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WESTERN FORGE & FLANGE CO.

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November 2, 1984

Mr. Donald Dalke
California Regional Water Quality Control Board
San Francisco Bay Region
Room 6040
1111 Jackson Street
Oakland, California 94607

Subject: Albany Site Project

Dear Mr. Dalke:

This letter responds to your letter of September 18, 1984, and Mr. Lester Feldman's letter of August 6, 1984, regarding our Albany facility. Our delay in responding is explained herein. This transmittal also presents the results of additional soil and groundwater chemical analyses completed on samples collected at our Albany facility since submittal of both the Problem Definition Report and the Correction Plan in July 1984.

Our response to Mr. Feldman's letter is contained in Appendix A. Our response to your letter is covered in Appendix B. Please review this material and contact me or Brian Bracken at Brown and Caldwell if you have any questions or comments. We are anxious to resolve the issues of concern of your agency on the Albany site problem definition and correction plan work so we can proceed with correction.

Very truly yours,

WESTERN FORGE & FLANGE CO.

Peter Zaklan
President

PZ:bd

cc: Mr. Erwin Koehler, Department of Health Services
Mr. Brian Bracken, Brown and Caldwell
Ed Refsell - DOHS.

APPENDIX A

RESPONSE TO AUGUST 6, 1984, LETTER

Performed at Fed
1/4 ly monitoring

APPENDIX A

RESPONSE TO AUGUST 6, 1984, LETTER

On August 17 our consultant, Brown and Caldwell, discussed the August 6, 1984, letter with Ms. Robin Breuer. We understand the Regional Water Quality Control Board (RWQCB) was concerned (1) that residual material below the California Assessment Manual levels may pollute surface waters through rainfall runoff and sediment transport and (2) that only one set of groundwater analyses had been completed. Brown and Caldwell explained that the correction design provided for paving the rear property area. Ms. Breuer agreed that paving the dirt areas would solve the surface runoff problem and inhibit further leaching of metals from remaining surface soils to the groundwater. She also was concerned at the apparent lack of groundwater data and was not aware that well W 4 had been installed as the upgradient and intended background well as a replacement for W 1 (the proposed monitoring well). Well W 1 was a borehole drilled in nonwater-bearing sandstone and was therefore never installed as a well. In response to the groundwater data concern, a second round of groundwater sampling was completed on August 23, 1984.

At the time of receipt of the RWQCB letter of August 6, 1984, and during ensuing discussions with RWQCB staff, we were analyzing additional surface and subsurface soil samples collected August 9 and August 14 in order to further refine the areas and depths to be excavated both inside and outside the Western Forge & Flange facility. This activity was under way as a result of the July 19, 1984, letter from the Department of Health Services (DOHS) approving the July 10, 1984, Correction Plan. Analytical results from both the additional soil sampling and additional groundwater sampling are included in this transmittal. Since a meeting was scheduled with the RWQCB and the DOHS on August 23, 1984, we delayed our response to the August 6 letter pending the outcome of the meeting.

APPENDIX B

RESPONSE TO SEPTEMBER 18, 1984, LETTER

APPENDIX B

RESPONSE TO SEPTEMBER 18, 1984, LETTER

We have reviewed your letter of September 18, 1984, and present some additional analytical data in relation to previously submitted information on soils and groundwater in support of our request for approval of the site correction plan. We are confused about the application of background levels or detection limits to problem definition at the Albany site. We have reviewed the State Policy documents referenced in your cleanup guidelines and the guidelines entitled "Regional Board Staff Guidelines with Respect to Establishing a Procedure to Identify Water Quality Objectives for Hazardous Material Site Clean-up" dated March 9, 1983, and find no reference to problem definition relative to background levels or detection limits. If due to consideration of beneficial groundwater use, cost of cleanup and other factors, a cleanup level is established well above background level of a contaminant, we fail to see the need for a time-consuming and expensive analytical exercise to define contaminant concentrations far below these levels all over the site. As the information contained in this transmittal shows, we have performed extensive sampling and analysis on the relatively small site to both define the problem and to implement a cleanup. We submit that reasonable cleanup levels for metals and oil and grease were established in the July correction plan and should be used as a basis for any further analytical work.

