 860804 1ST	8:40- 11:59	199	--		SAMPLE VOIDED, HEAVY PARTICULATE	

CTD019729

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 9

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00418			12:28- 14:30	122	.017		OSHA PEL = 0.2 F/CC	
0042A	COUPLING STACKER BREWER, K. 409-31-5880	ASBESTOS 860806 1ST	7:25- 12:01	276	.009		OSHA PEL = 0.2 F/CC	
00428			12:24- 15:32	188	<DET	.006	OSHA PEL = 0.2 F/CC	.022 .036
0043A	FM LATHE SINGLE 1/2 OPERATOR POSTON, W. 467-54-0538	ASBESTOS 860811 1ST	7:43- 11:44	241	.022		OSHA PEL = 0.2 F/CC	
00438			11:44- 15:49	245	.002	.012	OSHA PEL = 0.2 F/CC	.046 .073
0044A	FM LATHE MULTI 1/4 OPERATOR HORNACK, A. 454-64-0198	ASBESTOS 860805 1ST	7:12- 12:57	345	.012		OSHA PEL = 0.2 F/CC	
00448			12:57- 16:01	184	<DET	.006	OSHA PEL = 0.2 F/CC	.022 .043
0045A	COUPLING TESTER SMALL OPERATOR VENABLE, JR., C. 451-92-3086	ASBESTOS 860805 1ST	7:12- 12:59	347	.021		OSHA PEL = 0.2 F/CC	
00458			12:59- 15:55	176	<DET	.013	OSHA PEL = 0.2 F/CC	.047 .082
0046A	COUPLING TESTER SMALL OPERATOR SELLERS, B. 455-29-3426	ASBESTOS 860805 1ST	7:18- 12:58	340	.013		OSHA PEL = 0.2 F/CC	

CTD019730

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 10

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00468			12:58- 16:00	182	.026	.017	OSHA PEL = 0.2 F/CC	.071 .102
0047A	REWORK SAW OPERATOR FOSTER, J. 454-56-6339	ASBESTOS 860805 1ST	7:19- 12:51	332	.065		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0047B			12:51- 15:53	182	.022	0.05	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.195 .302
0048A	FITTINGS MAKER BROWN, T. 462-72-4631	ASBESTOS 860805 1ST	7:16- 12:49	333	<DET		EMPLOYEE WORKED AS A PIPE HANDLER ON AND OFF THROUGHOUT DAY OSHA PEL = 0.2 F/CC	
0048B			12:49- 15:56	187	.004	.001	EMPLOYEE WORKED AS A PIPE HANDLER ON AND OFF THROUGHOUT DAY OSHA PEL = 0.2 F/CC	.003 .007
0049A	TRUCK DRIVER - FINISHING LINE BLEDSOE, L. 453-80-6573	ASBESTOS 860805 1ST	7:20- 12:57	337	.015		OSHA PEL = 0.2 F/CC	
0049B			12:57- 15:58	181	.003	.011	OSHA PEL = 0.2 F/CC	.041 .065
0050A	TRUCK DRIVER - FINISHING LINE SHAW, JR., L. 452-94-1068	ASBESTOS 860805 1ST	7:20- 12:02	282	.003		OSHA PEL = 0.2 F/CC	
0050B			12:26- 16:00	214	<DET	.001	OSHA PEL = 0.2 F/CC	.004 .008
0051A	TRUCK DRIVER - WALL OPERATION SEBIK, A. 467-54-0074	ASBESTOS 860805 1ST	7:20- 12:55	335	.006		OSHA PEL = 0.2 F/CC	

