— TIME OIL CO. —
CORRESPONDENCE

K7528-097

K7528.00097

BEAZER EAST, INC.

SHUFTAN, ROBERT L.

OPENED: 08-30-1990

TIME OIL
TIME OIL - GENERAL CASE
BEAZER CASE NO.: 8232

GENERAL - AS REQUIRED

GENERAL
FOLDER #:0011

TIME OIL CO.
CORRESPONDENCE - 1966

BZTO104(e)010378

Monsanto RAPID-GRAM

TO (Please Print) Rube Morriss Jr

SUBJECT

MESSAGE

Rube:

We located Time Oil Co in Portland yesterday.

They have a 30,000 gal tank and will misc R.T.U. using 4000 gals of Conc + 16000 gals of Mineral Spirits. they will handle + store, there Charges

REPLY

will be 1/4 Cent in and 1/4 cent out plus tank rental of 150.00 /month. this includes the cost of mixing, sampling ect.

We are meeting tomorrow with there engineers from Seattle and we will work on costs to mfg. the R.T.U from the dry Pentas + Slurry drumed)

SENDER'S FULL NAME (Please Print) DATE

SIGNATURE DATE

Page 2

G-1140

Monsanto RAPID-GRAM

TO (Please Print)

SUBJECT Page 2

MESSAGE

attached is a copy of there regular agreement they have done work for Shell Chemicals + other major producers.

We will give you a complete report when we have had a chance to talk

REPLY

to there engineers.

Hub
Mousseth

Please make me a copy of the attached so I can study it

SENDER'S FULL NAME (Please Print) DATE

SIGNATURE Hub M DATE Dec 14 6

G-1140

BZTO104(e)010379

BZTO104(e)010380

PHYSICAL INVENTORY

Wood Treating Chemicals Co.

LOCATION: Time Oil Company, Inc.

MONTH ENDING: 12 / 31 / 67

Product	No Bags	No. Drums	No. Slabs	Inches/Temp.	
Penta	917				
WR-320-A Concentrate		10			
Paraffin Wax			12,277lbs.		
Solvent B-6				11' 6 7/8" @ 17	16,400
Mineral Spirits				1' 5 7/8" @ 43	1,192
Woodtox Pre-Prime (120) R.T.U.				14 Drums - 55	
Woodtox 140 R.T.U.				13' 10½" @ 46	19,676
PRESS TREAT				11' 1 5/8" @ 46	15,687

Please prepare on the last day of the month and mail one copy to:

Mr. R. A. Miller
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri, 63110

Thank you.

BZTO104(e)010381

B. C. Downs
J. M. Montgomery
R. A. Miller

November 20, 1967

Time Oil Company
Seattle, Washington

H. E. Morissette

Your friend, Jim Barnet, has written you a nice letter which is enclosed about your handling of that large government order. He sent us two sets of snapshots of their can filling operation, one of which we are sending to you and the other set we will pass around the office and retain in the Time Oil contract file. It is good to know that this company is so efficiently set up to handle a packaging order of that size and perhaps something else will turn up again soon whereby we can make use of these services.

With respect to the 2700 gallons of product, we understand that you are making a riffle to dispose of this with your friend George Latimer and as per our conversation about it when we were together on the coast last week.

R. M. Morriss, Jr.

RMM:jm

SEATTLE
TACOMA
PORTLAND
STOCKTON
RICHMOND
SAN PEDRO
LOS ANGELES

PHONE ATWATER 2-0420
CABLE ADDRESS: TIMOIL

TIME OIL COMPANY

2737 COMMODORE WAY, P. O. BOX 4007, MAGNOLIA STATION, SEATTLE, WASH. 98199

November 15, 196"

Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 66310

Attention: H. G. Morissette

Dear Herb:

I thought you would enjoy the enclosed snapshots of our canning operation.

It was a pleasure working with you and I hope that we can put some more deals like this together in the future.

Have you made any decision yet on what to do with the 2700 odd gallons we have remaining on hand?

Very truly yours,

TIME OIL CO.

J. W. Barnet
Traffic & Operations

JWB:mlm

Enclosures

BZTO104(e)010383

Time Oil Co. File

WOOD TREATING CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

11-14-67

c.c. R.M.Morris
G.F.Grafton
J.M.Montgomery
H.E.Morissette

Time Oil Co.
St. Johns Station
P.O. Box 03117
Portland, Oregon

Gentlemen:

We have received and analyzed your Sample WI-002-T From Comp. Tank 20001-20002. Results are as follows:

Penta Content (wt. %)	5.02
API @ 60° F.	39.5
Lbs./gal. @60° F.	6.93
Lbs./gal. @100°F.	

Adjustment: No adjustment.

Very truly yours,

WOOD TREATING CHEMICALS CO.

G. B. Mills, Manager
Technical Department

GBM:mt

BZTO104(e)010384

THIS COPY FOR R. M. Morriss, Jr.
H. E. Morissette

Jim
Time Oil Co
Contract
file

October 19, 1967

Time Oil Company
Box 03117, St. John's Station
Portland, Oregon 97203

Gentlemen:

We have received and analyzed your Sample October 9, 1967 sample WI-001-T, composite samples tanks 20001 and 20002. Results are as follows:

Penta Content (wt. %)	5.29
API @ 60° F.	40.1
Lbs./gal. @60° F.	6.87
Lbs./gal. @100°F.	

Adjustment: Add 5 gallons mineral spirits to each 100 gallons solution and mixwwell. This will reduce your concentration to 5.05% penta.

Very truly yours,

WOOD TREATING CHEMICALS CO.

G. B. Mills, Manager
Technical Department

GBM:mt

BZTO104(e)010385

Save
In Soil File

cc: R. M. Morriss, Jr. ✓
R. A. Miller

October 2, 1967

Mr. Neal Gallagher
Time Oil Company
P.O. Box 03117
St. John's Station
Portland, Oregon 97203

Dear Neal:

Just a note to confirm our telephone conversation today concerning future purchases of solvent from Atlantic-Richfield Company in Portland. As mentioned, they have increased our cost on Select #1 and this will mean that in the future we will order only the MS WR for use in both the Presstreat Ready-to-use and the Woodtox 140. Our costs on MS WR are low enough to justify this change and the quality differences are just not that great.

Your idea of making up a total of 40,000 gallon quantities of material and taking one sample between the two tanks and running just one analysis on the total batch is an excellent thought, and whenever possible you should try to do this. You can use your own judgment on batch numbers, etc., unless Dick Miller (who is getting a copy of this memo) has any further comments on the subject. However, we would want to be sure that the batch number on the Woodtox 140 would not be the same as the batch number on Presstreat Ready-to-use.

Again, Neal, thanks for all of your help. Best personal regards.

Sincerely,

H. E. Morissette
District Sales Manager

HEM/lr
(Dictated 9/25/67)

BZTO104(e)010386

Wood Treating

FROM (LOCATION) DOWNS

DATE September 22, 1967

SUBJECT Time Oil Company
Seattle, Washington

REFERENCE :

TO : R. M. Morriss, Jr.

cc: C. F. Grafton

This will confirm our recent telephone talk concerning the joint venture agreement between subject firm and ourselves to cover the General Service contract for wood preservative. As mentioned, in the state of Washington rather than have an Individual Corporation Income Tax they have what they call a Business And Occupation Tax. Time Oil Company must pay $0.0044 for every dollar of material they sell or exchange in any fashion. There is no way that they can avoid this tax even though the sale is to the government. The reason for the joint venture agreement which I am again attaching to this memo is that if we are in a joint venture it would not be necessary for us to sell the wood preservative to Time Oil for $72,930.00. This, in fact, would save approximately $320.76 on the sale of this material.

If you have any other questions concerning this, Rube, I would like you to call Mr. Jim Barnet at Time Oil Company's plant in Seattle. I recommend that if it isn't too difficult that we proceed and sign the joint venture agreement. Thank you.

H. E. Morissette

HEM:lf

Enc.

THIS AGREEMENT made and entered into this 1st day of June, 1967 by and between TIME OIL CO., a Washington corporation, hereinafter called "First Party," and WOOD TREATING CHEMICALS, a corporation, hereinafter called "Second Party,"

WITNESSETH:

Whereas, First Party has submitted a bid to the USA, under their Solicitation No. AU-2-3894 for the blending and furnishing of certain wood treating chemicals on behalf of both parties hereto, and,

Whereas, it is the intention of the parties hereto to outline their duties and obligations for the performance under the contract to be entered into in the event the award of the contract is made to First Party pursuant to the bid submitted.

Now, therefore, in consideration of the covenants hereinafter outlined to be performed by each party, it is hereby mutually agreed as follows:

1. Second Party shall furnish all materials required for performance under the contract above referred to including the following:

a. All materials and chemicals needed for blending the wood treating materials to the government's specifications.

b. Necessary instructions for the proper blending of the materials.

2. First Party shall furnish metal containers together with caps and seals as specified in the contract.

3. First Party shall receive the materials furnished by Second Party into its storage, blend them according to specifications furnished by Second Party and deliver them to Pier Seattle, Washington as required under the contract.

4. From the proceeds under the contract, $72,930.00 shall be received for the account of Second Party for its part of the performance under the contract and $61,189.38 shall be retained by First Party for its performance under the contract as specified above.

5. Second Party shall furnish all materials to First Party's plant at 2737 West Commodore Way, Seattle, Washington within _____ days after the award of the contract, it being understood that time is of the essence under the contract and that timely performance is required thereunder.

6. Each party hereto has read the requirements as stated in the advertisement for bids and is aware of their responsibilities thereunder.

7. The usual conditions of force majeur will apply.

TIME OIL CO.

By_____

WOOD TREATING CHEMICALS

By _____

THIS AGREEMENT made and entered into this 1st day of June, 1967 by and between TIME OIL CO., a Washington corporation, hereinafter called "First Party," and WOOD TREATING CHEMICALS, a corporation, hereinafter called "Second Party,"

WITNESSETH:

Whereas, First Party has submitted a bid to the USA, under their Solicitation No. AU-2-3894 for the blending and furnishing of certain wood treating chemicals on behalf of both parties hereto, and,

Whereas, it is the intention of the parties hereto to outline their duties and obligations for the performance under the contract to be entered into in the event the award of the contract is made to First Party pursuant to the bid submitted.

Now, therefore, in consideration of the covenants hereinafter outlined to be performed by each party, it is hereby mutually agreed as follows:

1. Second Party shall furnish all materials required for performance under the contract above referred to including the following:

a. All materials and chemicals needed for blending the wood treating materials to the government's specifications.

b. Necessary instructions for the proper blending of the materials.

2. First Party shall furnish metal containers together with caps and seals as specified in the contract.

3. First Party shall receive the materials furnished by Second Party into its storage, blend them according to specifications furnished by Second Party and deliver them to Pier Seattle, Washington as required under the contract.

4. From the proceeds under the contract, $72,930.00 shall be received for the account of Second Party for its part of the performance under the contract and $61,189.38 shall be retained by First Party for its performance under the contract as specified above.

5. Second Party shall furnish all materials to First Party's plant at 2737 West Commodore Way, Seattle, Washington within _____ days after the award of the contract, it being understood that time is of the essence under the contract and that timely performance is required thereunder.

6. Each party hereto has read the requirements as stated in the advertisement for bids and is aware of their responsibilities thereunder.

7. The usual conditions of force majeur will apply.

TIME OIL CO.

By _____

WOOD TREATING CHEMICALS

By _____

BZTO104(e)010389

THIS AGREEMENT made and entered into this 1st day of June, 1967 by and between TIME OIL CO., a Washington corporation, hereinafter called "First Party," and WOOD TREATING CHEMICALS, a corporation, hereinafter called "Second Party,"

WITNESSETH:

Whereas, First Party has submitted a bid to the USA, under their Solicitation No. AU-2-3894 for the blending and furnishing of certain wood treating chemicals on behalf of both parties hereto, and,

Whereas, it is the intention of the parties hereto to outline their duties and obligations for the performance under the contract to be entered into in the event the award of the contract is made to First Party pursuant to the bid submitted.

Now, therefore, in consideration of the covenants hereinafter outlined to be performed by each party, it is hereby mutually agreed as follows:

1. Second Party shall furnish all materials required for performance under the contract above referred to including the following:

a. All materials and chemicals needed for blending the wood treating materials to the government's specifications.

b. Necessary instructions for the proper blending of the materials.

2. First Party shall furnish metal containers together with caps and seals as specified in the contract.

3. First Party shall receive the materials furnished by Second Party into its storage, blend them according to specifications furnished by Second Party and deliver them to Pier Seattle, Washington as required under the contract.

4. From the proceeds under the contract, $72,930.00 shall be received for the account of Second Party for its part of the performance under the contract and $61,189.38 shall be retained by First Party for its performance under the contract as specified above.

5. Second Party shall furnish all materials to First Party's plant at 2737 West Commodore Way, Seattle, Washington within _____ days after the award of the contract, it being understood that time is of the essence under the contract and that timely performance is required thereunder.

6. Each party hereto has read the requirements as stated in the advertisement for bids and is aware of their responsibilities thereunder.

7. The usual conditions of force majeur will apply.

TIME OIL CO.

By_____

WOOD TREATING CHEMICALS

By _____

BZTO104(e)010390

B. C. Downs

October 9, 1967

Time Oil Company
Seattle, Washington

H. E. Morissette

Bill Downs probably told you last week that we have run by both the Monsanto legal and accounting departments this proposed joint venture agreement with Time Oil, and for the second or thirdtime.

The decision is to split the extra $320.76 or we will give them the $320.76 as a credit memo.

R. M. Morriss, Jr.

RMM:jm

(7)

Jack Brey

he has spent time knocking down facades where avoidance of taxes was purpose.

No good — to transparent.

Can of worms would be opened and simply not worth it.

Especially for only $320

We become jointly liable if the oil truck hits someone.

FROM (LOCATION)

DATE September 26, 1967

SUBJECT JOINT VENTURE AGREEMENT - TIME OIL

REFERENCE

TO Russell Bley

cc: R. M. Morriss, Jr.

Russ, we have recently worked with Time Oil Company to secure for them a government contract for wood preservatives in five gallon cans. Our interest in the venture was that we then became suppliers to Time Oil and sold them $73,000 of raw material.

Time Oil wants us to sign a joint venture agreement so they can avoid a Washington State business tax. We have avoided and side-stepped the issue thus far, but are again being pushed for a signature.

We are currently not paying business taxes to the state of Washington, and I want to avoid doing so. I further fear that if Time Oil got out of paying tax on $73,000, Wood Treating would end-up doing so.

Rube has asked that I run the attached past you; and we would appreciate receiving your opinion as soon as soon as practical. This particular sale of raw materials is delivered and invoiced. But we have other mutually beneficial ventures with Time Oil and we do not want to endanger a good business relationship.

I am enclosing a copy of the joint-venture agreement along with a cover memo from H. E. Morissette, our District Sales Manager in Portland, Oregon.

B. C. Downs

From the desk of
B. C. DOWNS

Jane:

Returned to
RMM, Jr. files.

Bill

BZTO104(e)010394

cc: R. M. Morriss, Jr.
C. F. Grafton
George Mills

September 18, 1967

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117 St. John's Station
Portland, Oregon 97203

Dear Neil:

We are trying to set up a testing system on water repellent solutions going out of our Portland plant and it will be necessary for us to make some blending and handling changes in order to make this thing workable. Some of our customers have asked us to give them certification that the material we are producing conforms to one or two government specifications. This requires extensive lab tests and becomes quite costly on a single truckload delivery basis. As you know we have been using the more volatile solvent for producing 140 and the MSWR for producing Presstreat and keeping the two products separate.

In the future we would appreciate it if you would alternate truckloads of select weed killer and MSWR making up the ready-to-use by blending these two solvents. If it is possible, Neil, we would like you to make up one tank at a time and this would mean that you would blend 20,000 gallons of ready-to-use. You would take a composite sample and submit this to St. Louis for analysis and while the analytical work is being done you will draw both the Presstreat ready-to-use and the Woodtox 140 from the other tank until the inventory is depleted. When this has been done you will make up another 20,000 gallons and analyze in the same fashion and draw both the Presstreat and the 140 from the tank where the test results have been conducted.

If we can handle it in this manner it means that we can run an analysis of every 20,000 gallon mix rather than just on every 7,000 gallon truckload and it will save us at least one-third of the lab work. Please let us know if you have any difficulty arranging this, Neil, or if you have any additional question, and thank you very much for the excellent job you have done for us in the past. Best personal regards.

Sincerely yours,

HEM:lf
Transcribed in

H. E. Morissette

BZTO104(e)010395

→ Rummy

(2)

PHONE AVENUE 6-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME
ETHYL
GASOLINE

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX ~~2957~~, ST. JOHNS STATION, PORTLAND, OREGON ~~97203~~ 97203
03117

August 15, 1967

Mr. R. M. Morriss, Jr.
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Mr. Morriss:

I am forwarding you three samples of Woodtox 140 which have been taken at different levels from our storage tank. One has been taken from the top, one from the middle and one from the bottom.

We mixed a 7,000 gallon batch yesterday and filled our tank to capacity, circulating the tank for four hours from top to bottom. In a conversation with Herb Morissette today, we want to try and determine if this period of circulating the tank is sufficient to properly mix the product so that the penta content is the same at all levels of the tank. If you will have the samples checked and advise us as to the percent of penta in each sample, we can decide if we should circulate the product for a longer length of time after a blend.

If the product checks out with the same percentage of penta at each level, perhaps you will want us to adjust our formula slightly to bring the penta more in line to the desired amount.

Let me know how the samples check and we will govern ourselves accordingly as to the length of time to circulate each blend.