The Regional Water Quality Control Board (RWQCB) guidelines state:

> "Before a decision can be made regarding the cleanup objectives, it is necessary to identify the following elements:
>
> 1. Existing water quality;
>
> 2. existing and potential beneficial uses;
>
> 3. any available water quality criteria, including technical literature."

We believe these three elements have been identified in the work undertaken to date and the results do not justify the request for additional soil sampling to background or nondetectable levels.

Soils

Additional surface and near-surface soil samples were collected at depths of 0 to 18 inches from seven locations, S9 through S15, as shown on Figure B-1. Samples were obtained on August 9 and August 14, 1984, using methods and procedures described in Appendix C.

Results of the metals (copper, nickel, lead, and zinc) and oil and grease analyses performed on soil samples are summarized in Tables B-1 and B-2. Laboratory reports are included as Appendix D. Results of soil sample analyses presented in the July 1984 Problem Definition Report are also included in the tables. Locations of background samples S6 and S7 and marsh samples M1, M2, and M3 are shown on Figure B-2.

Total threshold limit concentrations (TTLC) values, values ten times the soluble threshold limit concentrations (10 x STLC) and values one-half the TTLC (1/2 TTLC) are identified in Tables B-1 and B-2. Materials identified above TTLC are considered hazardous by the Department of Health Services (DOHS) under California Assessment Manual (CAM) criteria. Values exceeding this number are double underlined in the tables. Values exceeding 10 x STLC are single underlined, and extracts from these samples have the potential to be classified as hazardous, depending on results of a waste extraction test. Values of 1/2 TTLC have been accepted as a soil cleanup level for this site by the DOHS.

We intend to excavate 6 inches deeper than originally planned at S4 and S15 outside the facility because previous analyses indicate the material at these locations exceeds one-half TTLC concentrations. Verification sampling will identify if even deeper excavation is necessary.

Additional soil sampling may be required inside the facility. Attenuation of metal contamination to below 1/2 TTLC was not identified in 6 of the 13 areas sampled indoors. Locations WFF 3, WFF 9, and WFF 11 were not sampled below a 6-inch depth and WFF 12 and WFF 13 were not sampled below 8-inch and 12-inch depths, respectively, since the sampler would not penetrate underlying material. A sample was collected at an 18-inch depth at WFF 6, but the nickel concentration exceeded 1/2 TTLC. Following inside excavation, we plan to take deeper samples to determine the depth of excavation required.

Groundwater

We contend that treatment of groundwater is unnecessary for the following reasons: (1) the levels of contaminants examined are low to nondetectable, (2) the source of any future contamination will be removed, and (3) there are no potential uses of the groundwater.

Cr^{3+} Cu Pb Ni Zn

½ TTLC = 1,250 1,250 500 1,000 2,500

Table B-1 Concentration of Metals Detected in Floor Residue and Outside Soil Samples

Sample identification and depth	Concentration, mg/kg				
	Chromium, trivalent	Copper	Lead	Nickel	Zinc
S1					
0 to 6 inches	160	91	190	270	780
6 to 12 inches	200	63	61	240	48
S2					
0 to 6 inches	47	72	140	110	820
6 to 12 inches	71	72	94	140	220
S3					
0 to 6 inches	15	18	95	25	120
6 to 12 inches	22	51	160	42	230
S4					
0 to 6 inches	270	550	370	1,300	420
6 to 12 inches	120	240	710	370	620
S5					
0 to 6 inches	410	1,700	200	4,600	630
6 to 12 inches	16	15	76	19	90
S9					
0 to 6 inches	-	44	200	42	160
6 to 12 inches	-	37	120	41	120
12 to 18 inches	-	29	21	73	79
S10					
0 to 6 inches	-	16	80	25	91
6 to 12 inches	-	45	360	740	740
12 to 15 inches	-	61	120	170	470
S11					
0 to 6 inches	-	27	110	67	120
6 to 9 inches	-	43	140	77	150
12 to 15 inches	-	120	57	270	120
S12					
0 to 6 inches	-	88	430	330	370
6 to 12 inches	-	270	300	180	360
12 to 18 inches	-	53	300	110	170
S13					
0 to 6 inches	-	180	180	680	240
6 to 12 inches	-	25	170	100	94
12 to 14 inches	-	68	150	320	63
S14					
0 to 6 inches	-	110	330	230	250
6 to 9 inches	-	80	630	160	230
12 to 18 inches	-	33	160	110	120

[a]TTLC, draft 22 CAC 66699, July 20, 1984, CAM criteria, double underlined numbers designate concentrations above TTLC.