CTD019731

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 11

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00518			12:55- 16:00	185	.002	.004	OSHA PEL = 0.2 F/CC	.017 .027
0052A	CRUSHER OPERATOR HARRIS, C. 459-80-2225	ASBESTOS 860804 1ST	8:11- 11:58	227	.103		EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	
0052B			12:45- 16:46	241	.084	.093	EMPLOYEE WORE 3M 8710 RESPIRATOR OSHA PEL = 0.2 F/CC	.384 .549
0053A	TOOL GRINDER COVEY, R. 462-11-4594	ASBESTOS 860804 1ST	7:59- 15:55	476	--		SAMPLE VOIDED, HEAVY PARTICULATE	
0054A	TOOL GRINDER COVEY, R. 462-11-4594	ASBESTOS 860806 1ST	7:54- 13:14	320	.004		EMPLOYEE PAINTING OUTSIDE THIS DAY OSHA PEL = 0.2 F/CC	
0054B			13:14- 15:54	160	0.02	.009	EMPLOYEE PAINTING OUTSIDE THIS DAY OSHA PEL = 0.2 F/CC	.038 .056
0055A	SUPERVISOR WESTMORELAND, T. 464-90-3023	ASBESTOS 860805 1ST	7:22- 12:48	326	<DET		OSHA PEL = 0.2 F/CC	
0055B			12:48- 15:42	174	.008	.001	OSHA PEL = 0.2 F/CC	.002 0.01
0056A	SUPERVISOR - WALL SLOVAK, J. 465-44-4758	ASBESTOS 860805 1ST	7:20- 13:04	344	.014		OSHA PEL = 0.2 F/CC	
0056B			13:04- 15:55	171	--		SAMPLE VOIDED, FILTER TORN	

CTD019732

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 12

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0057A	SUPERVISOR - WALL SLOVAK, J. 465-44-4758	ASBESTOS 860806 1ST	7:23- 13:05	342	.017		OSHA PEL = 0.2 F/CC	
0057B			13:05- 15:31	146	.022	.019	OSHA PEL = 0.2 F/CC	.076 .111
0058A	PRODUCTION SUPERINTENDENT CLEMENTS, J. 455-60-9760	ASBESTOS 860805 1ST	7:24- 11:47	263	.024		OSHA PEL = 0.2 F/CC	
0058B		ASBESTOS 860805 1ST	13:05- 15:40	155	<DET	.014	OSHA PEL = 0.2 F/CC	.051 .088
0059A	LAB TECHNICIAN MCPHERSON, D. 463-13-9393	ASBESTOS 860805 1ST	7:24- 11:55	271	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0060A	LAB TECHNICIAN MCPHERSON, D. 463-13-9393	ASBESTOS 860806 1ST	7:19- 13:07	348	.001		OSHA PEL = 0.2 F/CC	
0060B			13:07- 15:59	172	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0061A	BOILER OPERATOR WILSON, J. 467-52-6791	ASBESTOS 860805 1ST	9:04- 12:35	211	<DET		OSHA PEL = 0.2 F/CC	
0061B			12:35- 15:58	203	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0062A	BOILER OPERATOR PAYNE, J. 455-13-7843	ASBESTOS 860806 2ND	16:12- 19:44	212	<DET		OSHA PEL = 0.2 F/CC	

CTD019733

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 13

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0062B			19:44- 23:33	229	.022	.011	OSHA PEL = 0.2 F/CC	.038 .067
0063A	BOILER OPERATOR JONES, C. 461-30-8239	ASBESTOS 860806 3RD	12:11- 16:20	249	<DET		OSHA PEL = 0.2 F/CC	
0063B			16:20- 19:56	216	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0064A	ELECTRICIAN RUTH, M. 450-06-0218	ASBESTOS 860804 1ST	8:05- 11:58	233	.022		OSHA PEL = 0.2 F/CC	
0064B			12:47- 16:43	236	.032	.027	OSHA PEL = 0.2 F/CC	.111 .159
0065A	ELECTRICIAN GIDLEY, R. 457-44-0170	ASBESTOS 860804 1ST	8:20- 10:00	100	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0066A	ELECTRICIAN GIDLEY, R. 457-44-0170	ASBESTOS 860805 1ST	7:31- 11:46	255	.002		EMPLOYEE WORKING ON AIR CONDITIONER IN SECURITY OFFICE OSHA PEL = 0.2 F/CC	
0066B			12:32- 16:07	215	.017	.009	OSHA PEL = 0.2 F/CC	.035 .054
0067A	JANITOR FERGUSON, M. 453-52-0086	ASBESTOS 860806 1ST	11:45- 15:59	254	.004		OSHA PEL = 0.2 F/CC	
0067B			16:45- 20:00	195	<DET	.001	OSHA PEL = 0.2 F/CC	.003 .009