Yours very truly,

Newton P. Lesh

Newton P. Lesh

NPL/s
cc HEMorissette

August 23, 1967

Mr. Newton P. Lesh
Time Oil Company
P. O. Box 03117
Portland, Oregon

Dear Mr. Lesh:

Thank you for your letter of August 15th, and our laboratory has been alerted to process the three samples of Woodtox 140 from your blending plant as soon as they have been received.

George Mills has been asked to send the results of the analyses to you and to Herb as soon as the testing has been completed.

Yours very truly,

R. M. Morriss, Jr.

RMM:jm
cc-Mr. H. E. Morissette
Mr. G. B. Mills

BZTO104(e)010397

July 11, 1967

GSA bid for 55,250 5-gal. pails of Wood Preservative going to Viet Nam

George Mills
J. M. Montgomery
R. M. Morriss ✓
Dick Miller
C. F. Grafton
H. Struessel

J. W. Barnet
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Mr. Newton Lesh
Time Oil Company
P. O. Box 03
117 St. John's Terminal
Portland, Oregon 97203

It's about time we clued everyone in on the actual handling problems we are faced with in filling the GSA order for 55,250 5-gal. pails of wood preservative that are to be shipped to Viet Nam. This material will be made up at the Time Oil Company's storage facility in Seattle in their 270-plus gallon storage vessel. It will be manufactured in one mix using a 10,000 or 11,000 gallon bulk storage tank which they have on hand.

Atlantic Richfield will supply us with 242,479 gallons of MSWR from their Portland storage plant. Any correspondence concerning the movement of this material should be directed to Mr. Bob Halforson of Atlantic Richfield at 9930 Northwest St. Helens Road, Portland, Oregon 97231, telephone 503-224-6640. The Atlantic Richfield plant is located on the SP & S railroad.

The Time Oil Company plant where we will mix the RTU wood preservative is located at 2737 West Commodore Way, Seattle, Washington 98199. All correspondence concerning this business should be directed to Mr. Jim Barnet. The Time Oil Company plant is located on the Great Northern railroad. It should be noted that Jim Barnet is going on vacation on July 17th and all important handling problems should be resolved before then.

gal.

Arrangements have been made to lease five 20,000/balloon tank cars for moving the liquid chemical components to Seattle. These were rented from Transco Incorporated, Russ Bldg., 235 Montgomery St., San Francisco, California. Their telephone number is 415-433-3714. All correspondence should be addressed to Mr. Lynn Mohr.

The five car numbers are as follows: TGOX 2011 and TGOX2050 were shipped freight paid from Los Angeles on July 2nd via Southern Pacific and SP & S consigned to the Atlantic Richfield plant in Portland. Car number TGOX 2014 is being shipped from Los Angeles by the same routing on July 3rd. Cars numbers TGOX 2035 and TGOX 2036 are being shipped from Texas containing co-solvent B-6. One of these cars will be stopped in Portland en route for partial unloading, all but 6,967 gallons of the B-6 should be taken into our B-6 storage in Portland. The balance will go

BZTO104(e)010398

on to the Time Oil plant in Seattle after unloading. It should be noted, however, that we will require a total of 26,976 gallons of B-6 to make the complete mix so we must be careful to leave enough product in the part car to complete this order. We should definitely establish how much material is contained in the first car before we complete unloading the part car in Portland.

After both of these cars have been unloaded at the final destination of Time Oil Company's plant in Seattle they should be promptly transferred to the Atlantic Richfield Oil Company's plant in Portland where they will immediately be put into service transferring mineral spirits from Portland to Seattle. The scheduling of these cars will be as follows: each shipment will contain a full 20,000 gallons of MSWR. Car No. 2011 and 2050 will leave Portland on July6th with their first deliveries for Seattle. They will depart from Portland again on July 10th with their next delivery for Seattle and again on July 15th and July 20th. Car No. 2014 will leave Portland on July 7th, July 11th, July 16th, July 21st. Car 35 or 36 will leave Portland with its first mineral spirits delivery on July 16th and if necessary will leave again on July 21st along with car 36.

Actually, unless something goes drastically wrong we should have completed our last delivery before the 23rd of July. The Great Northern railroad has guaranteed us a five day turn-around on all of these cars and they think it is quite possible that we will get a good number of shipments in four days. This will make our delivery date all the better. When we have finished using all of these cars we should immediately advise Mr. Mohr of Transco by wire that we are finished and then wait his instructions on what we should do to transfer them out of our service.

All tank car movements will be routed Great Northern railroad freight prepaid and charged to Wood Treating Chemicals Co. at 5137 Southwest Avenue, Saint Louis, Missouri. The $0.18 rail freight rate will apply on mineral spirits. All bills of lading should be clearly marked in large red letters "URGENT - PLEASE EXPEDITE, GOVERNMENT PRIORITY K-1."

Our Seattle contact at the Great Northern Railroad is Mr. Lee A. Richardson, Sales Manager, 201 Great Northern Bldg., Seattle, Washington 98101, telephone number MA 4-1900.

Portland contacts are Mr. Owen Wiffine or Mr. Mort Bonney. These folks are located at 1114 Executive Bldg., Portland, Oregon, telephone number 503-223-1146. All of the people involved here are completely aware of the importance of promptly handling these cars to and from Seattle and they have agreed to help us.

On June 28th we shipped 2,142 bags of Penta in a rail car to Time Oil Company in Seattle. The routing was TRRA-MP-DRGW-WP-GN. The car number is MP 87959. This was shipped from Sauget, Illinois and the 50-lb. bags are palletized in the car. The empty pallets should be saved and held for returning to Wood Treating Chemicals Co.

The formula that we will use for making the concentrated solution of wood preservative will be as follows:

Product	Pounds	Gallons
Penta	105,596	6,795
B-6	203,129	26,976
Mineral Spirits	532,200	80,000
	840,925	113,771

After we have mixed all of the above products together we will add to this 162,479 gallons of mineral spirits. This will make a total of 276,250 gallons of RTU wood preservatives.

The mixing instructions are as follows:

(1) Transfer 8,650 gallons of B-6 into our 10,000 gallon kettle and heat to 185 deg.

(2) Add 35,200 pounds of Penta (estimated 2,262 gallons) to the screened basket and circulate the hot B-6 until all of the Penta is dissolved in the solvent.

(3) When this has been done transfer into the mineral spirits storage tank and circulate from top to bottom.

(4) Duplicate this mixing procedure until you have completed dissolving 105,596 pounds of Penta in 26,976 gallons of B-6.

(5) Continue to mix new solvent coming from Portland on top of the Penta B-6 mixture in the storage tank until you make up a total of 276,250 gallons of RTU.

(6) Circulate and draw composite samples and submit them to Federal Test Panel Service at 6002 12th Ave. South, Seattle, Washington, telephone PA 3-3590 attention Mr. Pat Raney. (NOTE: You should double check this address as I understand he is considering moving his lab and office). He will give you an indication of how thoroughly the solution has been mixed. You should continue to circulate from top to bottom, thoroughly mixing the material until he gives you a report that the material is on specification. Then a true composite sample should be taken and a complete analysis should be run.

We will keep you posted on any changes in this procedure or developments as they occur and we hope you will let us know promptly if you require any additional information or help.

H. E. Morissette

HEM:lf

BZTO104(e)010400

Treating

(LOCATION)

cc: C. F. Grafton
J. M. Montgomery
H. E. Morissette

DATE : March 28, 1967

SUBJECT : Time Oil Company
Portland, Oregon

REFERENCE :

TO :

R. M. Morriss, Jr.

Contact Neal Gallagher of Time Oil Company, P. O. Box 03117 St. John's Station, Portland, Oregon, 97203, telephone area code 503-286-1611, concerning all paper work and receiving reports, etc.

On the subject of the open account list, at the start I think it would be wise to use the memo that I mailed you, giving you the competitive situation in the western market as your list. You will notice I made suggestions on the credit on this report. It would, however, be a good idea for you to have our credit department go over the earlier list that I sent to you.

On the subject of the return of 320-A Concentrate from the Great Western Chemicals plants, by now you have received my note advising that the 17 drums that Great Western Chemicals of Portland have to return are 320-A and I have arranged to have these shipped over to Time Oil Company, freight for the Great Western Chemicals account.

On the 63 drums that will be moved from Seattle, Great Western Chemicals will prepay the freight on this and we have made arrangements to move 50 of the drums on Saturday, the 25th of March. These will be coming down freight prepaid, the balance of 13 drums will be moved at Great Western Chemicals convenience.

On the subject of freight, on solvents and product leaving our plant, I will instruct the trucking companies that we intend to deal with to bill St. Louis direct for this service. At the start I would like to use the services of Widing Transportation Company, Inc., 10145 North Portland Rd., Portland, Oregon, 97203. Their telep hone number is area code 503-286-3666. The man to contact there is Mr. Ed. L. Kindall or Mr. Bob Redfern.

In order to make this first mix today it will be necessary for us to borrow some penta from American Timber & Trading Company. I will advise Dick Miller how this is handled as soon as the arrangements are complete.

HEM:lf

H. E. Morissette

BZTO104(e)010401

~~Bill Downs~~ Dick Miller

March 27, 1967

Time Oil Company
Newton Lesh

R. M. Morriss, Jr.

Newton Lesh of Time Oil Company called us and advised that he had been charged for two days' demurrage on the tank car of special solvent that was shipped to us in Portland from Eastman Chemical Company.

Newton advised that the reason this car was not shipped out promptly to avoid the demurrage was because he did not receive instructions from you in time. He wants to know how you would like us to process this claim.

Newton also wondered if you would send him along a supply of stock report forms and standard receiving ticket forms for his use.

HEM:lf

Herb Morissette

R. M. M., Jr.

3/28 H.P.S. given name of Lesh, will send supply of loadings and an open order list.

R.A.M. has had stock reports printed and our standard receiving tickets are/is a carbon of purchase order, which will be sent routinely as material is ordered for Portland.

Bill

BZTO104(e)010402

PHYSICAL INVENTORY

Wood Treating Chemicals Co.

LOCATION: Time Oil Company, Inc.

MONTH ENDING: / /

Product	No. Bags	No. Drums	No. Slabs	Inches	Gallons
Penta					
WR-320-A Concentrate					
Paraffin Wax					
Mineral Spirits					
Woodtox Pre Prime R.T.U.					

Please prepare on the last day of the month and mail one copy to:

Mr. R. A. Miller
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri, 63110

Thank you.

March 22, 1967

Mr. Newton P. Lesh
Time Oil Company
P. O. Box 03117
Saint John's Station
Portland, Oregon 97203

Dear Mr. Lesh:

This will acknowledge your letter of March 3rd with regard to the pending storage and blending agreement between our companies, and this has now been handled with the Monsanto law department.

With some minor changes, or corrections, it would appear that we are now to the point of preparing the final draft for execution and which we presume your people will handle. The original and copy that was sent to us with your letter of March 3rd is enclosed. Re-typing of the entire document is certainly not indicated to cover the following:

1. Time has omitted the definition of gallons in paragraph 9(d) of the Monsanto draft of the agreement. I see no objection to calculating the amount of Products shipped or delivered in other convenient units, but I would suggest that you check to see what measurement procedure Time is contemplating.

2. In paragraph 13(a) of the Time draft of the agreement, in line 2 "lieable" should be "liable" and in line 12 "delivery" should be"deliver".

3. In paragraph 16(a) Time has stated the term of the agreement to be March 1, 1967 to February 29, 1972. Of course, there is no objection to this term. The change made by Time to paragraph 16(b) appears to be appropriate since some of the improvements to the Facilities will be made prior to the date of the agreement and the Monsanto draft provided for reimbursement only for improvements made subsequent to the date of the agreement.

4. In line 2 of paragraph 17 of the Time draft "State of Federal" should read "State or Federal".

With respect to the starting date, it was supposed to be when the facility was ready; but for accounting purposes it might be more convenient to date it April 1, 1967, and the few extra days of income in March 1967 would be picked up in March 1972. Whatever date you decide will be satisfactory in March, or April 1, 1967 for the final draft.

Enclosed is a copy of the Monsanto Warehousing and Terminaling Unified Procedure. In general this is to apply, although we will cover by separate letter or correspondence the Wood Treating Chemicals Co. forms, etc., that we actually use which are different from those of the parent company.

Yours very truly,

R. M. Morriss, Jr.

RMM:jm
Enc.

PHONE AVENUE 6-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME
ETHYL
GASOLINE

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION, PORTLAND, OREGON 97203

March 3, 1967

See (d) P 8 Mons.
not in Time oil version
March 17

Mr. R. M. Morriss, Jr.
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Mr. Morriss:

Enclosed are four executed copies of the Agreement for storing and blending your products. The enclosed Agreement has been changed very little from the one you sent us recently which was prepared by your people.

Paragraph 9b has had a clause added at the end which reads "or 3/4 of 1% of maximum amount of products stored in any one month, whichever is the greater". Our people feel that this is necessary and it conforms with our Standard Form Agreement previously submitted to you.

Check this

Paragraph 16b has been rewritten and I believe is the understanding of all concerned in the event you cancel this Agreement at any time during the first five years.

We have not seen a copy of the booklet "Monsanto Warehousing and Terminaling Unified Procedures". We have agreed in the Agreement to follow the procedures outlined in the booklet, but will want to read the booklet before final acceptance of this Agreement. We do not anticipate any problem with the procedures as long as they are not contradictory to this Agreement.

The Schedule attached to the Agreement covers 3 tanks with a capacity of 20,570 gallons each, one tank with a capacity of 13,000 gallons, one blending tank with a capacity of approximately 1,500 gallons and equiped with 6 electric heating elements, warehouse space for approximately 100,000 pounds of additives in drums and bags. The charges for this we have reduced to $440.00 per month, which we believe is fair for this number of tanks and the amount of warehouse furnished. It was our understanding in our last conversation with Mr. Morissette that this is the number of tanks you desired and the amount of warehouse space needed.

We have the above tanks all set up and ready to go. The electrical work will be completed Monday and painting of the tanks will be completed in a few days, weather permitting. We received the tank car of Solvent B-6 on February 28, 1967 and discharged it into one of the 20,000 gallon tanks.

Two of the 20,000 gallon tanks have been piped so that the product can be circulated from the bottom of the tank to the top of the tank; products can be transfered from any one tank to another; and up turned elbows are in the bottoms of all the

tanks so that the product is not drawn directly from the bottom of the tank, excepting the blending tank which has a bottom draw so that the tank can be drained completely. There are bottom draws on all of the tanks so that any sludge or tank bottoms can be drained completely.

Mr. Morissette has been out of town since we have been putting the tanks together, but I expect to see him the first of the week so that he can inspect the tanks. We will be ready to start blending products for you at any time.

The dollar value to be inserted in paragraph 16b will be confirmed to you by letter when all the costs are completed.

Yours very truly,

TIME OIL CO.

By Newton P. Iesh

Newton P. Iesh

NPL/lp

B. C. Downs
R. A. Miller
Harold Struessel
C. F. Grafton

March 15, 1967

Time Oil Company
Portland, Oregon

H. E. Morissette

Attached is a copy of the Downs' memo to me of March 8th which is self explanatory, and this is to be the paper work routine that is to be established.

Please give us by return mail the name of the person to contact at Time Oil who handles the paper work, shipments, etc. It makes sense that the one who takes care of this should contact Dick Miller directly whenever he needs solvent, additives, etc., and for confirming purchase orders and/or shipment from our sources. Your primary assignment is sales, and do not try to interject yourself into the chain of command on the procurement of solvents, etc.

We do note that there is nothing there in the Downs' memo about an open account list, and I believe you were going to send us such a list, or do you want us to just start with the market survey list which you prepared right after the first of the year? Please let us know about that by return mail.

Dick Miller has taken care of ordering penta from Seattle and the paraffin wax from Oakland. We are depending upon you to arrange immediately with Great Western at Seattle for the dispatch of the 63 drums they have remaining in inventory of our Woodtex concentrate. Presumably we will issue full credit at the same price we billed Great Western. The freight from Seattle to Portland will be for our account, of course.

Another loose end to be resolved is the freight angle, and where we make shipments prepaid from Portland or from the Time Oil Company plant. Probably the most satisfactory handling and as we have going at Oakland would be an arrangment whereby Wood Treating would be billed directly for such freight charges on outbound and inbound materials.

R. M. Morriss, Jr.

Enc.

BZTO104(e)010408

Wood Treating

Time Oil G

FROM (LOCATION)

DATE: March 8, 1967

SUBJECT: TIME OIL

REFERENCE:

TO: R. M. Morriss, Jr.

CC:
J. E. Millen
R. A. Miller
H. P. Struessel

(3)

When the time comes to make specific arrangements with Time Oil for doing our northwest coast blending and shipping, we will want three things from them data-wise.

1. We will supply them with a group of sequentually numbered Bills of Ladings. Time Oil is to use our ladings and is to mail completed ladings on a day of shipment basis. Before we are ready to start shipping please give Harold the name of whomever is handling our account at Portland and he will send ladings and instructions.

2. Dick Miller will do all of the ordering and material stocking for our account at the Time Oil location. Most materials will be stocked on the basis of inventory reports and shipment ladings; but if items become short and are needed, Time is to call Dick Miller and he will see that stocks are replenished.

3. As of the end of each month Time is to send an inventory report of our materials and finished product on hand. It is very important that they do this. The inventory report will be used to verify shipments and substantiate blending charges.

This is the way we account for Androc costs and materials and everything goes quite smoothly. The important thing is to see to it that we get the name and acquaintance of a responsible person on location at Time's Portland terminal whom we can contact directly.