[b]STLC, draft 22 CAC 66699, July 20, 1984, CAM criteria, single underlined numbers designate concentrations above ten times STLC.

[c]Cleanup criteria accepted by the Department of Health Services.

Notes: 1. Dash (-) indicates analysis was not performed.
2. Samples S9 through S15 were collected 8/9 and 8/14/84. Samples S7 and M3 were collected 7/9/84. Other samples were collected during 5/84.
3. Sample S8 was not collected.

Table B-1 Concentration of Metals Detected in Floor Residue and Outside Soil Samples (continued)

Sample identification and depth	Concentration, mg/kg				
	Chromium, trivalent	Copper	Lead	Nickel	Zinc
S15					
0 to 6 inches	-	350	130	470	8,100
6 to 12 inches	-	15	54	18	120
12 to 18 inches	-	110	710	150	440
S6--background sample					
0 to 6 inches	24	32	150	46	190
6 to 12 inches	12	16	100	23	250
S7--background sample					
0 to 6 inches	-	130	240	47	660
6 to 11 inches	-	33	170	47	390
M1--marsh sample					
0 to 6 inches	99	32	100	180	91
M2--marsh sample					
0 to 6 inches	35	83	310	51	83
M3--marsh sample					
0 to 6 inches	-	100	440	47	160
TTLC[a]	2,500	2,500	1,000	2,000	5,000
10 x STLC[b]	5,600	250	50	200	2,500
1/2 TTLC[c]	1,250	1,250	500	1,000	2,500

[a]TTLC, draft 22 CAC 66699, July 20, 1984, CAM criteria, double underlined numbers designate concentrations above TTLC.

[b]STLC, draft 22 CAC 66699, July 20, 1984, CAM criteria, single underlined numbers designate concentrations above ten times STLC.

[c]Cleanup criteria accepted by the Department of Health Services.

Notes: 1. Dash (-) indicates analysis was not performed.
2. Samples S9 through S15 were collected 8/9 and 8/14/84. Samples S7 and M3 were collected 7/9/84. Other samples were collected during 5/84.
3. Sample S8 was not collected.

Table B-2 Concentration of Selected Metals Detected in Inside Soil Samples, mg/kg

Sample identification	Depth, inches	Copper	Lead	Nickel	Zinc
Floor residue[a]		18,000	84	23,000	320
WFF 1	0-6	1,700	200	5,500	300
	6-12	330	180	580	380
	12-18	84	33	220	530
WFF 2	0-6	370	600	460	420
	6-12	55	27	120	640
	12-18	32	41	79	77
WFF 3	0-6	910	290	1,100	370
WFF 4	0-6	13,000	33	12,000	1,500
	6-12	220	25	340	59
	12-18	27	150	82	140
WFF 5	0-6	230	95	800	250
WFF 6	0-6	2,000	150	5,300	460
	6-12	440	200	570	220
	12-18	1,100	200	2,600	350
WFF 7	0-6	47	670	29	480
	6-12	21	77	31	570
	12-16	43	72	27	610
WFF 8	0-6	27	28	74	55
	6-12	120	21	2,100	60
	12-18	160	200	380	140
WFF 9	0-6	3,000	140	1,800	350
WFF 10	0-6	73	25	270	45
WFF 11	0-6	820	170	7,900	320
WFF 12	0-6	6,500	120	13,000	250
	6-8	1,500	130	3,100	190
WFF 13	0-6	1,700	140	6,500	190
	6-12	1,500	130	5,400	200
TTLC[b]		2,500	1,000	2,000	5,000
1/2 TTLC[c]		1,250	500	1,000	2,500
10 x STLC[d]		250	50	200	2,500

[a]Floor residue sample was composited on an equal weight basis from seven discrete samples collected inside the WFF facility during May 1984.