CTD019734

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 14

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0068A	MACHINIST CAGLE, J. 453-42-2121	ASBESTOS 860804 1ST	8:00- 11:45	225	--		SAMPLE VOIDED, PUMP MALFUNCTION	
0069A	MACHINIST HUTYRA, P. 457-44-1072	ASBESTOS 860804 1ST	8:02- 11:52	230	.004		OSHA PEL = 0.2 F/CC	
0069B			12:41- 16:34	233	.001	.003	OSHA PEL = 0.2 F/CC	0.01 .015
0070A	MACHINIST PEDERSON, D. 455-86-8533	ASBESTOS 860804 1ST	8:03- 16:27	504	.001	.001	OSHA PEL = 0.2 F/CC	.004 .007
0071A	MACHINIST CAGLE, J. 453-42-2121	ASBESTOS 860805 1ST	8:15- 11:55	220	.006		OSHA PEL = 0.2 F/CC	
0071B			12:42- 16:33	231	<DET	.002	EMPLOYEE WELDED FOR APPROX. 5 MINS. OSHA PEL = 0.2 F/CC	.006 .013
0072A	MECHANIC ANDERSON, L. 464-90-4248	ASBESTOS 860804 1ST	8:01- 16:42	521	.003	.003	OSHA PEL = 0.2 F/CC	.011 .019
0073A	MECHANIC WOODRUFF, T. 450-48-9785	ASBESTOS 860804 1ST	8:04- 16:44	520	.001	.001	OSHA PEL = 0.2 F/CC	.005 .009
0074A	MECHANIC ROUSEY, M. 335-26-1889	ASBESTOS 860804 1ST	8:22- 15:59	457	<DET	<DET	OSHA PEL = 0.2 F/CC	.002 .003
0075A	MECHANIC SIMECEK, B. 466-58-1089	ASBESTOS 860805 1ST	7:55- 16:44	529	.058	.058	OSHA PEL = 0.2 F/CC	.216 0.36

CTD019735

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 15

NO.	POSITION/AREA (NAME-CLOCK NO.)	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
86	SOC SEC NBR							
0076A	MECHANIC MILLER, JR., W. 452-46-3055	ASBESTOS 860814 1ST	7:35- 11:33	238	.006		OSHA PEL = 0.2 F/CC	
0076B			11:33- 15:35	242	.009	.008	OSHA PEL = 0.2 F/CC	.031 .044
0077A	MECHANIC/SHIFT MEADOR, C. 457-31-4318	ASBESTOS 860805 1ST	7:58- 11:25	207	.036		OSHA PEL = 0.2 F/CC	
0077B			11:25- 16:01	276	.008	0.02	OSHA PEL = 0.2 F/CC	.078 .118
0078A	MECHANIC/SHIFT EDDLEMAN, T. 461-60-6305	ASBESTOS 860806 2ND	16:11- 19:45	214	<DET		OSHA PEL = 0.2 F/CC	
0078B			19:45- 23:35	230	.011	.004	OSHA PEL = 0.2 F/CC	.014 .029
0079A	MECHANIC/SHIFT MACH, E. 461-60-6830	ASBESTOS 860806 3RD	0:09- 4:16	247	.006		OSHA PEL = 0.2 F/CC	
0079B			4:16- 7:46	210	--		SAMPLE VOIDED, ANALYTICAL ERROR	
0080A	MECHANIC/SHIFT HILL, F. 445-60-9798	ASBESTOS 860910 1ST	7:50- 11:38	228	.024		OSHA PEL = 0.2 F/CC	
0080B			11:38- 15:25	227	.006	.015	OSHA PEL = 0.2 F/CC	.062 .093