Bill

B. C. Downs

1. FOLD AT MARK FOR WINDOW ENVELOPE. 2. FORWARD WHITE AND YELLOW. 3. YELLOW WILL BE RETURNED WITH REPLY.

PAPER PAT'D BY N. C. R. CO. SPEEDISET ® MOORE BUSINESS FORMS INC. 24

(3)

Monsanto

RAPID-GRAM

SUBJECT: Stock of [illegible]

MESSAGE

[illegible]

[illegible] R.T.U.

[illegible] 370 [illegible]

[illegible]

[illegible] R.T.U.

[illegible] Woodbine [illegible]

REPLY

[illegible]

1500 gals [illegible]

0 [illegible]

Time [illegible]

[illegible] to [illegible]

product [illegible]

it is [illegible]

to ship it [illegible]

TO DATE

SIGNATURE DATE

[illegible]

G-1140

BZTO104(e)010410

From the desk of

R. M. MORRISS, JR.

3/7/67

H.E. Morissette

10 - 12,000 GALLONS
RTU LEFT??

YOU WERE TO ADVISE
STOCKS AT WESTERN
OUR PRODUCTS
SEATTLE
PORTLAND
SPOKANE/K

BZTO104(e)0104

THIS COPY FOR → R. N. Morries, Jr.
C. F. Grafton
J. M. Montgomery
H. E. Morissette

March 2, 1967

Mr. Olin Keller
Great Western Chemical Company
6900 Fox Avenue, South
Seattle, Washington 98108

Dear Olin:

Sorry for the delay on the samples from your Woodtox tank, but here are our findings:

All four samples run very close in respect to pentachlorophenol content, total solids and specific gravity, so you apparently had a homogenous mix to begin with.

The penta content was on the low side as well as the solids exclusive of penta.

For correction of this material add 3 pounds of penta and 6 pounds of WR 320 to each 100 gallons of solution, using sufficient heat to dissolve them.

Sincerely,

G. B. Mills, Manager
Technical Department

GBM:mt

BZTO104(e)010412

R. A. Miller
C. F. Grafton
J. M. Montgomery
B. C. Downs

March 7, 1967

Time Oil Company
Portland, Oregon

H. E. Morissette

As per our telephone call of earlier today, you were to find out and advise us immediately when Time Oil will be ready to receive the truckload of 20,000 pounds of penta we will have shipped from Seattle, and the 2,000 pounds of paraffin wax from Oakland. We understand that you will arrange with Great Western at Seattle for shipment to Portland of the sixty 55 gallon drums of WR 320 concentrate, which G-W has in surplus inventory. In that connection, be sure that we have full and written instructions on the proper credit memo to issue to G-W, which will serve to reduce the amount of their indebtedness.

You were also instructed today to give us a listing of the firms that you want to ship to from Portland on an open account basis. It was suggested that you use the same list, the 5 page market survey prepared a month or so ago which lists all of the known customers in the territory, price being paid, etc., and approximate annual volume. Circle the names on that list of the ones that you want placed on open account, and if the credit is okay then we shall so instruct Time Oil Company. Credit will remain a function of the Saint Louis office in the same way that we are now handling the releases of penta at Seattle.

Depending upon the efficiency of the blending unit being set up at Time Oil, we will be able to get by using the paraffin wax slabs instead of the paraffin concentrate-mineral spirits that we originally contemplated shipping to Portland for this blending. We just happen to have 2,000 pounds in surplus at Oakland, and Mills thinks that the slabs can be used without too much difficulty. We understand that the blending unit will have a capacity of about 1,200 gallons or 8,400 pounds. Approximately 42 pounds or 44 eleven pound slabs of the wax will be required per charge. In cold weather the paraffin is reasonably brittle and easy to break up, but it is a little more complicated in hot weather.

We will send you the exact blending instructions on the Woodtox 140 within a few days, and just as soon as we have received here the samples of the Eastman solvent from the tank car delivered to Portland. Presumably, you already know how to make the Woodtox Pre-Prime or the 120A from the WR 320 concentrate with mineral spirits and penta.

BZTO104(e)010413

On the mineral spirits, we understand that your preference is to start with Richfield, assuming that you can make them go to the 14¢ per gallon price, f.o.b. their terminal at Portland. Advise what the delivered price at the Time Oil terminal will be, but presumably that will be in the neighborhood of 14.3¢ per gallon. A blanket purchase order will have to be issued to Richfield, or whoever will be our source for the solvent at the start. Please understand that you are not acting as an independent operator on these mineral spirits purchases, and all buying must be co-ordinated with Buck Miller. We have some leverage on mineral spirits purchases by reason of our own use at Saint Louis. Your primary job will be to get the sales up and the volume started through this blending plant. Once we get the RTU product rolling in volume, the next step will be to purchase the solvent in barges.

We are not ready at this stage of the game to even consider the manufacture and distribution of slurries from the Portland mixing plant - and get off of that subject and stay off of it. The first objective is to sell the minimum annual through-put of the RTU solution - 200,000 gallons. It is going to take some doing on your part and real sales effort. If Karl Zehrung could get out and sell it himself directly, you ought to be able to do it and without the help of Great Western except on the smaller quantities of less than truckload lots. I do not think that Karl is as good a salesman as you are, but you are going to have to prove your superiority which means really beating the bushes and getting acquainted with, and entertaining, these millwork account buyers.

A. M. Morrison, Jr.

[illegible]:jm

BZTO104(e)010414

file

WOOD TREATING CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

February 14, 1967

Mr. Newton P. Lesh
Time Oil Company
P. O. Box 03117
Portland, Oregon 97203

Dear Mr. Lesh:

As per my letter of January 30th, we referred to the Monsanto law and distribution departments your standard "Agreement" form covering your terminal services, etc., and the schedule attachment thereto covering the special blending services at Portland that we are in the process of working out between our companies.

With respect to your Agreement form, Mr. J. M. Bray of the Monsanto law department has drafted, as per duplicate copies enclosed, a new agreement to conform to Monsanto practice on such terminalling arrangements, etc. The memo from the distribution department, two copies of which are also enclosed, will possibly explain in all instances the reasons for the changes. Undoubtedly, you will now want to refer this to your legal counsel and let them advise you of what significant changes have been made between the two drafts and/or which of these changes are unacceptable and need to be further negotiated or resolved. A lot of the wording is, of course, just standard "boiler plate", but I do not believe you will find it too biased in our favor.

With respect to the "Schedule" attachment to the Agreement we have the following comments.

Storage Tanks

We note that the rate is to be $250 monthly if one of the 20,570 gallon tanks is provided, or $450 monthly if three of the 20,570 gallon tanks are provided. This is equivalent to $100 per month for each of the extra 20,570 gallon tanks. Our engineering department advised that the cost of a coiled, new 20,000 gallon

BZTO104(e)010415

Storage Tanks (continued)

vertical storage tank is about $2,400 in this area, or approximately $3,500 each piped up for receipt and car or truck shipment of blended product. On the basis of the rental proposal, Time Oil Company could offset the cost of a new tank installation in about three years, and used tanks are to be provided. The three 20,000 gallon tanks at $350 monthly would seem to be a more equitable rental.

Receiving Tanks

We instructed Herb Morissette to ask that you include with the storage tanks a receiving tank of at least 15,000 gallons capacity or sufficient to unload two tank trucks of solvent. The cost of blending one truck of product at a time would probably be excessive, and the standard procedure would be to blend at intervals and three or four truckloads at a time. One 20,000 gallon tank will be for storage of a raw material or additives, but two of the 20,000 gallon tanks would be used for blended product and from each of which about three trucks could be shipped. Once either of the finished product tanks were below one truckload or less, you could fill it, or both tanks, up again to 20,000 gallons each and that would mean scheduling in three or four truckloads of mineral spirits; hence the need for a solvent receiving tank to avoid truck demurrage. The question is the extra cost for this extra tank, and even though it would serve as a convenience for your people.

Charges

These seem to be in order except for the discrepancy of rental for just the two extra tanks. At the moment no blending of concentrate is contemplated; but if, and when, we want such service, that charge would have to be negotiated.

Term, Etc.

This is covered in the proposed Monsanto agreement, as well as reimbursement for the installation costs in the event that we cancel at an early date.

We are desirous of getting this settled as soon as possible, and to get started with the blending. I shall be out of town for the next two weeks, but Herb Morissette will know how to reach me at all times and if we are so far apart on any of these details that they might cause a hold up or delay.

Yours very truly,

R. M. Morriss, Jr.

Enc.
cc-Mr. H. E. Morissette

Monsanto

FROM (NAME & LOCATION) T. O. Menary, General Offices

DATE February 1, 1967

SUBJECT Portland, Oregon

REFERENCE

CC: R. H. Dunlop
W. C. Robinson - WROBI
J. M. Bray - JBRAY

TO : → R. M. Morriss - Wood Treating

Your proposed five-year contract with Time Oil Company may be a timely opportunity for us to develop a mutual interest. We are just beginning a study of the Portland area to solve some warehousing problems for the several divisions warehousing in the Portland area. Because of the Public Utilities Commission control of these activities, it seems likely that we will try to set up a private contract arrangement.

The basic question is whether we can adapt your proposed arrangement for additional Monsanto needs or whether we could offer an alternate to you. Naturally, we realize that you would only be interested in our proposal if it was as good or better than the Time contract. At first glance, it seems to us that the Time agreement is extremely biased in their favor. At this moment, however, I am not in the position to make a definitive proposal to you. How much time could you give us to prepare this proposal?

I hope this will be an opportunity for us to work together for mutual advantages.

T.O.M.

T. O. Menary

TOM/sas

Wood Treating

FROM (LOCATION)

cc: C. F. Grafton

DATE January 30, 1967

SUBJECT Time Oil Company
Portland, Oregon

REFERENCE

TO R. M. Morriss, Jr.

Attached is an original letter from Newton Lesh, dated January 26. You will note, Rube, that Newton has adjusted the agreement to meet your requirements in every way. He increased the minimum through-put to 300,000 gallons a year. This was a misunderstanding and I advised him that our purpose for even suggesting this increase was that we felt if we were to increase the minimum by this amount, or 100,000 gallons a year, that he might consider the possibility of putting additional tank storage in at no charge to us. This was not the case, but he increased the amount on contract nevertheless. I advised him that this would have to be changed back to 200,000 gallons and he said that would be fine, that it would be all right for you to do this on your agreement that you return. They will acknowledge receipt when this has been done.

You will also notice that he has inclosed two schedules; one which allows us to utilize two 20,000 gallon tanks, as well as the mixing kettles, etc., and also one that allows us to utilize three. You will note also that there is a flat charge of $100 per month for each of these additional tanks. He has made provisions for us to increase our minimum inventory to 100,000 pounds from 60,000 pounds as well.

Note in the last paragraph of each of the schedules that he has included a $0.05 per gallon mixing charge for blending concentrates from penta and slurries. This is a pretty reasonable charge should we decide to make concentrates in Portland.

You wanted clarification on the wage rate portion of the contract. Newton explained it this way. If your wages were to increase from $2.71 to $3.00 per hour the difference would be 29¢ or a 10.7% increase. Our portion under this agreement would be 75% of 10.7%, or .08025%. Based on our existing through-put rate of .005 x .08025 would equal an increase in our through-put rate of .00040125¢ per gallon. Newton assured us that we would not be bothered with any wage increase like this unless their wages increased in excess of 10%, but that the principles of the contract would have to apply if this occurred.

Incidentally, before any deal had been made a copy of a purchase order was mailed to Time Oil Company showing that 20,000 gallon tank car of Solvent B6 was being shipped on February 10 to Time Oil Company. We are very lucky that Newton Lesh is a fair and reasonable man or he could have made our negotiations a little difficult. Please let us know if you want any additional changes.

H. E. Morissette

PHONE AVENUE 6-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 2557, ST. JOHNS STATION, PORTLAND, OREGON 97203

03117

Mr. H. E. Morissette
District Sales Manager
Wood Treating Chemicals Co.
7320 S. W. 102nd Ave.
Beaverton, Oregon

Dear Herb:

Attached are two Schedules one of which is to be attached to our standard form Agreement that was submitted to you in late December, 1966. We have modified the Schedules to incorporate the changes discussed with you a few days ago. One Schedule covers furnishing you two 20,570 gallon tanks and the other furnishing you three 20,570 gallon tanks.

Regarding the other modifications we discussed, we have increased the minimum throughput to 300,000 gallons per year. Warehouse space has been increased for storage of 100,000 pounds of additives.

The term of the Agreement has been changed to one year and is self renewing unless cancelled on 60 days written notice by either party to the other. We feel that an option to renew will not be necessary because of the continuous type of this Agreement. Since this a continuous Agreement and probably would not be cancelled by the Operator unless it wished to renegotiate the charges, and I presume the Customer would not cancel unless the services were unsatisfactory or other arrangements were made for storing and handling your products, I believe it should be satisfactory to both parties.

Your request for a right to cancel in the event we cannot blend products as specified, we believe the paragraph in our Schedule will cover this satisfactorily.

We have cover the charge for blending the concentrates in our Schedule.

We have estimated our cash outlay for setting up the tanks, blending tank with electric heaters, pump and motor, electric wiring, installing doors in warehouse, piping, etc. to be approximately $4,800.00 if two tanks are installed and approximately $5,300.00 if three tanks are installed. We will keep accurate records of our costs be able to give you a breakdown on this figure to be inserted in the Schedule when completed.

BZTO104(e)010419

We would expect you to warrant to us through your examination of the tanks, pipelines and equipment and be fully aware of the limitations and conditions thereof and that said facilities are acceptable to you for rendering the services we have discussed. I do not believe it is necessary to outline this in great detail, but roughly it is as follows:

We will furnish two or three 20,570 gallon tanks free of dirt and foreign materials suitable for the storage of light petroleum products, one 1,400 gallon blending tank with electric heaters to heat and blend products at a temperature of not over 180° F., one pump and motor with necessary piping for blending, loading and unloading products, warehouse space for storing 100,000# of additives in drums and bags.

In order to meet the target date of March 1, 1967, I suggest that you notify us as soon as possible of your acceptance so that we can place orders for the necessary equipment we will need and proceed with the other work.

Yours very truly,

TIME OIL CO.

By Newton P. Lesh

NPL/s

BZTO104(e)010420

S C H E D U L E

TERMINAL:	TIME OIL CO., PORTLAND, OREGON.
DATE OF AGREEMENT:	FEBRUARY ____, 1967.
TERM OF AGREEMENT:	MARCH 1, 1967 to FEBRUARY 28, 1968.
COMMODITY TO BE STORED:	Mineral spirits and/or mineral spirits with additives.
STORAGE TANKS:	Two (2) tanks with a shell capacity of approximately 20,570 gallons each, one (1) blending tank of approximately 1,500 gallons equipped with six (6) electric heating elements, together with warehouse space for storing approximately 100,000 pounds of additives on pallets in drums and bags. Additives being pentachlorophenol in bags and Customer's additive #316 in drums.
STORAGE AND HANDLING:	Receive from tank cars/transport trucks into storage tanks. Deliver into transport trucks/tank cars. Receive additives from freight cars/trucks. Blending additives for mixing with mineral spirits at a temperature not to exceed 180° F. Blending additives in concentrate at a temperature not to exceed 180°F.
CHARGES:	$350.00 per month payable in advance on the first day of each month. Plus One-half cent (.005) per gallon on all liquid products, except additives in drums, received with 300,000 gallons minimum receipts guaranteed annually, and One-half cent (.005) per gallon on all liquid products, except additives blended in concentrate, shipped with 300,000 gallons minimum shipments guaranteed annually, and Five (.05) cents per gallon on all additives blended in concentrate. Additives in concentrate to be blended in approximately 1,200 gallon batches.

S C H E D U L E

TERMINAL:	TIME OIL CO., PORTLAND, OREGON.
DATE OF AGREEMENT:	FEBRUARY _____, 1967.
TERM OF AGREEMENT:	MARCH 1, 1967 to FEBRUARY 28, 1968.
COMMODITY TO BE STORED:	Mineral spirits and/or mineral spirits with additives.
STORAGE TANKS:	Three (3) tanks with a shell capacity of approximately 20,570 gallons each, one (1) blending tank of approximately 1,500 gallons equipped with six (6) electric heating elements, together with warehouse space for storing approximately 100,000 pounds of additives on pallets in drums and bags. Additives being pentachlorophenol in bags and Customer's additive #316 in drums.
STORAGE AND HANDLING:	Receive from tank cars/transport trucks into storage tanks. Deliver into transport trucks/tank cars. Receive additives from freight cars/trucks. Blending additives for mixing with mineral spirits at a temperature not to exceed 180°F. Blending additives in concentrate at a temperature not to exceed 180° F.
CHARGES:	$450.00 per month payable in advance on the first day of each month. Plus One-half cent (.005) per gallon on all liquid products, except additives in drums, received with 300,000 gallons minimum receipts guaranteed annually, and One-half cent (.005) per gallon on all liquid products, except additives blended in concentrate, shipped with 300,000 gallons minimum shipments guaranteed annually, and Five (.05) cents per gallon on all additives blended in concentrate. Additives in concentrate to be blended in approximately 1,200 gallon batches.

S C H E D U L E - continued

The term of this Agreement shall be for one year commencing on March 1, 1967 and ending on February 28, 1968, and shall continue in full force and effect from year to year thereof until cancelled by either party upon giving the other party sixty (60) days written notice of cancellation in advance of any yearly anniversary hereof of its intention to cancel.

The Operator herein has expended $_____ for certain equipment, construction and other costs to be used exclusively for blending, storing and handling Customer's products. Customer agrees that if this Agreement is cancelled by the Customer prior to February 28, 1972, the Customer will and agrees to pay to the Operator 20% of $_____ for each year less than five years that this Agreement has not been in effect.