[b]Total threshold limit concentration (TTLC), draft 22 CAC 66699, July 20, 1984.

[c]Cleanup criteria accepted by the Department of Health Services.

[d]Soluble threshold limit concentration (STLC), draft 22 CAC 66699, July 20, 1984.

Notes: 1. Samples collected on 8/14/84, except where noted.
2. Single underlined numbers indicates value exceeds 10 x STLC.
3. Double underlined numbers indicates value exceeds TTLC.

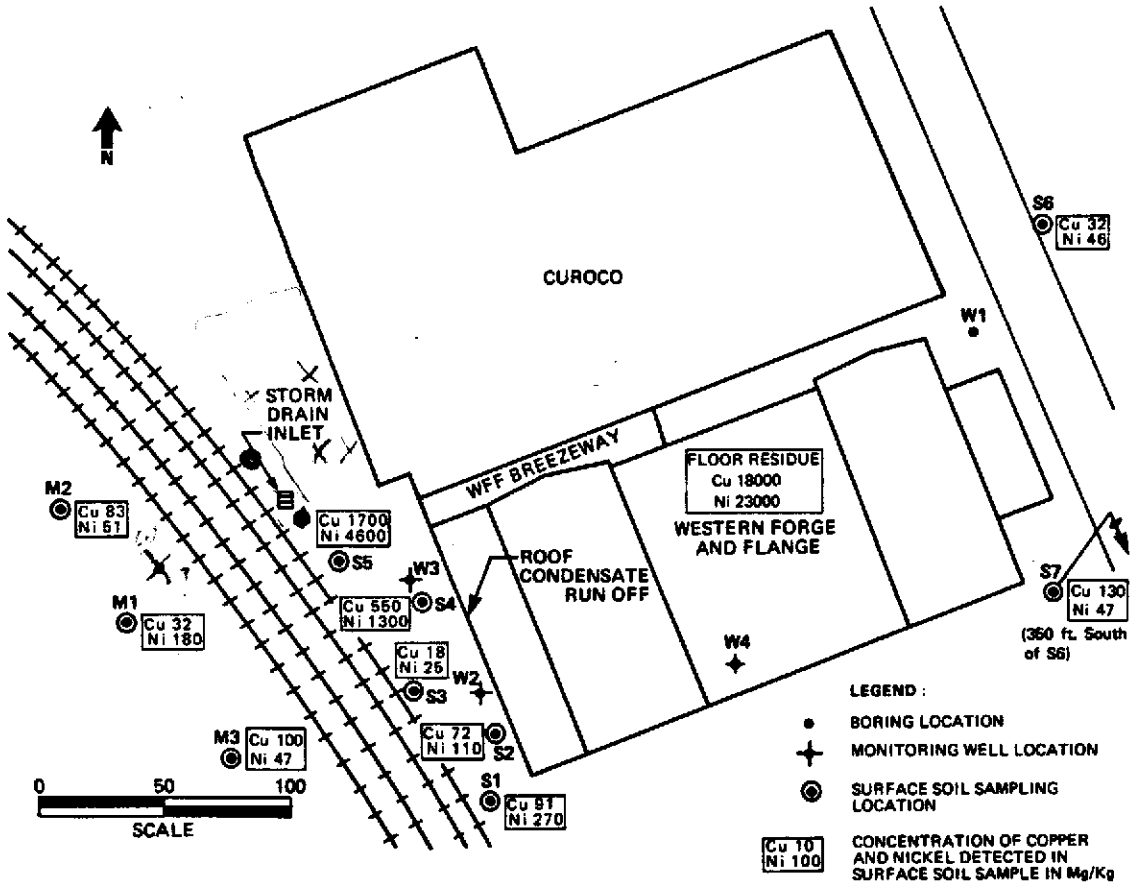

Figure B-2 Albany Site Map Showing Locations of Background and Marsh Sample

Additional groundwater samples were collected on August 23 from Wells W 2, W 3, and W 4 at the Albany facility in response to RWQCB concern. Results of the chemical analyses completed on these and previously analyzed samples are summarized in Table B-3. Laboratory reports on the additional sampling are presented as Appendix D.