CTD019736

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 16

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0081A	MECHANIC/TRUCK HILL, F. 445-60-9798	ASBESTOS 860806 1ST	10:15- 13:02	167	<DET		OSHA PEL = 0.2 F/CC	
0081B			13:02- 15:45	163	<DET	<DET	OSHA PEL = 0.2 F/CC	<DET <DET
0082A	MECHANIC/TRUCK TITSWORTH, W. 455-44-0508	ASBESTOS 860814 1ST	7:30- 11:28	238	.006		OSHA PEL = 0.2 F/CC	
0082B			11:28- 15:29	241	.004	.005	OSHA PEL = 0.2 F/CC	0.02 .029
0083A	SUPERVISOR MAREK, F. 456-38-2006	ASBESTOS 860827 1ST	7:53- 11:43	230	.004		OSHA PEL = 0.2 F/CC	
0083B			11:43- 15:45	242	.039	.022	OSHA PEL = 0.2 F/CC	.084 .134
0084A	SUPERVISOR KINERT, J. 467-34-3846	ASBESTOS 860804 1ST	8:05- 11:55	230	.004		OSHA PEL = 0.2 F/CC	
0084B			13:02- 16:44	222	.001	.003	OSHA PEL = 0.2 F/CC	0.01 .016
0085A	CEMENT DRIVER SUSTALA, R. 450-60-1932	ASBESTOS 860805 1ST	8:20- 14:22	362	.002	.002	EMPLOYEE MADE 3 TRIPS TO WACO THIS DAY OSHA PEL = 0.2 F/CC	.009 .016
0086A	BULK CEMENT UNLOADER HARRIS, R. 445-64-3566	ASBESTOS 860804 1ST	8:21- 11:59	218	<DET		OSHA PEL = 0.2 F/CC	

CTD019737

TABLE 1
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 17

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
00868			12:43- 15:43	180	.018	.008	OSHA PEL = 0.2 F/CC	.028 .049
0087A	EQUIPMENT OPERATOR STRICKLAND, R. 451-04-7309	ASBESTOS 860804 1ST	8:14- 11:58	224	<DET		OSHA PEL = 0.2 F/CC	
0087B			12:42- 16:43	241	.003	<DET	OSHA PEL = 0.2 F/CC	.001 .006
0088A	EQUIPMENT OPERATOR HUGHS, JR., J. 466-70-1588	ASBESTOS 860804 1ST	8:14- 11:59	225	.003	.003	OSHA PEL = 0.2 F/CC	.01 .01
0089A	EQUIPMENT OPERATOR HUGHS, JR., J. 466-70-1588	ASBESTOS 860806 1ST	7:58- 11:59	241	.007		OSHA PEL = 0.2 F/CC	
0089B			12:27- 16:45	258	<DET	.001	OSHA PEL = 0.2 F/CC	.003 .012
0090A	LOADER LACY, R. 467-52-5480	ASBESTOS 860804 1ST	8:10- 11:58	228	--		SAMPLE VOIDED, ANALYTICAL ERROR	
0090B			12:46- 16:43	237	<DET		OSHA PEL = 0.2 F/CC	
0091A	LOADER CLINARD, T. 467-15-5978	ASBESTOS 860804 1ST	8:20- 11:58	218	.001		OSHA PEL = 0.2 F/CC	
0091B			12:42- 16:44	242	.008	.005	OSHA PEL = 0.2 F/CC	.018 .028

CTD019738

TABLE I
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

12:15 WEDNESDAY, NOVEMBER 12, 1986 18

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	TWA FOR SAMPLE PERIOD	REMARKS	LCL/ UCL
0092A	SWEeper OPERATOR EAGANS, R. 452-29-8817	ASBESTOS 860804 1ST	8:09- 11:57	228	.077		OSHA PEL = 0.2 F/CC	
0092B			12:46- 16:44	238	0.01	.043	CLEANED ON TOP OF TANKS IN B PLANT DURING THIS SAMPLE OSHA PEL = 0.2 F/CC	.168 .263
0093A	SUPERVISOR LENART, B. 465-50-0733	ASBESTOS 860804 1ST	8:12- 16:50	518	<DET	<DET	OSHA PEL = 0.2 F/CC	.003 .005