Customer warrants that he has examined Operator's tanks, pipelines and equipment as stated on page 1 of this Agreement and deems said facilities acceptable and capable for rendering the services referred to herein. Customer will furnish Operator with written instructions on the proper blending of its products, and Operator guarantees to blend the material as specified in the written instructions attached hereto. Customer shall have the right to change the blending instructions at any time, providing Customer shall at all times consider the capabilities of the Operator's facilities for rendering the services.

Copy this page

BZTO104(e)010423

January 30, 1967

Mr. Newton P. Lesh
Time Oil Company
P. O. Box 03117
Saint John's Station
Portland, Oregon 97203

Dear Mr. Lesh:

As I will be out of the office until February 13th, please consider this letter as notice of our intention to proceed with the arrangements for blending and storage of certain of our products at your terminal in Portland, and as per the substance of the proposals that you have submitted to us on performance of these services.

Being a part of the large Monsanto organization, it will be necessary for us to consult with the legal department on the final form of the agreement, and we have this in progress but it will be a time consuming process before it is completed. Because it is something of a terminal, warehousing and blending contract, we have both terminal and warehouse legal specialists lending us assistance. Also, as you know, we have requested additional tankage and facilities which are still in the process of negotiation between you and our Mr. Morissette. We would like to get the work underway so that we can be operational by the end of February, or early March, on this blending. Presumably we will be able to finalize on the exact agreement later and back date the effective date to whenever the blending facility is ready.

It is understood that we will have the right to cancel the agreement at the end of any year and after giving due notice; but that a penalty would apply equal to the undepreciated cost of the installation, and you will not have that cost figure until the facility is completed. We are assuming that you will depreciate on a five year rate, excepting the tanks which are already on your books and which may take a different rate. The cost of moving and setting the tanks at the new location, piping, the blending unit and all of that would be for our account, or the undepreciated part thereof if we were to cancel prior to five years.

BZTO104(e)010424

We hope to get the agreement itself resolved the week of February 13th, but as we may be a while accomplishing that we trust you can anticipate this by getting the necessary materials on order and sending us a plan of the proposed installation which we will immediately check over and approve, if it appears that it will do the work that our Mr. Morissette has explained and discussed with you at length.

Yours very truly,

R. M. Morriss, Jr.

RMM:jm
cc-Mr. H. E. Morissette
(Dictated 1/27/67, and
transcribed in RMM's
absence)

BZTO104(e)010425

C. F. Grafton
B. C. Downs

January 20, 1967

Time Oil Company
Portland, Oregon

H. E. Morissette

Will you please advise Mr. Lesh that we are, in principle, accepting his proposal on the blending subject to adjustment or clarification of some of the details pertaining thereto and which are as follows:

1. It appears now that we will probably want an additional 20,000 gallon tank for storage of finished product. We probably should also have a storage tank for mineral spirits and for immediate unloading of solvent upon receipt of up to two tank truck or trailer loads. Presumably this would mean another or second extra tank of a capacity of about 15,000 gallons. What would the extra rental per month be for this added tankage and assuming the same thru put income annual figures, or would they provide the extra tankage for free if we guaranteed a 300,000 gallon annual thru put?

2. This proposal is based on their storing approximately 60,000 pounds of additive: 55 gallon drums of concentrates and pallets of the bagged penta. We would plan to start off with at least 40,000 pounds of penta and 100 drums of concentrate, which might be about 100,000 pounds. Also if we achieve the anticipated activity here we may hit peak inventory storage of 150,000 pounds, but the usage probably would not exceed 100,000 pounds.

3. They have set up the terms of the agreement as 5 years and we presume this is to amortize the cost of the blending installation. We have no great objection to the 5 year term, although we might prefer a 3 year term, but because of this part of the commitment it will have to be cleared with Monsanto and we have that underway. There will be two questions in that connection that we can anticipate: the inclusion of an option to renew for another 5 years, and our termination rights for cause if Time Oil does a poor job of the mixing or blending, etc. The rights to cancel for nonpayment, etc. are standard phraseology, but our rights under certain conditions are not spelled out. Perhaps this could be handled in a codicil letter to the agreement and still use their standard agreement form.

4. Our target date is now March 1st to get started. Presumably the agreement would start from the date the facility is ready for the blending, and this is so indicated in Mr. Lesh's cover letter.

5. We are also interested in this bulk storage on the mineral spirits which you reported on separately. That would depend on our being able to negotiate a favorable barge price on mineral spirits and how our volume goes or is shaping up on products shipped from this Portland blending plant. Miller seems to think we might get about 2¢ per gallon off, but you might try 3¢ per gallon on "your friend" Bronson, and while you are at it insist on a 375° F. end point to match LP3. If he will furnish that at 2¢ under schedule I think we can make a deal with him to take the 210,000 gallon tank. If the product volume really picks up we might have to take the larger tank because the minimum barge lot would probably be 200,000 gallons and the scheduling would have to be almost foolproof and exactly timed to get the second lot in just when the other has been used up. Anyway this bulk storage would have to be a separate negotiation agreement with Time Oil, and could they pipe or hook up the bulk storage tank 5006 or tank 9509 with the blending plant? If long lines are involved it might be cheaper for them to run it by their tank trucks to the blending plant solvent storage.

6. We need a clarification on the escalation clause which is the next to the last paragraph on page 2 of the agreement. Presumably this increase in their charges if the labor rates go up applies only to the thru put, which is referred to in the agreement as applying to transfer charges and as set forth in schedule S.

7. The final question on the blending agreement would be the suitability or cleanliness of the small storage tanks for our product storage. Their agreement form gives almost release therein in full to themselves for product contamination, but if the tanks were formerly used for heavy oil products they must be adequately cleaned prior to our usage. I understood Mr. Lesh to say that they were formerly used at the Portland Gas plant for storage of light coal tar solvents such as Benzol or Toluol. However, if they have been idle for years they may be badly rusted or otherwise fouled up inside.

I do want to get this wrapped up and started before I take off for vacation the end of next week, so get with Mr. Lesh as soon as possible to get the answers to the above. I am sending the Time Oil Company agreement over to the Monsanto legal department to see if there are any major objections to the form of this agreement, advising them that the final figures in the attached schedule are still being negotiated.

R. M. Morriss, Jr.

RMM/lr

TIME OIL CO.
Correspondence - 1968

XC: RMMJr
JMM
JEM

PHYSICAL INVENTORY

Wood Treating Chemicals Co.

LOCATION: Time Oil Company, Inc.

MONTH ENDING: 2 / 29 / 68

Product	No Bags	No. Drums	No. Slabs	Inches/Temp.	Net Gallons
Penta	392	———	41 Blocks 74,784 lbs.	———	———
WR-320-A Concentrate	———	10	———	———	———
Paraffin Wax	———	———	11,993 lbs.	———	———
Solvent B-6	———	———	———	8' 0¼" @ 63	11,290
Mineral Spirits	———	———	———	3' 8 5/8" @ 66	4,377
Woodtox Pre-Prime (120) R.T.U.	———	14	———		
PRESS TREAT				8' 8" @ 62	12,201
Woodtox 140 R.T.U.	———	———	———	7' 6¼" @ 66	10,569
UCON WC-144		16			

Please prepare on the last day of the month and mail one copy to:

Mr. R. A. Miller
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri, 63110

Thank you.

TIME OIL CO.
Correspondence - 1969

BZTO104(e)010430

BZTO104(e)010431

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

2

TIME OIL COMPANY

(2005 N. BURGARD), P. O. BOX 03117, ST JOHNS STATION, PORTLAND, OREGON 97203

October 26, 1970

SEP 21 1983

Mr. Lowell E. Gutzler
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Lowell:

Enclosed is an executed copy of the amended schedule to our Agreement dated August 1, 1970.

Sorry this was so long in getting back to you.

Regards.

Yours very truly,

Newton P Lesh

Newton P. Lesh

NPL/s
Encl.

RECEIVED
WOOD TREATING
ST. LOUIS
C. M.

Monsanto

FROM (NAME & LOCATION) G. E. Gibson - General Offices

DATE October 12, 1970

cc: Charmion Russell, CRUSS
R. C. E. Sprague, RSPRA

SUBJECT PENTA WAREHOUSE PROCEDURES

REFERENCE

TO : Messrs.
W. E. Ault
J. W. Kleffner
J. M. Montgomery
C. B. Sigler
R. F. Simmons, St. Louis Wood Treating
Harold Struessel, St. Louis Wood Treating

Attached is a draft of policies and procedures which I believe we agreed on in recent conversations. Please let me have any comment concerning points that might need further clarification or your concurrence in the statements.

Since this procedure is effective today - October 12th - please let me hear from you immediately.

GEORGE E. GIBSON

GEG/lm

ATT.

PENTA WAREHOUSING PROCEDURES

PURPOSE

To establish proper control of Penta consigned stocks provided for customers of Monsanto Company, its agent - Simonsen Chemical Company - and its subsidiary - Wood Treating Chemical Company.

POLICIES

All Penta stocks are the property of Monsanto Company, Organic Division.

Warehouses will release material only on authorization from Monsanto Company. Such authorization will come via Monsanto order entry or a list of customers permitted to pick up material without prior order entry.

Organic Division service center personnel will enter all customer orders. The St. Louis service center will handle all orders from Simonsen Chemical Company.

The Organic Division Order Department, St. Louis, will enter all Wood Treating Chemical Company orders and will handle order entry for all customer pick-ups without prior order entry.

RESPONSIBILITIES

Monsanto Cellu Chem regional managers are responsible for maintaining a list of customers permitted to pick up material at Penta stocking points without prior order entry. This list will include and identify customers of Simonsen Chemical Company who is Monsanto's agent.

Wood Treating Chemical Company is responsible for furnishing Monsanto with a list of their customers who are permitted to pick up material at Penta stocking points without prior order entry.

The Organic Division warehousing and transportation manager is responsible for performance of warehouses in protecting Monsanto's interest in the consigned stocks, its customer service and for following Monsanto's reporting procedures.

PROCEDURES

Warehouses

1. Handle all orders in accordance with established Monsanto procedures.

2. Refer to the list of customers authorized to pick up material without prior order entry when customers come in for this purpose. This list will be furnished by Monsanto's warehouse and transportation manager.

   Customers who are not on the authorized list may come in for pick-ups. Warehouse personnel will tell the driver they cannot release material without authorization from Monsanto and suggest that he should have his office contact their Monsanto sales representative.

3. Call designated Organic Division order department personnel each time an authorized customer comes in for pick-up without prior order entry.

   Obtain a shipper number to be inserted on the bill of lading and report customer name, order number, destination, product description and number and size containers being released.

BZTO104(e)010435

Send original bill of lading plus additional copies required by customer with the driver.

Forward one copy of the bill of lading to the Organic Division order department contact. Address it by name to insure delivery.

Wood Treating Chemical Company

1. Send a list of customers authorized to pick up material without prior order entry to the Organic Division order department contact and to the warehouse and transportation manager.
2. Place all orders including warehouse pick-ups and shipments with the Organic Division order department.
3. Receive notice via TELEX transmission of order copy which will serve as a notice of customer warehouse pick-ups.

These transmissions will have complete information for billing Wood Treating's customer.

Simonsen Chemical Company

Place all orders including those covering planned pick-ups with the St. Louis service center.

St. Louis Service Center

1. Enter all orders following established warehouse order entry procedures.
2. Enter immediately all advance orders covering customer pick-ups.

This is important for inventory control and to give the warehouse shipping papers on as many pick-ups as possible.

BZTO104(e)010436

If lead time is not sufficient to permit the warehouse to receive order copies through order entry channels prior to pick-up, an order should not be entered. Allow the warehouse to handle the pick-up without order entry to avoid possible confusion and duplication.

3. Order cancellations will be handled by requesting the warehouse to return order copies.

One copy of each canceled order will be so marked and sent to DATA CONTROL for cancellation of the order record in MIP files.

Division Order Department

1. Enter all orders following established warehouse order entry procedures.

2. Enter immediately all advance orders covering customer pick-ups.

This is important for inventory control and to give the warehouse shipping papers on as many pick-ups as possible.

If lead time is not sufficient to permit the warehouse to receive order copies through order entry channels prior to pick-up, an order should not be entered. Allow the warehouse to handle the pick-up without order entryto avoid possible confusion and duplication.

3. Order cancellations will be handled by requesting the warehouse to return order copies.

One copy of each canceled order will be so marked and sent to DATA CONTROL for cancellation of the order record

BZTO104(e)010437

in MIP files.

4. Enter order for all customer pick-ups.

Receive calls from warehouses when a customer comes in for pick-up without prior order entry.

Assign shipper number, obtain customer name, purchase order number, destination, product description and number and size containers.

Enter order on Station XR only (DATA CONTROL) for inventory and billing purposes. In the case of Wood Treating customers, the order will be booked to Monsanto's refile station RF and Wood Treating TELEX MP. This is Wood Treating's notice of customer pick-up. All such orders will show date shipped and will permit immediate re-billing to Wood Treating customer.

Provide three copies of the DSO for reporting purposes and mark them in bold letters for identification. Show CP 229 on one copy and ROS on two copies. Send one ROS to DATA CONTROL section of the accounting department. Send the second ROS to the billing department. Send the CP 229 to the Rate Section, Corporate Distribution Department, addressing it OSRCP-OR, Distribution Department.

10/14/70
GEG/lm

BZTO104(e)010438

Wood Treating

FROM (LOCATION)

DATE : October 8, 1970

SUBJECT : Penta Orders

REFERENCE : Monsanto/WTCC Procedures

TO : Lowell Gutzler

cc: M. Snyder
H. Struessel
P. Bruns
J. Michalski
P. Coleman

According to George Gibson today, effective Monday, October 12, 1970, the following procedures are to be followed:

For any order we receive:

1) Write up purchase order, giving pricing, F. O. B., freight information, etc., and transmit as normally.

2) Call Ruth Baker in Joe Kleffner's office to transmit this information.

3) No other WTCC action necessary until shipping information received to trigger our billing customer.

For customer "Will Call" at warehouses:

1) We receive Telex from Monsanto General Office that we price and return to them.

2) We bill our customer from Telex.

3) No other WTCC action necessary.

R. F. Simmons

lr

bcc: R. F. Simmons

October 2, 1970

Mr. Newton P. Lesh
Time Oil Company
P. O. Box 03117, St. Johns Station
Portland, Oregon 97203

Dear Newt:

I have not received from you, as of this date, the amended schedule to our agreement dated August 1, 1970, which has been executed by us.

I hope that these were neither lost in the mail, nor that any other complications have arisen.

Please let me know if you have not received them.

Yours very truly,

Lowell E. Gutzler
Controller

LEG/lr

BZTO104(e)010440

cc: R. F. Simmons

September 11, 1970

Mr. Newton P. Lesh
Time Oil Company
~~P. O. Box 03117~~, St. Johns Station
Portland, Oregon 97203

Dear Newt:

I am returning to you three copies of the amended schedule to our agreement dated August 1, 1970, which have been executed by us. Please have them executed by your company and return one copy to us at your convenience.

In my reading of the original agreement with you, I find that on page 4 the first paragraph states that the operator shall furnish customer with certificates of insurance. I cannot find any record of ever receiving these. If it is not too much of a hardship, could you please provide us with these copies?

We are very happy to have resolved our minor differences on the addendum, and are looking forward to doing a greater portion of our business with you.

Yours very truly,

Lowell E. Gutzler
Controller

LEG/lr
Enc.

BZTO104(e)010441

PHONE 286-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION, PORTLAND, OREGON 97203

September 8, 1970

Mr. Lowell E. Gutzler
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Lowell:

Enclosed are three copies of the Amended Schedule to our Agreement dated August 1, 1970, which I believe should meet everyone's approval. Your suggested changes have been incorporated nearly in their entirety.

I will appreciate it if you will look over the Amended Schedule and have it executed by the proper officials of your company and return to us for execution.

Sorry there was a delay on this, but with vacations and the normal complications this seemed to have taken longer than usual.

Yours very truly,

TIME OIL CO.

By Newton P. Lesh V-pres.
Newton P. Lesh

NPL/s
3 Encl.

BZTO104(e)010442

cc: R. F. Simmons ✓

WOOD TREATING
CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

September 11, 1970

Mr. Newton P. Lesh
Time Oil Company
P. O. Box 03117, St. Johns Station
Portland, Oregon 97203

Dear Newt:

I am returning to you three copies of the amended schedule to our agreement dated August 1, 1970, which have been executed by us. Please have them executed by your company and return one copy to us at your convenience.

In my reading of the original agreement with you, I find that on page 4 the first paragraph states that the operator shall furnish customer with certificates of insurance. I cannot find any record of ever receiving these. If it is not too much of a hardship, could you please provide us with these copies?

We are very happy to have resolved our minor differences on the addendum, and are looking forward to doing a greater portion of our business with you.

Yours very truly,

Lowell E. Gutzler
Controller

LEG/lr
Enc.

BZTO104(e)010443

bcc: R. F. Simmons

September 4, 1970

Mr. Newton P. Lesh
Time Oil Company
12005 N. Burgard
P. O. Box 03117 - St. Johns Station
Portland, Oregon 97203

Dear Newt:

It has been over a month since I have heard from you concerning our contract dated March 1, 1967, as amended, to be effective as soon as possible.

Do you have any questions or problems that I can help you with? We are very anxious to get started and to order the new tanks which we will need.