Concentrations of metals in the groundwater are low to nondetectable. The concentrations of copper, nickel, lead, and zinc in W 2, W 3, and W 4 in August had decreased from or remained the same as previous concentrations. Nickel, lead, and zinc values in Well 3 exceeded W 4 background levels by 0.1 milligrams per liter (mg/l), 0.1 mg/l, and 0.01 mg/l, respectively, on August 24. Groundwater data indicate water quality has improved in both upgradient and down-gradient wells beneath the site since May and July. The one exception was an increase in the nickel concentration in Well 2 from 0.03 to 0.04 mg/l. While concentrations of metals in the groundwater are low to nondetectable, the source of these metals will be removed. Surface paving would further inhibit leaching of metals from the residual soil and their migration to the groundwater.

The concentration of oil and grease in water samples taken from the site monitoring wells is relatively low at 7 mg/l or less. Note that the upgradient well (W 4) has the same oil and grease concentration as that of the downgradient well with the highest concentration. Other correction projects performed in the Bay Area have involved reinjection of oil-contaminated groundwater into a nonpotable water aquifer provided the water was treated to below 15 mg/l oil. Cleanup of the groundwater due to oil and grease contamination under the Albany site appears unwarranted. When cleanup is complete, the source of oil contamination will have been eliminated.

At present, groundwater beneath the plant site serves no beneficial use. It has no potential use as a source of drinking water because the source does not meet the minimum depth requirements. The brackish to saline quality of the water also prohibits its use as drinking water or irrigation water.

Table B-3 Concentrations of Metal Detected in Groundwater Samples, mgl

Constituents	Date sampled							
	5/23/84		7/9/84			8/24/84		
	W2	W3	W2	W3	W4	W2	W3	W4
Oil and grease	-	-	7	<5	7	<5.0	<5.0	5.4
Chromium, trivalent	<0.02	<0.02	-	-	-	-	-	-
Copper	<0.01	<0.01	-	-	0.04	<0.01	<0.01	<0.01
Nickel	0.03	0.42	-	-	0.12	0.04	0.17	0.07
Lead	<0.1	0.5	-	-	<0.1	<0.1	0.2	<0.1
Zinc	0.03	0.03	-	-	0.32	0.01	0.02	0.01

Note: Dash (-) indicates not analyzed.

Cr^{6+}

APPENDIX C

SAMPLING METHODS AND PROCEDURES

APPENDIX C

SAMPLING METHODS AND PROCEDURES

Additional surface and near-surface soil samples were collected from 20 locations inside and outside the Western Forge & Flange (WFF) facility on August 9 and August 14. Additional groundwater samples from the three monitoring wells were collected August 23. The methods and procedures used to obtain these samples, sample handling procedures, and equipment decontamination procedures are described below.

Soil Sampling

Outdoor surface soil samples were collected at depths of 0 to 18 inches from seven locations, S9 through S15, as shown on Figure B-1. Soil samples were collected using a manual soil sampler equipped with a 6-inch-long by 2-inch-diameter sampling tube. Samples obtained in the 6- to 12-inch and 12- to 18-inch intervals were collected by lowering the equipment through the original sampling hole and driving the sampler. Approximately 1/4 to 1/2 inch of loose soil was considered slough from the surface and discarded from the top of each 6- to 12-inch and 12- to 18-inch sample.

Indoor surface samples were collected at the 13 locations identified as WFF 1 through WFF 13 on Figure B-1 using the methods described previously. In many areas, samples were not obtained to the full 18-inch depth since the sampler would not always penetrate the underlying materials.

Groundwater Sampling

Additional groundwater samples were collected at the site after 18, 14.5, and 12 gallons of water were removed from W 2, W 3, and W 4, respectively. Water was removed using a Teflon bailer and a pump equipped with Tygon tubing as intake and discharge lines. Samples for metals analyses were collected in 500-milliliter (ml) plastic bottles, cooled at the site, and filtered through a 0.45-micron filter and acidified with 2 ml of acid immediately upon receipt at the laboratory. Samples analyzed for oil and grease were contained in 16-ounce glass jars and cooled to 4 degrees C at the site.