CTD019739

TABLE II

Summary of Sample Results
Hillsboro A/C Pipe Plant
August 4-7, 1986

<u>Dept.</u>	<u># TWA Samples</u>	<u>Range</u>	<u>Mean</u>	<u>≥.2</u>	<u>≥.1</u>
Mfg.	21	< Det. - 0.07	0.021	0	0
Fin	26	< Det. - 0.09	0.02	0	0
Maint/Misc.	<u>29</u>	< Det. - 0.09	<u>0.01</u>	<u>0</u>	<u>0</u>
Plant Totals	76	< Det. - 0.07 9	0.02	0	0

CTD019740

TABLE III
HILLSBORO
SAMPLE RESULTS FOR ASBESTOS

13:02 WEDNESDAY, NOVEMBER 12, 1986 1

NO. 86	POSITION/AREA (NAME-CLOCK NO.) SOC SEC NBR	ANALYSIS/ DATE/SHIFT	TIME	MIN	RESULT F/CC	REMARKS
0094A	LUNCHROOM AREA AREA	ASBESTOS 860806 1ST	7:33- 12:35	302	<DET	SAMPLE HANGING 5 FT FROM FLOOR FROM I BEAM IN LUNCHROOM
0095A	OFFICE AREA AREA	ASBESTOS 860806 1ST	8:00- 12:25	265	<DET	PUMP SITTING ON BOOK CASE IN CENTER OF ADMINISTRATIVE OFFICE AREA NEAR E. REED'S DESK
0096A	PLANT PERIMETER (A) AREA	ASBESTOS 860806 1ST	8:08- 12:39	271	<DET	PUMP HANGING FROM TELEPHONE POLE 5 FEET ABOVE GROUND AT FENCE LINE S OF PLANT
0097A	PLANT PERIMETER (B) AREA	ASBESTOS 860806 1ST	12:45- 16:30	225	--	SAMPLE VOIDED, PUMP MALFUNCTION PUMP HANGING AT FENCE LINE E OF PLANT NEAR LAKE
0098A	PLANT PERIMETER (B) AREA	ASBESTOS 860807 1ST	7:50- 10:30	160	--	SAMPLE VOIDED, ANALYTICAL ERROR PUMP HANGING AT FENCE LINE E OF PLANT NEAR LAKE
0099A	PLANT PERIMETER (C) AREA	ASBESTOS 860806 1ST	12:52- 16:32	220	--	SAMPLE VOIDED, PUMP MALFUNCTION PUMP HANGING AT FENCE LINE NW OF PLANT NEAR ROAD
0100A	PLANT PERIMETER (C) AREA	ASBESTOS 860807 1ST	7:55- 10:35	160	--	SAMPLE VOIDED, ANALYTICAL ERROR PUMP HANGING AT FENCE LINE NW OF PLANT NEAR ROAD
0101A	PLANT PERIMETER (D) AREA	ASBESTOS 860806 1ST	13:07- 16:35	208	<DET	PUMP HANGING AT FENCE LINE SW OF PLANT NEAR POND