Regards,

Lowell E. Gutzler
Controller

LEG/lr

BZTO104(e)010444

bcc: R. F. Simmons
R. J. DeLargy/J. Michalski

WOOD TREATING
CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

July 27, 1970

Mr. Newton P. Lesh
Time Oil Company
12005 N. Burgard
P. O. Box 03117 - St. Johns Station
Portland, Oregon 97203

Dear Newt:

We have reviewed your proposed amended schedule and other changes to the original contract dated March 1, 1967, and are in agreement, except for the following:

1) Add in the 38,000 gallon tank under the Facilities caption and change the $440 per month to $615 in the Handling & Transfer Charges section.

2) On your page 2, paragraph 3, line 6 - I am sure the $5,8125 was a typing error and should read: $5.8125.

3) Reference to page 5, paragraph 8, line 2 - I have no Exhibit B, and if I did have I think you should have to give us notice of such rules change.

4) Reference to page 7, paragraph 10 - we would have no leverage here since the proposed language would eliminate, for practical purposes, the value of this provision to us as the customer.

5) If you feel it necessary to add the provision relating to pollution, I would suggest it read: "Customer shall reimburse Operator for fines imposed upon Operator by a court of law and paid in full by Operator, which fines are for pollution, expressly prohibited by statute, proved in said court to have been caused solely by the correct, non-negligent performance by Operator of written instructions given by Customer to Operator under and pursuant to this Agreement."

6) I would suggest that the following text be used for the force majeure provision of the contract, section 13, sub-paragraph (a):

"Performance of any obligation under this Agreement may be suspended by either party, in whole or in part, without liability, in the event of Act of God, war, riot, fire, explosion, flood, drought, sabotage, inability to obtain fuel or power, accident, national, state, or other governmental laws, regulations, rules or orders, or any other circumstance of like nature beyond the reasonable control of such party, or labor trouble, strike, lockout, or injunction, whether or not any such event is within the reasonable control of such party, which delays, prevents, restricts or limits the performance of this Agreement or the consumption, sale, use or end use of the Products or any Product manufactured or processed therefrom or therewith. The affected party shall invoke this provision by promptly notifying the other party of the nature and estimated duration of the suspension period. At Customer's option, the period specified for processing and/or delivery of the Products hereunder shall be extended by the period of delay occasioned by any such suspension and processing or deliveries not performed or made during any suspension period shall be performed or made during such extension period, or the period specified for processing and/or delivery shall not be extended and the total contract quantity hereunder shall be reduced by the processing or deliveries not performed or made during such suspension period and, in either event, the Contract shall otherwise remain unaffected."

7) The effective date should be August 1, 1970.

Regards,

Lowell E. Gutzler
Controller

LEG/lr

503 PHONE 286-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION, PORTLAND, OREGON 97203

July 6, 1970

Mr. R. F. Simmons
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Bob:

Attached are three copies of the Amended Schedule of our Agreement dated March 1, 1967 to adjust the charges for our services as we discussed when you were here recently. After you have reviewed the Schedule, if you have any questions, please call me. The charges are as we discussed when you were here.

A few additional changes or additions were made to the Agreement which our company felt necessary to have in order that there might be no misunderstanding in our operation. The Amended Schedule is dated to commence on June 1, 1970, but since we have already billed you for the month of June, this starting date should be changed to July 1, 1970.

Regarding the rental for the 38,000 gallon tank, we believe we should have $175.00 per month for this tank. We have been unable to find any used 6,000 or 8,000 gallon tanks for sale, but believe that some will be available in the future, as we have several feelers out for tanks of this size. We recently purchased a new 8,000 gallon tank for $863.00 and 6,000 gallon tanks would probably cost around $650.00. If you are interested in new tanks, please let me know and I will get an exact quotation for them.

Yours very truly,

Newton P. Lesh

NPL/s
3 Encl.

BZTO104(e)010447

A M E N D E D S C H E D U L E

TERMINAL:	TIME OIL CO., Portland, Oregon
DATE OF AGREEMENT:	March 1, 1967 June 1, 1970 amended schedule.
INITIAL TERM OF AGREEMENT:	April 1, 1967 to March 31, 1972.
OPERATOR:	TIME OIL CO.
CUSTOMER:	WOOD TREATING CHEMICALS CO.
PRODUCTS TO BE STORED:	Raw materials in bulk, drums and bags for wood preservatives. Finished products in bulk and drums. Also, such other raw materials and finished products specified by the Customer and accepted by the Operator.
FACILITIES:	Operator will furnish Customer the following facilities: Storage tanks - three (3) tanks with a shell capacity of approximately 20,570 gallons each, one (1) tank with a shell capacity of approximately 13,000 gallons, one (1) blending tank of approximately 1,500 gallons equipped with six (6) electric heating elements, together with warehouse space for storing approximately 100,000 pounds of raw or finished materials on pallets in drums and bags.
SERVICES: Storage and Handling	Operator shall receive the raw materials from railroad tank cars or freight cars and/or trucks and shall deliver such products into storage tanks and/or warehouse. Operator shall deliver the finished products into storage, trucks and/or railroad cars. Operator shall mix or blend products at a temperature not to exceed 180 deg. F.
HANDLING AND TRANSFER CHARGES:	The only charges for the facilities and services herein are the following: $440.00 per month to be billed in advance on the first day of each month and paid by Customer within 10 days after receipt of invoice. One cent (0.01) per gallon for blending and shipping pentapetroleum or LST type solutions shipped in tank cars, tank trucks or drums that can be bulk or tank blended. These products are Customer's products known as:

CHARGES: cont.

1. Woodtox Preprime RTU
2. Woodtox 140 RTU
3. Presstreat
4. Woodtox 109 RTU
5. Woodtox 109 w/o Penta

Other products of similar type solutions can be added from time to time by Customer upon written acceptance by the Operator.

Three cents (0.03) per gallon for blending and shipping concentrate type solutions in tank cars, tank trucks or drums. These products are Customer's products known as:

1. Timbertox 40 Concentrate
2. WR 340 Concentrate
3. Woodtox Preprime Concentrate
4. Woodtox 140 Concentrate
5. Inhibitor L.
6. Penta Wood Preservative Concentrate

Other concentrate type solutions can be added from time to time by Customer upon written acceptance by the Operator.

Five cents (0.05) per gallon for filling 55 gallon drums.

One cent (0.01) per gallon for blending contaminated products returned to storage and/or blending Woodtox 109 w/o Penta to include Penta.

Seventy-five (0.75) cents for each 55 gallon drum of additives shipped that have been in storage and are shpped without blending with other products.

Blending, shipping and drum filling charges are to be invoiced by Operator to the Customer on the first day of each month for the shipments made during the previous month and Customer agrees to pay charges within 10 days after receipt of invoice.

Overtime and extra labor and cost of armed guards as specified in Sections B.3, D.9(a) and 13 (c) of the Agreement to which this Schedule is annexed and which it is a part.

It is agreed by the parties hereto that the Schedule attached to the Agreement dated the 1st day of March, 1967, shall be superceded and replaced in its entirety by this Amended Schedule effective June 1, 1970.

It is further agreed that said Agreement dated the 1st day of March, 1967 is further amended as follows:

On Page 1, Section A. FACILITIES, Paragraph 2, line 7 after the word Agreement shall be added "Customer shall, however, inform Operator of any irregularities or deficiencies discovered during any such inspection."

BZTO104(e)010449

On page 2, Paragraph 3, line 6. The amount $5,8125 shall be substituted for the amount of $4.25 stated therein.

On Page 4, Paragraph 6, line 3. The word "similar" shall be deleted and after the word "cause" shall be added "beyond the control of Operator."

On Page 5, Paragraph 8, line 2. The words "as of the date of this Agreement" shall be deleted and the words "from time to time" shall be substituted therefore. Also, in lines 4 and 5, the sentence "Such rules shall not hereafter be amended except by consent of Customer." shall be deleted.

On Page 5, Paragraph 9. (a) wherever the amount of $2.71 is stated the amount of $3.875 shall be substituted therefore.

On Page 7, Paragraph 10. The following words shall be added to the end thereof. "but only if all charges and costs due Operator by Customer shall have been paid in full."

The following provisions are incorporated therein:

Disposal of waste shall be for the Customer's account but subject to Customer's prior approval of expenditures for that purpose.

Customer shall reimburse Operator for any fines or penalties for any alleged pollution arising out of the performance of this agreement in according with instructions given Operator by Customer.

All other of the terms and provisions of said Agreement shall remain the same and in full force and effect.

Witness:

_____

TIME OIL CO., Operator

By_____
R. D. Abendroth, President

Witness:

_____

WOOD TREATING CHEMICALS CO.

By_____

BZTO104(e)010450

PHONE 286-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION, PORTLAND, OREGON 97203

June 19, 1970

Mr. R. F. Simmons
Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Bob:

I thought I would have the Amended Schedule for our Agreement approved and in the mail to you before I left, but the wheels of industry sometimes turn at a slow pace. I am sure it will be ready to send you when I return on the 29th.

Regarding the sandblasting and painting of the 7,000 gallon tank you have here, we have a man, Paul Hendricks, who will sandblast to bare metal and apply two coats of Rustoleum for $100.00. He will furnish the paint needed for the tank for this price. Paul is our maintenance man and I am sure he will do a good job. He said that he would keep track of the time and material on this tank and if you have more tanks in the future, he could perhaps lower his price some.

I find that we do not have any used tanks available, but will keep my eyes open for any that might be for sale in this area.

I enjoyed your visit very much and hope you can make it out this way this fall.

Yours very truly,

Newt.

NPL/s

Newton P. Lesh

BZTO104(e)010451

TIME OIL CO.
Correspondence - 1971

WOOD TREATING
CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

December 8, 1971

Time Oil Co.
5150 Wilshire Boulevard
Los Angeles, California

Gentlemen:

This notice is to advise you that effective as of December 1, 1971, Wood Treating Chemicals Co. sold to Koppers Company, Inc., Pittsburgh, Pennsylvania 15219, the majority of its wood preservatives business assets. As an integral part of this transaction, Wood Treating is seeking your consent to the assignment and assumption of your contract dated April 1, 1967, by and between your company and Wood Treating to Koppers. Koppers is in possession of a copy of this document and has pledged to abide by all the terms and conditions of the contract.

While Wood Treating will no longer be in the wood preservatives business, it is anticipated that upon your consent the aforedescribed transfer will have no material effect upon the business you previously transacted with Wood Treating and that Koppers will continue the wood preservatives business in a most vigorous fashion in furtherance of your mutual interests and profits.

If you consent to the assignment and assumption of your contract by Wood Treating Chemicals Co. to Koppers Company, Inc., please indicate your agreement by executing a copy of this letter and returning same to Wood Treating Chemicals Co., 800 North Lindbergh Boulevard, St. Louis, Missouri 63166, Attention John Mason, President.

Very truly yours,

John Mason
President

Accepted and Agreed to this
____ day of _____, 1971.

TIME OIL CO.

By_____

TO Al Schneider - Seat.

FROM N. P. Lesh -Port.

Subject Wood Treating Chemicals Co. Date 12/16/71

MESSAGE

Will you have Art Kearney prepare the property papers to transfer the Wood Treating Chemicals Co. Agreement to Koppers Co., I do not believe the attached letter will suffice as WTCCo. should sign an assignment and Koppers should sign an Acceptance and TOC an Agreed to.

Your return to me of the papers for a proper transfer in your usual prompt manner will be appreciated.

Signed

REPLY

Signed Date

KLIP STATIONERS 472 SEND PARTS 1 AND 3 WITH CARBON INTACT — PART 3 WILL BE RETURNED WITH REPLY.

A S S I G N M E N T

WHEREAS, under date of March 1, 1967 and amended schedule of August 1, 1970 the undersigned WOOD TREATING CHEMICALS CO. entered into an agreement with TIME OIL CO., a Washington corporation, a copy of which is attached hereto marked Exhibit "A" and

WHEREAS, KOPPERS COMPANY, INC. of Pittsburg, Pennsylvania has purchased a majority of the wood preservative business assets of WOOD TREATING CHEMICALS CO.,

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this assignment, acceptance thereof by KOPPERS COMPANY, INC. and consent thereto by TIME OIL CO., WOOD TREATING CHEMICALS CO. hereby assigns to KOPPERS COMPANY, INC. all right, title and interest in and to the attached contract, accounts payable thereunder, property therein described and rights therefrom ensuing, subject to all the conditions thereof.

IN WITNESS WHEREOF, the undersigned has executed this assignment, this (as of 1st day of December, 1971.

WOOD TREATING CHEMICALS CO.

By _____

ACCEPTANCE OF ASSIGNMENT

Assignee KOPPERS COMPANY, INC. hereby accepts the above assignment and agrees to assume and fulfill all conditions and obligations therein contained and contained in the agreement attached hereto marked Exhibit "A" on the part of the Assignor WOOD TREATING CHEMICALS CO. therein to be fulfilled.

KOPPERS COMPANY, INC.

By _____

BZTO104(e)010455

CONSENT TO ASSIGNMENT

TIME OIL CO. hereby consents to the assignment of that certain contract entered into between TIME OIL CO. and WOOD TREATING CHEMICALS CO. dated March 1, 1967 and amended August 1, 1970 by amended schedule, a copy of which TIME OIL CO. acknowledges is hereto attached.

TIME OIL CO.

By Newton P Leach - V Pres

BZTO104(e)010456

BZTO104(e)010457

WOOD TREATING CHEMICALS CO.
800 North Lindbergh Blvd.
St. Louis, Missouri 63166

February 7, 1972

Time Oil Company
12005 N. Burgard
P. O. Box 03117
St. Johns Station
Portland, Oregon 97203

Attention: Newton P. Lesh

Dear Sir:

Enclosed herewith is a copy of the Assignment, Acceptance of Assignment and Consent to Assignment you forwarded several weeks ago.

Thank you for your cooperation in this matter.

Very truly yours,

David C. Jones
Attorney

DCJ/pa
Enclosure

BZTO104(e)010458

A S S I G N M E N T

WHEREAS, under date of March 1, 1967 and amended schedule of August 1, 1970 the undersigned WOOD TREATING CHEMICALS CO. entered into an agreement with TIME OIL CO., a Washington corporation, a copy of which is attached hereto marked Exhibit "A" and

WHEREAS, KOPPERS COMPANY, INC. of Pittsburg, Pennsylvania has purchased a majority of the wood preservative business assets of WOOD TREATING CHEMICALS CO.,

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this assignment, acceptance thereof by KOPPERS COMPANY, INC. and consent thereto by TIME OIL CO., WOOD TREATING CHEMICALS CO. hereby assigns to KOPPERS COMPANY, INC. all right, title and interest in and to the attached contract, accounts payable thereunder, property therein described and rights therefrom ensuing, subject to all the conditions thereof.

IN WITNESS WHEREOF, the undersigned has executed this assignment, this (as of 1st day of December, 1971.

WOOD TREATING CHEMICALS CO.

By _____ VP

ACCEPTANCE OF ASSIGNMENT

Assignee KOPPERS COMPANY, INC. hereby accepts the above assignment and agrees to assume and fulfill all conditions and obligations therein contained and contained in the agreement attached hereto marked Exhibit "A" on the part of the Assignor WOOD TREATING CHEMICALS CO. therein to be fulfilled.

KOPPERS COMPANY, INC.

By _____ JR

BZTO104(e)010459

CONSENT TO ASSIGNMENT

TIME OIL CO. hereby consents to the assignment of that certain contract entered into between TIME OIL CO. and WOOD TREATING CHEMICALS CO. dated March 1, 1967 and amended August 1, 1970 by amended schedule, a copy of which TIME OIL CO. acknowledges is hereto attached.

TIME OIL CO.

By Newton P Leach - V Pres

BZTO104(e)010460

WOOD TREATING
CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

April 26, 1967

Mr. Newton P. Lesh
Time Oil Company
12005 North Burgard
P. O. Box 03117, Saint John's Station
Portland, Oregon 97203

Dear Mr. Lesh:

Enclosed is the executed copy of the Agreement on the blending arrangement between our two companies.

We apologize for the delay in returning this to you but, as you know, going through channels takes time.

Yours very truly,

R. M. Morriss, Jr.

R. M. Morriss, Jr.
jm

RMM:jm
Enc.
Air Mail

Lost time
5 yrs automatically reversed
3/31/77
E+8

AGREEMENT

THIS AGREEMENT, made and entered into this 1st day of March, 1967, by and between TIME OIL CO. (hereinafter referred to as "Operator"), a corporation incorporated and existing under the laws of the State of Washington, and WOOD TREATING CHEMICALS CO. (hereinafter referred to as "Customer"), a corporation organized and existing under the laws of the State of Missouri.

WITNESSETH:

For and in consideration of the mutual covenants and conditions contained herein, it is agreed as follows:

A. FACILITIES.

1. Operator shall provide and furnish to Customer during the term of this Agreement facilities, storage tanks, blending tanks, equipment, improvements and warehouse space as set forth in the Schedule attached hereto and as set forth in this Agreement (all hereinafter called "Facilities").

2. Operator shall retain possession of the Facilities and shall keep and maintain the same in good order and repair and clean and fit for the storage and handling of the Products. Customer shall have the right to inspect the Facilities and the Products stored therein at all times during the hereinafter defined Regular Hours, and during other reasonable times, but no such inspection shall relieve Operator of any of its obligations under this Agreement. Operator shall advise Customer in writing in advance of any changes or alterations in or to the Facilities (excluding, however, maintenance and repairs) which are used for the receipt, storage, blending, handling or redelivery of the Products.

B. SERVICES.

1. Operator shall provide and furnish to Customer during the term of this Agreement any and all labor and services necessary or reasonably incidental to receive, store, handle, blend and redeliver the Products at, to and from the Facilities in a safe, efficient, clean and prompt manner (all hereinafter called the "Services").