Sample Handling Procedures

Each sample was maintained under strict chain-of-custody protocol throughout delivery at the laboratory and analysis To prevent cross-contamination of samples, all sampling equipment was decontaminated before use and washed and rinsed with Alconox and water, then rinsed with tap water between each sampling.

APPENDIX D

LABORATORY REPORTS

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

August 22, 1984 E84-8-112

Mr. Brian Bracken
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523 Job# 1928-08/4

TRANSMITTAL OF ANALYTICAL DATA

Date Sampled: 8/9/84
Date Received: 8/9/84

Log Number	Sample Description	Copper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Zinc mg/Kg
8-112-01	S9 0-6'	44	200	42	160
8-112-02	S9 6-12'	37	120	41	120
8-112-03	S9 12-18'	29	21	73	79
8-112-04	S10 0-6'	16	80	25	91
8-112-05	S10 6-12'	45	360	740	740
8-112-06	S10 12-15'	61	120	170	470
8-112-07	S11 0-6'	27	110	67	120
8-112-08	S11 6-9'	43	140	77	150
8-112-09	S11 12-15'	120	57	270	120
8-112-10	S12 0-6'	88	430	330	370
8-112-11	S12 6-12'	270	300	180	360
8-112-12	S12 12-18'	53	300	110	170
8-112-13	S13 0-6'	180	180	680	240
8-112-14	S13 6-12'	25	170	100	94
8-112-15	S13 12-14'	68	150	320	63
8-112-16	S14 0-6'	110	330	230	250
8-112-17	S14 6-9'	80	630	160	230
8-112-18	S14 12-18'	33	160	110	120

Reported by: James M. Hatfield
Laboratory Director

JMH:ht

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

August 31, 1984

E84-8-162

Mr. Brian Bracken
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

1928-08/4

TRANSMITTAL OF ANALYTICAL DATA

Date Sampled: 8/14/84
Date Received: 8/14/84

Subject: Western Forge and Flange

Log Number	Sample Identification	Copper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Zinc mg/Kg
8-162-01	WFF1 0-0.5'	1700	200	5500	300
8-162-02	WFF1 0.5-1.0'	330	180	580	380
8-162-03	WFF1 1.0-1.5'	84	33	220	530
8-162-04	WFF2 0-0.5'	370	600	460	420
8-162-05	WFF2 0.5-1.0'	55	27	120	640
8-162-06	WFF2 1.0-1.5'	32	41	79	77
8-162-07	WFF3 0-0.5'	910	290	1100	370
8-162-08	WFF4 0-0.5'	13,000	33	12,000	1500
8-162-09	WFF4 0.5-1.0'	220	25	340	59
8-162-10	WFF4 1.0-1.5'	27	150	82	140
8-162-11	WFF5 0-0.5'	230	95	800	250
8-162-12	WFF6 0-0.4'	2000	150	5300	460
8-162-13	WFF6 0.5-1.0'	440	200	570	220
8-162-14	WFF6 1.0-1.5'	1100	200	2600	350
8-162-15	WFF7 0-0.5'	47	670	29	480
8-162-16	WFF7 0.5-1.0'	21	77	31	570
8-162-17	WFF7 1.0-1.3'	43	72	27	610
8-162-18	WFF8 0-0.5'	27	28	74	55
8-162-19	WFF8 0.5-1.0'	120	21	2100	60
8-162-20	WFF8 1.0-1.5'	160	200	380	140

Log Number	Sample Identification	Cooper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Zinc mg/Kg
8-162-21	WFF 9 0-0.5'	3000	140	1800	350
8-162-22	WFF 10 0-0.5'	73	25	270	45
8-162-23	WFF 11 0-0.5'	820	170	7900	320
8-162-24	WFF 12 0-0.5'	6500	120	13,000	250
8-162-25	WFF 12 0.5-0.7'	1500	130	3100	190
8-162-26	WFF 13 0-0.5'	1700	140	6500	190
8-162-27	WFF 13 0.5-1.0'	1500	130	5400	200
8-162-28	S 15 0-0.5'	350	130	470	8100
8-162-29	S 15 0.5-1.0'	15	54	18	120
8-162-30	S 15 1.0-1.5'	110	710	150	440

Reported by: _____
James M. Hatfield
Laboratory Director

JMH:ht