CTD019741

Table IV
Respiratory Protection for Asbestos

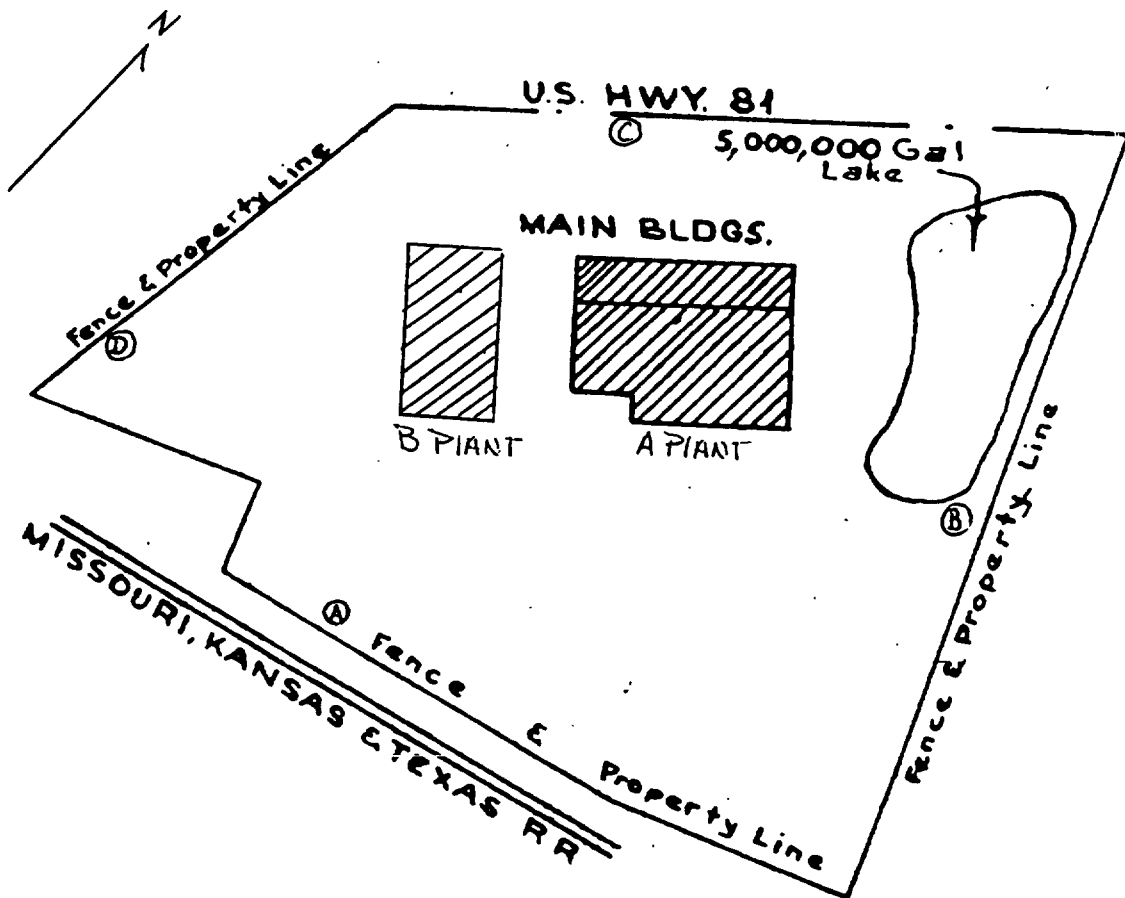
Airborne concentration of asbestos, tremolite anthophyllite, actinolite or a combination of the minerals	Required respirator	Source Information*
Not in excess of 2 f/cc (10 X PEL).	1. Half-mask air-purifying respirator equipped with high-efficiency filters.	MSA Comfo II with Filter 464035
Not in excess of 10 f/cc (50 X PEL).	1. Full facepiece air-purifying respirator equipped with high-efficiency filters.	MSA Ultra Twin with Filter 464035
Not in excess of 20 f/cc (100 X PEL).	1. Any powered air-purifying respirator equipped with high-efficiency filters.	MSA Comfo 463354 or Ultra Twin 463355 with Filter 463284 and Battery Pak & Charger 463441
	2. Any supplied-air respirator operated in continuous flow mode.	MSA Constant Flow Airline respirator 460863 or 461717
Not in excess of 200 f/cc (1000 X PEL).	1. Full facepiece supplied-air respirator operated in pressure demand mode.	MSA Ultralite with Composite Cylinder 481216 or with Steel Cylinder 481219
Greater than 200 f/cc (> 1000 X PEL) or unknown concentration.	1. Full facepiece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus.	MSA Ultralite Custom 4500 Series SCBA

Note: a. Respirators assigned for higher environmental concentrations may be used at lower concentrations.

b. A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers or larger.

*Similar acceptable equipment is available from other sources.

FIGURE 1
HILLSBORO PROPERTY LINES
PLACEMENT OF ENVIRONMENTAL SAMPLES



Industrial Hygiene Survey (IHS 86-10)
Hillsboro A/C Pipe Plant
August 4-6, 1986

Appendix I

Analytical Procedures and Current Standards

Asbestos

The sampling and analysis was conducted following the current OSHA Standard 29CFR1910.1001, Appendix A ORM (Mandatory).