BZTO104(e)010462

2. Operator shall receive the Products from trucks and rail cars, store the same in the storage tanks, transfer such Products to the blending tanks as directed by Customer, and redeliver such Products into trucks and rail cars, as and when directed by Customer. Operator shall follow the procedures outlined in the booklet entitled "Monsanto Warehousing and Terminaling Unified Procedures" and all reasonable amendments thereof and additions thereto, applicable to the Products involved. A copy of such booklet is attached hereto as Exhibit A and made a part hereof. Operator shall keep complete and accurate records of the type and quantity of the Products received into, transferred out of, and remaining in said Facilities at all times and of all shipments of the Products made at Customer's request, and such records shall be open to inspection by Customer at all reasonable times. Operator shall make reports to Customer with respect to such receipts, shipments and inventories, at such times and in such manner as may be reasonably prescribed by Customer.

3. The Services shall be performed from 7:00 a.m. to 4:30 p.m., five days per week, Monday through Friday, except for the holidays hereinafter mentioned, herein called the "Regular Hours." The holidays are New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas. Upon the request of Customer, Operator shall perform such services beyond Regular Hours at an additional charge of $4.25 per man hour.

C. PAYMENTS. So long as Operator shall meet its obligations hereunder, Customer shall make payments to Operator during the term of this Agreement according to the Charges on the attached Schedule.

D. GENERAL.

1. Neither Operator, nor any person or party claiming by, through or under Operator, shall ever have or assert any right, title, claim, lien or interest in or to any of the Products.

2. In no event, anything in this Agreement to the contrary notwithstanding, does Operator intend to lease, sublease or assign to the Customer all or any part of the Facilities referred to herein, and neither this Agreement, nor any provision thereof, shall be so construed.

BZTO104(e)010463

3. Operator shall indemnify and hold harmless Customer from and against any and all liabilities, claims, actions, damages, losses, costs or expenses arising out of injury to or death of any person or damage to or loss or destruction of any property, caused by or connected with: (a) any negligence, or wrongful act or omission of Operator, its employees or agents in the receipt, storage, handling or redelivery of the Products, or any of them; (b) the performance or nonperformance of any of its obligations or operations under this Agreement; or (c) any default of Operator hereunder.

4. Operator shall obtain and maintain, at its expense, during the term of this Agreement, the following insurance in insurance companies satisfactory to Customer:

(a) Workmen's compensation insurance in an amount equal to the limit of liability and in the form prescribed by the laws of Oregon, for all Operator's employees engaged in any operations under this Agreement. In the event that any employees are not protected by a workmen's compensation statute, Operator shall provide employer's liability insurance in an amount not less than $100,000 for injury to or for death of any one employee, and subject to the same limitation for each employee, in an amount not less than $300,000 on account of any one accident.

(b) Public liability insurance sufficient to cover the obligations assumed by Operator pursuant to Section D.3 of this Agreement and claims for injury to or death of persons or damage to property arising from any activities or operations of Operator under this Agreement in amounts of:

(i) not less than $150,000 for injury to or death of any one person and not less than $500,000 in respect to any one accident; and

(ii) not less than $100,000 for damage to or destruction of property on account of each accident.

BZTO104(e)010464

Operator shall furnish Customer with certificates of insurance which certificates shall provide that the foregoing insurance coverage shall not be terminated or reduced without the insurance carrier first giving Customer ten (10) days' prior written notice thereof.

5. Operator shall be liable and responsible for any loss, destruction, spoilage, spillage, pollution, evaporation, shrinkage, line-loss, clingage, discoloration or contamination of, or damage to, any Products arising out of its receipt, storage, handling, blending, mixing or redelivery thereof, or of any of the Services performed or to be performed hereunder resulting from the negligence or wrongful act or omission of Operator, its employees, agents or representatives, or default of Operator under this Agreement.

6. In the event that the Facilities are partially or totally damaged or destroyed or become unfit by reason of fire, explosion, accident, casualty or any other similar cause, or if any of the Facilities are taken or condemned by eminent domain proceedings (all of the foregoing being hereinafter for convenience collectively called "Casualty") so that the same shall be rendered unsuitable or unavailable for the receipt, storage, handling and redelivery of any of the Products, Operator shall immediately notify Customer thereof. Not later than ten (10) days after the occurrence of such Casualty, Operator shall also notify Customer as to whether the Facilities will be restored to their former condition within a period of time not longer than six (6) months measured from the date of such Casualty. If such notice is not given, or if given and the Facilities are not restored by the end of said six (6) month period, Customer may terminate this Agreement at any time thereafter upon notice to Operator, and thereupon Customer shall be relieved of all duties and obligations hereunder.

7. (a) Losses of any Product for which Operator is responsible hereunder shall be determined monthly at the end of each month, commencing with the date of the first receipt of such Product by Operator hereunder, and also, at the time any abnormal loss occurs or is discovered. The extent of loss shall be computed by deducting the total withdrawals of such Product during the period for which the accounting

BZTO104(e)010465

is made, plus the stock of such Product on hand at the end of such period, from the sum of the total receipts of such Product during such period plus the stock of such Product on hand at the beginning of such period.

(b) Operator shall not be liable for actual losses resulting from normal spillage and evaporation not in excess of the loss allowance hereinafter described. The term "loss allowance" shall mean actual losses resulting from normal spillage and evaporation not exceeding 3/4 of 1% per month of the aggregate of the receipts per month or 3/4 of 1% of the maximum amount of Products stored in any one month, whichever is greater, of any such Product as determined under Section D.9(b) of this Agreement.

8. While on Operator's terminal premises, Customer shall comply at all times with any and all rules established as of the date of this Agreement by Operator in connection with the operation of the terminal. A copy of such rules is attached hereto as Exhibit B to this Agreement. Such rules shall not hereafter be amended except by consent of Customer.

9. (a) If the average wage rate in effect at the terminal for all employees of Operator employed full or part time at the terminal as of the first day of any month shall exceed $2.71 per hour, then, with respect to such month, the handling and transfer charges set forth in the schedule(s) shall be increased by a percentage equal to 25 per cent (25%) of that percentage of $2.71 which the excess of the average wage rate of $2.71 constitutes. "Average wage rate" means the amount derived by dividing (a) the total of (i) the rates for the single-rate classifications of wage rates applicable to Operator's personnel and (ii) the mid-points or wage rates for all rate-range classifications applicable to Operator's personnel by (b) the

BZTO104(e)010466

number of classifications applicable to Operator's personnel.

(b) The quantity of Product received into or withdrawn f. storage tanks shall be determined by Operator's representatives by checking and gauging said tanks at the time of receipt or withdrawal of said Product. Customer may assist, supervise, or participate in all aspects of such checking and gauging, but in the ab of such participation, gauges taken by Operator sha conclusive, unless such gauges are proven to be in However, quantities delivered to rail tank cars or transport trucks may be determined by reference to mutually acceptable calibration charts of the rail or truck tanks. The cost of such work done by Ope representatives or licensed inspectors shall be bo Customer. In the event of any disagreement as to of Products received, it shall, upon written notic either party to the other, be submitted to one arb to be appointed by the American Arbitration Associ for hearing and decision, in Portland, Oregon, whi decision shall be rendered within thirty (30) days the date the case is submitted, and shall be final binding upon the parties hereto. The cost and exp the arbitrator shall be borne equally between the hereto and the law of Missouri shall govern the arbitration and award.

(c) If requested by Customer, Operator will take sampl rail tank cars, automotive tank trucks and storage and deliver such samples to Customer and the cost containers for such samples paid by Operator and t freight charges for deliveries thereof to Customer be reimbursed to Operator by Customer each month. shall be taken in accordance with the procedure sp by Customer.

BZTO104(e)010467

(d) All quantities of Product delivered to or shipped from the terminal shall be calculated in gallons at sixty degrees Fahrenheit (60°F) in accordance with recognized temperature correction tables. The term "barrel" whenever used herein, means 42 U. S. Gallons at sixty degrees Fahrenheit (60°).

(Next paragraph number 10 on following page #7)

BZTO104(e)010468

10. Without relieving Operator from any of its duties or obligations under this Agreement, for each day or portion thereof that:

(a) The Facilities are unsuitable for the receipt, storage, blending, handling or redelivery of any of the Products by reason of any Casualty or for any other similar or dissimilar reason, and/or

(b) Operator fails or refuses to provide and furnish the Services,

then, and in either event, the Charges set forth in the Schedule shall be suspended for such period or periods; furthermore, if Operator fails or refuses to redeliver any of the Products within five (5) days after Customer's request therefor, Customer shall have the right to enter upon the Facilities and remove such Products from the storage area.

11. Customer agrees to examine Operator's tanks, pipelines and equipment prior to Customer's acceptance and use of their Facilities hereunder and by such use agrees that said Facilities are acceptable for rendering of the Services referred to herein. Operator may substitute other suitable facilities in lieu of those which are designated hereunder provided Operator pays any costs incurred by Customer in regard to such substitution.

12. Customer shall use the Facilities furnished hereunder for the storage, blending and handling of only the Products and commodities specified in said Schedule; provided, however, that anything in this Agreement to the contrary notwithstanding, Customer shall not store and/or handle or cause to be stored and/or handled in any of these Facilities (a) any commodity other than those listed on such Schedule containing hydrogen sulphide or other corrosive materials, (b) any commodity other than those listed on such Schedule which would in any way be injurious to any of the Facilities, or (c) any commodity other than those listed on such Schedule which would render any of the Facilities unfit after cleaning, for the proper storage and/or handling of water white oils. Customer shall be responsible for any damages resulting from the storage and/or handling in any of these Facilities of any commodity other than those listed in the Schedule which may not be stored and/or handled therein under the terms hereo

BZTO104(e)010469

13. (a) Subject to the terms of Sections 6 and 10 hereof, neither party shall be liable to the other for, and each shall be excused from, any failure of or delay in performance under this Agreement, caused by any acts of God or the public enemy, war, floods, storms, earthquake, lightning, or other act of the elements, accidental fire, explosion, strikes, labor disturbances, riots, insurrection, civil commotion, governmental acts or regulations, accidents, failure or delay of transportation or delivery facilities or supplies, failure or delay of manufacturers or persons from whom such party is obtaining machinery, equipment, materials or supplies to deliver the same, or any other cause beyond the control and without the fault or neglect of such party, whether similar or not to the foregoing causes. For each day or portion thereof that either party shall fail or be unable to perform by reason of any of the foregoing events, the said charges set forth in the Schedule shall be suspended for such period or periods. Each party shall, in the event it shall fail or be unable to perform by reason of any of the foregoing, promptly notify the other party thereof. Upon cessation of any such event, performance shall be resumed promptly and the other party shall be notified immediately thereof.

(b) Should the County or City, in which Operator's Facilities are located, or any other government agency, local or federal, prohibit operation of any then existing Facility used in performing this Agreement, or shall in any way deprive Operator of the right to use any such facilities or any property in connection therewith, or shall require the construction of additional facilities to be used in performing this Agreement, this Agreement shall terminate at the option of Operator, unless Customer shall pay for the cost of replacing any such Facilities or property or

BZTO104(e)010470

which Operator was deprived, or for the cost of construction of such additional facilities, or for any other expenses necessary to meet the requirements of such government agency.

(c) The cost of any Armed Guard Services and/or other protective services or facilities required by Customer or by any government agency shall be for the account of Customer.

14. Operator shall bill Customer monthly in advance and Customer agrees to pay Operator within 10 days after presentation of invoice. All payments hereunder shall be made to Operator at its office at 12005 N. Burgard St., P. O. Box 03117, Portland, Oregon 97203, or at such other place as Operator may notify Customer in writing.

15. Customer agrees promptly upon expiration or termination of this Agreement, to remove all of its Products, either bulk or packaged, from Operator's premises. All such Products not removed within 60 days after the expiration or termination of this Agreement may be sold at auction by Operator and Operator shall return to Customer the proceeds of any such sale, less the amount owed Operator by Customer under the terms of this Agreement and Operator's reasonable expenses in selling said Products.

16. (a) The initial term of this Agreement shall commence as of April 1, 1967 and, if not earlier terminated as herein provided, shall end on March 31, 1972. Upon the expiration of the initial term of this Agreement, this Agreement shall be automatically renewed for a term of five years, and automatically renewed thereafter for successive terms of five years each; provided, however, that either party, at its option, shall have the right to terminate this Agreement at the end of its initial term or at the end of any renewal term by furnishing written notice to the other party at least one year prior to the designated termination date.

BZTO104(e)010471

16. (b) Provided that Customer may, at its option, terminate this Agreement at any time during the initial term of this Agreement by making a payment to Operator which is equal to Operator's total expenditures for storage, blending tanks, heating elements, warehouse improvements or improvements to any such Facilities which were expended by Operator for the purpose of furnishing storage or blending tanks and Facilities to Customer, less 20% of the total expenditures for each full year that this Agreement has been in full force and effect. The Operator represents that the amount expended covering the above is $6220.00.

(c) Should Operator fail or refuse to discharge any of its obligations under this Agreement, Customer may, at its option and in addition to any other remedies provided for herein, terminate this Agreement immediately upon giving notice to Operator.

17. Should Customer go into bankruptcy, voluntary or involuntary, or be placed in the hands of a receiver, State or Federal, then, and in any such event, the minimum monthly storage and handling charges for the whole unexpired term hereof together with all accrued charges, shall, at the option of Operator, become immediately due and payable. In any such event, Operator shall also have the right, at its option, to terminate this Agreement and, after giving 15 days' notice to Customer, Operator may sell all or any portion of such Products, at public or private sale, but Operator may not be purchaser at such sale or sales. Customer shall pay for and indemnify Operator against its reasonable expenses of such sale, including reasonable attorney's fees, incurred by Operator for the sale of Customer's Products as above provided, for storage, handling service or other amounts due and owing Operator. Any proceeds of such sale less any amounts due and owing from Customer to Operator under this Agreement and the reasonable expenses of such sale, shall be promptly remitted by Operator to Customer.

BZTO104(e)010472

18. In the event Customer decides to reduce the quantity or eliminate the handling, blending or storage of any of the Products so that the Facilities are not used or required, Operator shall, at Customer's request, use all reasonable efforts, and otherwise cooperate with Customer, to find and make arrangements with another party or parties to utilize such unused or unrequired Facilities to the extent and as designated by Customer, Operator shall, however, have the right to establish reasonable fees and charges in connection with such arrangements. Customer shall be entitled to a credit against all fees (but not exceeding any amounts due from Customer) to the extent of payments made by such other party or parties pursuant to said arrangements.

19. Customer shall pay any and all taxes, charges and/or assessments on or with respect to the Products. Operator shall pay any and all taxes, charges and/or assessments on or with respect to the Facilities and/or Services.

20. Operator recognizes that Customer utilizes secret processes in its manufacturing and accordingly Operator agrees that it will not disclose or divulge, without the written consent of Customer, the identities or quantities of Products which are received, blended, handled or redelivered by Operator hereunder or the names of customers to whom delivery of such Products or other products is scheduled or made.

21. Operator is not and shall not act or purport to act as an employee, agent or representative of Customer, but is and shall act as an independent contractor.

22. Operator shall obtain and maintain all legally required state and local licenses and permits required for construction, maintenance or operation of the Facilities and/or the Services or Operator's performance of this Agreement.

23. Operator agrees to assume liability for any demurrage on rail equipment or truck equipment, which occurs directly as a result of Operator's operations. Any demurrage accruing on rail equipment or truck equipment, through no fault of Operator shall be paid by Customer; provided, however, Operator shall, in good faith, furnish Customer with all evidence and information known to Operator with respect to the facts, circumstances and caus connected with rail or truck demurrage.

BZTO104(e)010473

24. Except for any transfer or assignment, in whole or in part by Customer to the Monsanto Company or to any subsidiary company in which Customer owns or controls at least a 50% interest or to an associated company in which the Monsanto Company owns or controls at least a 50% interest, neither party shall transfer or assign this Agreement, or any of its rights hereunder, in whole or in part, without the prior written consent of the other party, and any attempt to do so without such consent shall be void. Subject to the foregoing, this Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

25. Except as otherwise provided in this Agreement, any notice required or permitted to be given under this Agreement shall be in writing and shall be sufficiently given when delivered in person or when deposited in the United States mails (registered or certified), postage prepaid, addressed as follows:

If to Operator, addressed to:	Time Oil Co. 5150 Wilshire Boulevard Los Angeles, California 90036
	and a copy to:
	12005 N. Burgard Street P. O. Box 03117 Portland, Oregon 97203
If to Customer, addressed to:	Wood Treating Chemicals Co. 5137 Southwest Avenue St. Louis, Mo. 63110 Attn: R. M. Morriss, Jr.

or to such other address as may be specified from time to time in a written notice given by such party. Both parties agree to acknowledge in writing receipt of any notice delivered in person. Routine operating instructions, requests, directions and other similar routine communications shall not require a notice as above provided and may be given in such manner and to such persons as may be customary or practicable.

26. This Agreement constitutes the sole agreement between the parties pertaining to the Facilities and/or Services.

BZTO104(e)010474

27. The section and paragraph headings in this Agreement are inserted for convenience only and are in no way to be construed as part of this Agreement or as a limitation of the scope of the particular sections or paragraphs to which they refer.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first hereinabove written.

TIME OIL CO.

ATTEST:

BY R. D. Almeda Pr

Asst Secy

WOOD TREATING CHEMICALS CO.

ATTEST:

BY H. L. Minckler

J. Russell Bley Jr.
Secretary

President

BZTO104(e)010475

AMENDED SCHEDULE

TERMINAL:	TIME OIL CO., Portland, Oregon.
DATE OF AGREEMENT:	March 1, 1967 August 1, 1970 amended schedule.
INITIAL TERM OF AGREEMENT:	April 1, 1967 to March 31, 1972.
OPERATOR:	TIME OIL CO.
CUSTOMER:	WOOD TREATING CHEMICALS CO.
PRODUCTS TO BE STORED:	Raw materials in bulk, drums and bags for wood preservatives. Finished products in bulk and drums. Also, such other raw materials and finished products specified by the Customer and accepted by the Operator.
FACILITIES:	Operator will furnish Customer the following facilities: Storage tanks - one (1) tank with a shell capacity of approximately 38,000 gallons, three (3) tanks with a shell capacity of approximately 20,570 gallons each, one (1) tank with a shell capacity of approximately 13,000 gallons, one (1) blending tank of approximately 1,500 gallons equipped with six (6) electric heating elements, together with warehouse space for storing approximately 100,000 pounds of raw or finished materials on pallets in drums and bags.
SERVICES: Storage and Handling	Operator shall receive the raw materials from railroad tank cars or freight cars and/or trucks and shall deliver such products into storage tanks and/or warehouse. Operator shall deliver the finished products into storage, trucks and/or railroad cars. Operator shall mix or blend products at a temperature not to exceed 180 deg. F.
HANDLING AND TRANSFER CHARGES:	The only charges for the facilities and services herein are the following: $615.00 per month to be billed in advance on the first day of each month and paid by Customer within 10 days after receipt of invoice. One cent (0.01) per gallon for blending and shipping pentapetroleum or LST type solutions shipped in tank cars, tank trucks or drums that can be bulk or tank blended. These products are Customer's products known as:

BZTO104(e)010476

CHARGES: cont.

1. Woodtox Preprime RTU
2. Woodtox 140 RTU
3. Presstreat
4. Woodtox 109 RTU
5. Woodtox 109 w/o Penta

Other products of similar type solutions can be added from time to time by Customer upon written acceptance by the Operator.

Three cents (0.03) per gallon for blending and shipping concentrate type solutions in tank cars, tank trucks or drums. These products are Customer's products known as:

1. Timbertox 40 Concentrate
2. WR 340 Concentrate
3. Woodtox Preprime Concentrate
4. Woodtox 140 Concentrate
5. Inhibitor L
6. Penta Wood Preservative Concentrate

Other concentrate type solutions can be added from time to time by Customer upon written acceptance by the Operator.

Five cents (0.05) per gallon for filling 55 gallon drums.

One cent (0.01) per gallon for blending contaminated products returned to storage and/or blending Woodtox 109 w/o Penta to include Penta.

Seventy-five (0.75) cents for each 55 gallon drum of additives shipped that have been in storage and are shipped without blending with other products.

Blending, shipping and drum filling charges are to be invoiced by Operator to the Customer on the first day of each month for the shipments made during the previous month and Customer agrees to pay charges within 10 days after receipt of invoice.

Overtime and extra labor and cost of armed guards as specified in Sections B.3, D.9 (a) and 13 (c) of the Agreement to which this Schedule is annexed and which it is a part.

It is agreed by the parties hereto that the Schedule attached to the Agreement dated the 1st day of March, 1967, shall be superceded and replaced in its entirety by this Amended Schedule effective August 1, 1970.

It is further agreed that said Agreement dated the 1st day of March, 1967 is further amended as follows:

On Page 1, Section A.FACILITIES, Paragraph 2, line 7 after the word Agreement shall be added "Customer shall, however, inform Operator of any irregularities or deficiencies discovered during any such inspection."

BZTO104(e)010477

On page 2, Paragraph 3, line 6. The amount $5.8125 shall be substituted for the amount of $4.25 stated therein.

On page 4, Paragraph 6, line 3. The word "similar" shall be deleted and after the word "cause" shall be added "beyond the control of Operator".

On page 5, Paragraph 8, line 2. The following shall be substituted for Paragraph 8 in its entirety. " Customer's representati shall have access to the truck and rail car loading rack, tanks and warehouse covered by this agreement, as a matter of course, but all other areas of Operator's terminal facilities shall be closed to Customer's representatives except when accompanied by a representative of Operator. While on Operator's terminal premises, Customer's representative shall comply at all times with any rules established fr time to time by Operator in connection with the operation of the terminal."

On page 5, Paragraph 9. (a) wherever the amount of $2.71 is stated the amount of $3.875 shall be substituted therefor.

On page 8, Paragraph 13 (a), the following shall be substitute therefor:

"Performance of any obligation under this Agreement may be suspended by either party, in whole or in part, without liability, in the event of act of God, war, riot, fire, explosion, flood, drought, sabotage, inability to obtain fuel or power, accident, national, state, or other governmental laws, regulations, rules or orders, or any other circumstance of like nature beyond the reasonable control of such party, or labor trouble, strike, walkout, or injunction, whether or not any such delays within the reasonable control of such party, which delays, prevents, restricts or limits the performance of this agreement or the consumption, sale, use or end use of the products or any product manufactured or processed therefrom or therewith. The affected party shall invoke this provision by promptly notifying the other party of the nature and estimated duration of the suspension. At Customer's option, the period specified for processing and/or delivery of the products hereunder shall be extended by the period of delay occasioned by any such suspension and processing or deliveries not performed or made during any suspension period shall be performed or made during such extention, or the period specified for processing and/or delivery shall not be extended and the total contract quantity hereunder shall be reduced by the processing or deliveries not performed or made during such suspension and, in either event, the contract shall otherwise remain uneffected."

The following provisions are incorporated therein:

Disposal of waste shall be for the Customer's account but subject to Customer's prior approval of expenditures for that purpose.

Customer shall reimburse Operator for fines or penalties impo upon Operator by a court of law and paid in full by Operator, which fines are for pollution, expressly prohibited by statute, proved in said court to have been caused solely by the correct, non-negligent performance by Operator of written instructions given by Customer to Operator under and pursuant to this Agreement. Customer shall also re-imburse Operator for all attorneys fees and costs of suit incurred in the defense of any suit brought against Operator for pollution proved to have been caused solely by the correct, non-negligent performance by Operator of written instructions given by Customer to Operator under and pursuant to this Agreement.

BZTO104(e)010478

All other of the terms and provisions of said Agreement shall remain the same and in full force and effect.

Witness:

TIME OIL CO., Operator

By R. D. Abendroth, President

Witness:

WOOD TREATING CHEMICALS CO.

By Lowell E. Gutzler
Asst. Secretary

BZTO104(e)010479

WOOD TREATING CHEMICALS CO.
800 North Lindbergh Blvd.
St. Louis, Missouri 63166

February 7, 1972

Time Oil Company
12005 N. Burgard
P. O. Box 03117
St. Johns Station
Portland, Oregon 97203

Attention: Newton P. Lesh

Dear Sir:

Enclosed herewith is a copy of the Assignment, Acceptance of Assignment and Consent to Assignment you forwarded several weeks ago.

Thank you for your cooperation in this matter.

Very truly yours,

David C. Jones
Attorney

DCJ/pa
Enclosure

A S S I G N M E N T

WHEREAS, under date of March 1, 1967 and amended schedule of August 1, 1970 the undersigned WOOD TREATING CHEMICALS CO. entered into an agreement with TIME OIL CO., a Washington corporation, a copy of which is attached hereto marked Exhibit "A" and

WHEREAS, KOPPERS COMPANY, INC. of Pittsburg, Pennsylvania has purchased a majority of the wood preservative business assets of WOOD TREATING CHEMICALS CO.,

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this assignment, acceptance thereof by KOPPERS COMPANY, INC. and consent thereto by TIME OIL CO., WOOD TREATING CHEMICALS CO. hereby assigns to KOPPERS COMPANY, INC. all right, title and interest in and to the attached contract, accounts payable thereunder, property therein described and rights therefrom ensuing, subject to all the conditions thereof.

IN WITNESS WHEREOF, the undersigned has executed this assignment, this (as of 1st day of December, 1971.

WOOD TREATING CHEMICALS CO.

X By _____ VP

ACCEPTANCE OF ASSIGNMENT

Assignee KOPPERS COMPANY, INC. hereby accepts the above assignment and agrees to assume and fulfill all conditions and obligations therein contained and contained in the agreement attached hereto marked Exhibit "A" on the part of the Assignor WOOD TREATING CHEMICALS CO. therein to be fulfilled.

KOPPERS COMPANY, INC.

By _____ Jr.

BZTO104(e)010481

CONSENT TO ASSIGNMENT

TIME OIL CO. hereby consents to the assignment of that certain contract entered into between TIME OIL CO. and WOOD TREATING CHEMICALS CO. dated March 1, 1967 and amended August 1, 1970 by amended schedule, a copy of which TIME OIL CO. acknowledges is hereto attached.

TIME OIL CO.

By Newton P Leach - V Pres

BZTO104(e)010482

TIME OIL CO.
Correspondence - 1973

BZTO104(e)010483

December 31, 1973

Mr. Neil Gallagher
Time Oil Co.
P. O. Box 03117
St. John's Station
Portland, Oregon 79203

Dear Neil:

John Hite from Pittsburgh general office will be out with John Messner on February 4 and 5. Messner will be contacting you to advise that Mr. Hite would like to visit Time Oil while in the area. For your information, John Hite is the assistant manager of the Specialty Wood Chemicals Group of which Wood Treating is a department. We will appreciate the usual fine courtesy extended your visitors and am sure you will find Mr. Hite an energetic and pleasant fellow.

Best regards,

R. F. Simmons,
Plant Manager

P.S. Have also been intending to drop you a note as a reminder that beginning Jan. 1, 1974, Lot Numbers should begin with WD-001-T.

RFS/pc

BZTO104(e)010484

November 7, 1973

Mr. Neil Gallagher
Time Oil Co.
P. O. Box 03117
St. John's Station
Portland, Oregon 97203

Dear Neil:

You have had on hand 4 drums of Munsell Grey Anstrik over a year. This has now become of questionable quality; please agitate one drum thoroughly, take a quart sample (or equivalent smaller ones) and forward to my attention.

Thanks,

R. F. Simmons,
Plant Manager

RFS/pc

BZTO104(e)010485

September 10, 1973

Mr. Byron C. Tarr, General Manager
Priestley Oil & Chemical Co., Inc.
2429 N. Borthwick Ave.
Portland, Oregon 97227

Dear Byron,

I am sorry to have delayed in replying so long to your letter of May 31, but in order to consider your proposition time has been needed to check our West Coast committments and consider our future in the area.

It is doubtful if Wood Treating is interested in two blenders at Portland and we have been well satisfied with our working agreement with our present blender, but a change, of course, would be considered if an advantage could be seen. One such advantage you might be able to provide would be a supply of both regular and low end point mineral spirits; we are looking for a total volume in the area of 600,000 to 700,000 gallons annually on a long term contract at something less than market pricing.

As for facilities needed, the following should be considered as a minimum:

1. A heated (200°F. max.) and agitated blend kettle of at least 1000 gallon capacity.

2. Bulk storage for at least four other solvents, besides the two mineral spirits- capacities of 5M, 15M, and two 25M tanks.

3. Bulk storage for four products - two 10M, two 25M tanks.

4. Warehousing of approximately 10,000 sq. ft.; fork truck handling.

5. Facilities for receiving and shipping bulk tanktrucks, tankcars, box cars, van or flat bed trucks, a few 3500 Lb. tote bins, palletized slabbed wax and bagged pentachlorophenol and pails and drums of raw material and product.

6. Facilities to drum (55 Gal.) product and handle some small amount of packing one and five gallon containers; this should include a volume measuring device and/or scale.

&. Sufficient office personnel time to prepare bills of lading, batch sheets, inventory, receiving papers, samples, etc.

Our cost with the present blender becomes a little difficult to translate for you; this is because we rent some tankage, some we own, plus paying two different blend fees and a packaging charge. I think maybe the simpliest way of stating our cost at this time would be to say we average about $1500.00 monthly for the facilities and services enumerated above which has produced approximately 50,000 gallons of product monthly of which probably 45,000 ships in bulk, and most all the balance in 55 gallon drums.

If, after reviewing this, you feel there is a possibility of arranging an agreement, please advise.

Sincerely,

R. F. Simmons,
Plant Manager

RFS/pc

June 7, 1973

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117
St. John's Station
Portland, Ore. 79203

Dear Neil:

Please take an inventory of our material on hand as of closing on June 20, 1973 and report so as to arrive to us in St. Louis not later than Monday, June 25. Any material receipts, production batch sheets, or bills of lading for shipments prior to the inventory should be forwarded.

Attached please find a blank affidavit which is needed to verify the count.

Thank you for your cooperation and if there are any questions, please advise.

Sincerely,

R. F. Simmons,
Plant Manager

RFS/pc
Attachment

April 24, 1973

Mr. Neil Gallagher
Time Oil Co.
12005 N. Burgard Rd.
P. O. Box 03117
St. Johns Station
Portland, Oregon 97203

Dear Neil;

Under separate cover we are sending you a dozen quart sample cans and reshipper cartons for use in sending out product samples to customers as requested.

We have requests to send a quart sample of Timbertox 40 to each of the following:

Mr. Don Dawson, P.A.
Los Angeles Chemical Co.
4545 Ardine St.
Southgate, Calif. 90280

Mr. Sydney H. Gordon
Purchasing Dept.
AMVAC Chemical Corp.
4100 E. Washington Blvd.
Los Angeles, Calif. 90023

You will find address labels attached. We ask you fill these requests, enclose a product label and send via parcel post on receipt of the cans and cartons.

Thanks,

R. F. Simmons,
Plant Manager

CC: Customer Files
Alex Saucedo.

KOPPERS

Interoffice Correspondence

To Parker W. Finney

Location K-2317

Subject Oregon Inventory Value 1972

From R. F. Simmons
Wood Treating Chemicals Dept.
St. Louis, Mo. 730

Location

Date February 28, 1973

Below are listed evaluations of our materials on hand monthly during 1972 at our contract blender, Time Oil Company, 12005 N. Burgard, Portland, Oregon.

No.	Raw Materials	Finished Product	Container	Total
Jan.	$40,098.23	$8,620.37	$359.20	$49,077.80
Feb.	35,492.15	9,478.71	377.20	45,348.06
Mar.	35,111.54	9,704.13	317.20	45,132.87
Apr.	31,475.10	9,431.23	431.20	41,337.53
May.	26,217.21	27,703.32	879.68	54,800.21
Jun.	34,300.07	8,128.41	879.60	43,308.08
Jul.	31,820.27	7,028.59	1,059.60	39,908.46
Aug.	29,406.34	13,164.51	632.20	43,203.05
Sep.	22,863.52	12,793.12	906.56	36,563.00
Oct.	26,853.20	14,888.22	1,170.48	42,911.90
Nov.	20,633.26	18,520.25	1,235.44	40,388.95
Dec.	25,872.87	10,706.22	1,259.04	37,838.13

In addition, we had the following finished material evaluations in Oregon warehouses in 1972 at month's end as shown.

Faber's, 401 S. Fir Street, Medford, Oregon

Nov.	1,585.81
Dec.	1,585.81

Mc Cracken Van & Stg. Co., 2155 W. Broadway, Eugene, Oregon.

Jan.	13,754.84	May	6,704.16
Feb.	9,480.20	Jun.	727.35
Mar.	8,191.71	Jul.	606.80
Apr.	6,704.16	Aug.	561.04
		Sep.	561.04

R. F. Simmons

BZTO104(e)010490

February 7, 1973

Mr. Newton Lesh
Time Oil Co.
P. O. Box 03117
St. John's Station
Portland, Oregon 79203

Dear Mr. Lesh:

As I mentioned to Nell this morning, we have an inquiry about packaged Timbertox 40 Conc. and need to determine your cost to us for packing 6 X 1 gallon cases and 5 ga-lon pails; would you please quote at your earliest convenience?

The customers estimated requirements are possible 100 6 X 1 gallon cases and 25 X 5 gallon pails every three months.

Sincerely,

R. F. Simmons,
Plant Manager

RFS/pc

February 7, 1973

Mr. Nell Gallager
Time Oil Co.
P. O. Box 03117'
St. John's Station
Portland, Oregon 79203

Dear Nell:

Having just completed our phone conversation, I will rewrite my letter to you.

To clear our discrepancy with January inventory, I have written a batch sheet, WC-0004-T for the two batches of 140 RTU produced Jan. 25 and 26. The two batches produced Jan. 8 & 9 should be designated WC-0003-T..

Please be sure George receives samples promptly. It is most important a sample be mailed the same day as the batch is made. It is also very desirable that each bulk delivery of KB-21, WTL oil, and mineral spirits be sampled and sent promptly.

We are attaching a new formula record to be followed in production of Timbertox 40; this change is effective at once so please destroy all other formula records of Timbertox 40.

At the same time, we are consolidating back to one concentrate which will be this new formula, so destroy all formula records of Penta Wood Preservative Concentrate.

Now, to reconcile the inventory of these two products you have on hand (Timbertox 40 and Penta Wood Conc.) do the following.

1. Continue to work off the remaining Penta Wood Concentrate two drums per batch of new formula Timbertox 40 as discussed.

2. Rework the 16 drums of Timbertox 40 on hand which contain sediment, as per the attached sheet, send sample to St. Louis from kettle, drum and hold until ok'ed by us to ship.

In order to rework, proceed like this:
Weigh each drum, pour off the liquid portion into kettle and reweigh drum to secure net weight put into kettle. When all 16 drums thus handled into kettle, add up net weights, calculate amounts of KB-21 and Penta to add while heating. Heat and circulate and make the additions when 150°F. reached. Proceed as in normal manufacture for heating and circulating time.