Personal samples were obtained open faced on a 25mm 0.8 micron mixed cellulose ester Millipore filter with a 50mm extension cowl. DuPont Alpha I, P4000 and P2500 air sampling pumps were calibrated before and after each sampling day to approximately 1 liter per minute. In most cases, a series of two, three or four different filter samples were obtained for the person to establish an 8 hour time weighted average (TWA) concentration.

The analysis was conducted by NATLSCO Labs, Long Grove, Illinois using the method described in the Standard, Appendix A. The current Standard calls for a personal exposure limit of 0.2 fibers, longer than 5 microns per cubic centimeter of air (f/cc) and an action limit of 0.1 f/cc.

CTD019744

CertainTeed 

To	John McGinley	Mail Code	2125/2B	From	<i>Owen H. Kittilstad</i> Owen H. Kittilstad	Mail Code	1125/4	Ext.	7505
Subject								Date	
DRAFT - ASBESTOS INDUSTRIAL HYGIENE SURVEILLANCE								December 3, 1986	

The final report for the Hillsboro Industrial Hygiene Survey has been issued.

Per our conversation and your request a few days ago, I have made a draft of a few comments concerning the survey report and particular points which should be emphasized.

If you have any questions, give me a call.

OHK/lh

Enclosure

CTD019745

D R A F T

TO: J. Anderson - Hillsboro #257

FROM: John McGinley - 2125/2B

SUBJECT: ASBESTOS INDUSTRIAL HYGIENE SURVEILLANCE

In reviewing the Corporate Industrial Hygiene Survey Report for the initial asbestos monitoring under the revised Standard, there are four points on which I want to emphasize and establish group procedures.

1. Monitoring Frequency and Changes in Monitoring Frequency

In addition to the initial monitoring, our monitoring program will be conducted every six months for every employee (with exception of office employees). This is necessary to be assured the measured levels are accurate and to be confident that exposure levels below the action level of 0.1 f/cc are stable.

2. Employee Notification of Monitoring Results

It is required that employees be notified in writing within fifteen days of the receipt of the results. It will be our standard practice to post the results on the bulletin boards and to continue to use the Fiber Exposure Notification Form as we have in the past.

3. Respiratory Protection

Since disposable respirators are no longer acceptable for protection against asbestos, we must establish guidelines for a respiratory program, meeting the requirements of the Standard. From the initial monitoring results, no job at the Hillsboro plant requires respiratory protection. There are special instances where respirators will be required, i.e., maintenance operations. Those employees involved in these operations should be provided with approved respirators. For those employees in jobs not requiring respirators but requesting them, they should also be provided with approved respirators.

A respiratory program addressing the requirements of the Standard (i.e., approved respirators, fit testing, facial hair, training, care and cleaning) should be instituted and in place by _____.

4. Physical Examinations

We will continue the program to physically examine all employees on an annual basis. I will request Dr. Mellon to review our current procedures and advise us of any changes which may be required in response to the revised OSHA Standard.

CTD019746

CertainTeed

To John McGinley	Mail Code 2125/2B	From <i>O. H. Kittilstad</i> Owen H. Kittilstad	Mail Code 1125/4	Ext. 7505
Subject DRAFT - ASBESTOS INDUSTRIAL HYGIENE SURVEILLANCE			Date December 3, 1986	

The final report for the Hillsboro Industrial Hygiene Survey has been issued.

Per our conversation and your request a few days ago, I have made a draft of a few comments concerning the survey report and particular points which should be emphasized.

If you have any questions, give me a call.

OHK/lh

Enclosure

RECEIVED DEC 4 1986

O. H. Kittilstad

*This draft is ok by me.
Is it reasonable to place a date
of April 1 for respirator program.*

*JLM
12/6/86*

*Respirators Required > .2
& Respirator program*

Effective date: > PEL 11/17/86

DEC 9 1986

CTD019747

INDUSTRIAL HYGIENE SURVEY
IHS 86-10
HILLSBORO PLANT
AUGUST 4 - 7, 1986

IHS 86-10, HILLSBORO PLANT
AUGUST 4-7, 1986