As we have also discussed, we possibly have package goods business in Timbertox 40 developing and I am writing Mr. Lesh today for a cost for packaging 6 X 1 gallon cases and 5 gallon pails. I would appreciate the earliest consideration you can give this so we can get back to the potential customer.

Thanks,

R. F. Simmons,
Plant Manager

RFS/pc
Attachments

cc: R. D. Arsenault
J. M. Montgomery
H. P. Struessel

January 4, 1973

Mr. Neil Gallager
Time Oil Co.
12005 N. Burgard Rd.
Portland, Oregon 97203

Dear Neil:

A decision has been made to discontinue product WR 320, Our records indicate you have none of this product on hand, so it should be a relatively simple matter for you to destroy all labels and confidential formula records and close the issue; please do so promptly. Any future inquiries or orders for the product should be routed to John Messner or this office for disposition.

Thanks,

R. F. Simmons,
Plant Manager

HPS- Last sale 9/25/72 b/1/61324. Your product listing can be deleted as far as I am concerned.

BZTO104(e)010494

— TIME OIL CO.
Correspondence - 1975

November 26, 1975

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117, St. John's Station
Portland, Oregon 79203

Dear Neil:

Yesterday we ordered some one gallon and five gallon cans from General Can Company, Portland, to be sent to you; they could not supply shipping cartons for the gallon cans, so those are being sent to you from St. Louis. This then, will give you material to package sample requests for awhile.

John Culp will be calling you in probably mid-December to fill several (approximately a half drum) five gallon pails of Petroset II for International Paper Company, Longview, Washington. You should prepare a normal bill of lading for the shipment, whether taken by John or shipped by common carrier, so we can relieve our inventory properly; we will otherwise treat the transaction as a no charge sample to the customer. The balance, part drum hopefully will be sold to J. H. Baxter on their next order.

Enclosed are labels for the Petroset II that you repack.

Thanks,

R. F. Simmons
Operations Manager

RFS/sjk

Enclosures

cc: J. Culp Koppers Company, Inc. P. O. Box 23361 Portland, OR 97223
J. M. Montgomery
H. P. Struessel

BZTO104(e)010496

August 22, 1975

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117, St. John's Station
Portland, Oregon 79203

Dear Neil:

Enclosed are new formula records for your book; please manufacture only to these formulas from now on, removing the old formulas from your book and destroying them.. Harold is sending you new labels; until received however, you may use current labels on the 'T' products; as new 'T' labels are received, the old stock should be destroyed.

Good luck fishing.

Yours very truly,

R. F. Simmons
Operations Manager

RFS/sjk

Enclosure

June 3, 1975

Mr. Nell Gallager
Time Oil Company
P. O. Box 03117
St. John's Station
Portland, OR 79203

Dear Nell:

Koppers' Forest Products Division is taking a complete physical inventory as of closing the evening of June 20, 1975. Accordingly, please take the inventory and mail so as to arrive in St. Louis by Monday, June 23.

It will be necessary also to complete the enclosed affidavit.

Best regards,

R. F. Simmons
Operations Manager

RFS/pdc

Enclosure

May 9, 1975

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117 - St. John's Station
Portland, Oregon 79203

Dear Neil:

We are writing to inform you of a recent oil spill at one of our customers' plant and resultant action because they were slow in reporting it. The wood preserving plant, operating on an inland stream, had a small spill and apparently were negligent in immediately reporting it to the authorities. The coast guard considered the slowness in reporting to be a criminal offense and the president and an employee who was considered the lowest one in line authority to instruct personnel on spill procedure handling was hauled into court. Fortunately, it was our customers' good fortune to draw an understanding judge who thought they were not trying to evade the law and assessed only a $100 fine; we understand the fine could have been $5000.

We bring this incident to you as information only in the hope that we all are more vigilant in guarding against industrial pollution.

Best Regards,

R. F. Simmons
Operations Manager

RFS/sjk

BZTO104(e)010499

March 6, 1975

TO: Neil Gallagher - Portland

FROM: Al Schneider - Seattle

I was reviewing the Koppers Co. - Wood Treating Chemicals Co. contract and asked for a current copy of an invoice for monthly charges. I was given the March 3, 1975 invoice for February charges.

I note that you have not increased the charges as is provided in the original contract and the Amended Schedule of August 1, 1970 which provided for increasing the charges and [illegible] on increases in average wage rates for terminal employees.

I understand that you advised Jim Godling the current average wage is $4.90 per hour. The way I interpret the contract we are entitled to increase our charges for 25% of the percentage increase in average wages over the $3.875 rate set out in the Amended Schedule. The dollar increase is $1.025 per [illegible] an increase of 26.45% over the $3.875 rate [illegible] is 6.6125%, the amount we are entitled to increase [illegible]

Also, on your invoice you set forth an item [illegible] as [illegible] monthly charge.

So, on future invoices you should add all the [illegible] and then add the increase to the total to arrive at the monthly billing. Also, I would submit them an invoice for the increase retroactive to when the $4.90 average wage went into effect.

Al Schneider

KOPPERS

Interoffice Correspondence

To Parker W. Finney

Location Pittsburgh, PA K/2317

Subject Oregon Personal Property Tax Information - 1974

From R. F. Simmons

Location WTC St. Louis, Missouri

Date January 29, 1975

The inventory value of our material at Time Oil Company, 12005 N. Burgard Road, Portland, Oregon by month is as follows:

January	1974	$ 31,763.51
February	1974	$ 40,008.23
March	1974	$ 41,684.53
April	1974	$ 66,106.00
May	1974	$ 62,042.15
June	1974	$ 46,042.08
July	1974	$ 38,437.09
August	1974	$ 52,155.71
September	1974	$ 46,150.71
October	1974	$ 49,607.47
November	1974	$ 60,415.92
December	1974	$ 63,365.37

R. F. Simmons

RFS/sjk

cc: R. G. Hamilton

BZTO104(e)010501

TIME OIL CO.
Correspondence - 1974

BZTO104(e)010502

October 30, 1974

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117, St. John's Station
Portland, Oregon 79203

Dear Neil:

Confirming our telephone conversation of yesterday, the batch information provided on the Timbertox 40 formula you have is incorrect; attached find one that is corrected and which should be used in the future; remove the old one from your book and destroy it.

Further confirming, to correct the 1900 Gal. of Timbertox 40 made on batch WD-032-T, in equitable batch amounts add a total of 555 gallons KB-21 and 2850 pounds of penta with proper heating and circulation. This will yield 2630 gallons.

Pat has sent you the receiver copy of our order A-11483 to Eastman for a 10,000 gallon car of KB-3 which was shipped 10/24 in GATX 93498 routed CRR-C&O (Chicago)- C&NW (Omaha) - UP. KB-3 is to be used interchangably with KB-21; in fact, it may be put in the same tank if you desire; just be sure to get a car sample of the raw material for us before it is unloaded into KB-21.

Enclosed also you will find new formula records for Woodtox 140 Conc. and R T U and Preprime Conc. and R T U; remove and destroy all previous formula records of these that you may have.

Yours truly,

R. F. Simmons
Operations Manager

RFS/sjk

Attachment

BZTO104(e)010503

October 14, 1974

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117 - St. John's Station
Portland, Oregon 79203

Dear Neil:

For the record, we are confirming our verbal instructions of last Wednesday to you:

To the 310 Gallons of Timbertox 40 Concentrate in the kettle and the 360 gallons in drums (which should be returned to the kettle), add 1700 pounds (221 Gallons) KB-21 and 1375 pounds Penta. Reheat to 180° F minimum and circulate at least an hour to make homogenous.

The sample of this Timbertox 40 was air-mailed Thursday and we have rushed analysis on it, only to find it still low in Penta. We called Candy in your absence at noon and left word for you to reheat the product to 180° F, add 300# more Penta and circulate and continue heating two more hours. Assuming this rework proves satisfactory, you will find attached a new formula for Timbertox 40. You will note this one calls for 7.3% more KB-21 and should provide lots better penta solvency than the old formula. Please remove the old formula from your book and destroy it.

In a small 'Mailer Envelope' Harold has sent a rubber stamp that denotes your plant EPA Establishment Number. As per our September 9 letter again be cautioned that all EPA registered products must also show this establishment number on every container shipped on or after October 21, 1974. This stamp will allow you to stamp the number on until such time as we get properly

BZTO104(e)010504

printed labels to you; note proper placement of this on the labels attached.

If there are any questions, please call.

Best Regards,

R. F. Simmons
Operations Manager

RFS/sjk

Attachment

cc: A. Guzman
H. Struessel

September 9, 1974

Neil Gallagher
Time Oil Company
P. O. Box 03117 - St. John's Station
Portland, Oregon 79203

Dear Neil:

A recent request by one of our salesmen is prompting us to write about labels - their custody, use and penalty that can be involved for improper use.

The request we received was to supply lables to a distributor who was repacking bulk material purchased from us. The request, of course, was denied as the EPA view's repacking as manufacturing and the distributor has to secure his own label and plant establishment number. You should therefore be cautioned to not let anyone, including our salesmen, remove labels from your plant that is not applied to product containers or one which is affixed to the Bill of Lading in the case of a bulk shipment.

Beginning October 21, product you produce for us which has an EPA registration number on the label must also contain the establishment number. Those products without the registration number, likewise do not need the establishment number. Please review your label stock and make sure you destroy any label that are not in compliance.

The following product labels should contain neither number: All Anstriks, All Lumbrellas, LST Co-Solvent II, Petroset II, Color Seal, WR 340 Concentrate. All other labels should contain both numbers: Woodtox 140 RTU and Concentrate, Woodtox PrePrime RTU and Concentrate, Timbertox 40 Concentrate. You should have no other labels. It is most important you have only current labels and only those for product you manufacture or have in stock.

If you have any questions, please advise.

Yours truly,

R. F. Simmons

BZTO104(e)010506

June 11, 1974

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117, St. John's Sta.
Portland, Oregon 79203

Dear Neil:

Koppers' Forest Products Division is taking a complete physical inventory as of closing the evening of June 20, 1974. Accordingly, please take the inventory and mail so as to arrive in St. Louis by Monday, June 24.

It will be necessary also to complete the enclosed affidavit.

Best Regards,

R. F. Simmons
Operations Manager

RFS/sjk

Enclosure

KOPPERS

Interoffice Correspondence

To Parker Finney
Law & Real Estate Dept. K-2317
Location Pittsburgh, PA.

From R. F. Simmons
Location St. Louis, MO.

Subject Oregon Tax Evaluation 1973

Date February 20, 1974

This will confirm our call to your secretary on the 14th giving the December evaluation for Wood Treating material on hand at Time Oil Company, 12005 N. Burgard, Portland, Oregon; as there appears to be considerable fluctuation from month to month however, we have proceeded to evaluate each month as per your original request.

January	37838.13
February	25155.34
March	39577.01
April	34821.64
May	46224.65
June	31942.46
July	37342.63
August	56996.88
September	53186.43
October	65846.26
November	54910.15
December	58801.77 - 6422.74 Writeoff=52379.03

R. F. Simmons

RFS:mab

5 REV 2

cc: John Messner

January 17, 1974

Neil Gallagher
Time Oil Company
P.O. Box 03117-St. John's Sta.
Portland, Oregon 79203

Dear Neil:

Please send a quart sample (with label) of Woodtox 140 RTU to:

Rudolph C. Martinak, Office Manager
Koppers Company, Inc.
P.O. Box 550
Sumner, Washington 98390

Thanks,

R. F. Simmons
Plant Manager

RFS:mab

TIME OIL CO.
Correspondence - 1976

BZTO104(e)010510

October 27, 1976

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117
St. Mohn's Station
Portland, Oregon 97203

Dear Neil:

Lately we have not been receiving samples of production batches. At the present time we do not have samples of the following:

WF0055T- Woodtox Preprime RTU
WF0067T- Woodtox 140 Conc.
WF0068T- Timbertox 40 Conc.
WF0070T- Timbertox 40 Conc.

Neil, it is essential that we receive a sample of every batch produced, and that you also have a retain sample in case of loss in transit or damage. Would you check your retain samples for the above batches and forward to us. Thanks.

Best regards,

R. F. Simmons,
Operations Manager

RFS/pdc

September 16, 1976

Mr. Neil Gallagher
Time Oil Co.
P. O. Box 03117
St. John's Station
Portland, Oregon 97203

Dear Neil:

Enclosed you will find updated formula sheets for the products you make for us. Due to changing weights of raw materials, I think you will find slight variations of raw materials from the formula sheets you are now using; please destroy the old sheets and begin to use the new ones. (Retain and use the Preprime Conc. and RTU sheets using Santolene C; the new Preprime Conc. and RTU formulas are made for use with a Nalco corrosion inhibitor.)

If there are any questions, please advise.

Best regards,

R. F. Simmons,
Operations Manager

RFS/pdc

June 14, 1976

Mr. Neil Gallagher
Time Off Co.
P. O. Box 03117
St. John's Station
Portland, OR 79203

Dear Neil:

Please arrange to forward to us in St. Louis a physical inventory of our stock at your location as of closing Friday, June 18, 1976. The inventory should be mailed also on the 18th along with any shipping documents/production records not previously mailed.

This is our annual physical inventory of record, so please make all effort to correctly count the stock.

Yours truly,

R. F. Simmons,
Operations Manager

RFS/pdc

cc: W. Alt
J. M. Montgomery
J. D. Palmer
A. R. Saucedo
G. B. Mills

March 1, 1976

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117, St. John's Station
Portland, Oregon 79203

Dear Neil:

Attached is a blanket purchase order to Ashland Chemical Co. for a faster drying mineral spirits; loads are to be on your release only.

Begin at once to use this mineral spirits only for the following products:

Woodtox Preprime RTU - T
Woodtox Preprime Conc. - T

You should maintain one T/L of this mineral spirits in inventory and one T/L of Woodtox Preprime RTU - T in inventory. We will continue to make Preprime Conc - T only when we have orders in hand and remaining drums from the last previous batch are depleted.

Best Regards,

R. F. Simmons
Operations Manager

RFS/sjk

Attachment

Blind to Copyees: This raw material conforms to pollution requirements : 2% aromatics, distillation range: 312 - 364°F with 90% @ 350° and with a TCC flash-point of 101°F.

KOPPERS

Interoffice Correspondence

To Parker W. Finney
Real Estate Section
Location Pittsburgh, PA K/1928

From R. F. Simmons
Location St. Louis, Missouri

Subject Wood Treating Chemicals Dept.
1975 Oregon Personal Property Tax Info.

Date January 14, 1976

Located at Time Oil Company, 12005 N. Burgard, Portland, Oregon, 79203; inventory evaluation by month:

1/1/75	$ 72,744.85
2/1/75	59,405.31
3/1/75	56,139.52
4/1/75	72,537.25
5/1/75	59,676.32
6/1/75	53,885.00
7/1/75	55,879.24
8/1/75	87,083.83
9/1/75	67,107.60
10/1/75	64,002.11
11/1/75	70,672.85
12/1/75	61,610.00

R. F. Simmons

RFS/sjk

cc: R. G. Hamilton
F. Klasnick

BZTO104(e)010515

KOPPERS

Interoffice Correspondence

To Mr. David W. Stevenson
Real Estate Section
Location Pittsburgh, PA K/1928

From R. F. Simmons
Location St. Louis, Missouri

Subject Operating Agreement/Tankage Lease
Time Oil Co., Portland, Or and
W T C Dept.

Date January 14, 1976

Confirming our conversation we desire for our arrangement to continue another five year term through February 28, 1982.

R. F. Simmons

RFS/ajk

cc: R. G. Hamilton
F. Klasnick

BZTO104(e)0105

KOPPERS

Interoffice Correspondence

To Mr. R. E. Simmons

Location St. Louis, Missouri

Subject Operating Agreement and Lease of Tanks Portland, Oregon

From Real Estate Section

Location Pittsburgh, Pa.

Date January 9, 1976

Under date of March 1, 1967, Wood Treating Chemicals Co. (now Koppers Company, Inc.) entered an operating agreement and lease of tanks with Time Oil Company at Portland, Oregon, for a term of five years from March 1, 1967, to February 29, 1972, at an annual handling charge of $7,380. This agreement automatically renewed in 1972 for a further term of five years from March 1, 1972, to February 28, 1977, at the same handling charge.

Under the terms of the agreement, both parties have the right to cancel the agreement as of February 28, 1977, by giving notice to the other party on or before February 29, 1976.

We assume that you will permit this operating agreement and lease of tanks to renew automatically for a further term of five years from March 1, 1977, to February 28, 1982. If such is not the case, please advise.

David W. Stevenson

DWS/sf

cc: R. G. Hamilton

BZTO104(e)010517

TIME OIL CO.
Correspondence - 1977

BZTO104(e)010518

BZTO104(e)010519

Wood Treating Chemicals Dept., Koppers Company, Inc.
5137 Southwest Ave., St. Louis, Mo. 63110
Telephone 314-772-2200

KOPPERS

May 19, 1978

Mr. Neil Gallagher
Time Oil Co.
12005 N. Burgard Rd.
Portland, Oregon 97203

Dear Neil:

Upon my visit in February, we left you a booklet which contains sections concerning:

- Product Data
- Pentachlorophenol & Solution Safety Precautions
- Product Material Safety Data Sheets
- Raw Material Data Sheets
- Tank Entering & Cleaning Procedure (Used by Koppers)

Confirming our verbal discussion, this information was given to you as an aid for possible improvement of your understanding of our products and the products you manufacture for us and should not be taken as mandatory recommendations or procedures to be followed. Koppers assumes no liability for the accuracy of the information and it should be used as reference material only.

It is suggested by OSHA that the Product and Raw Material Safety Data Sheets be available for easy reference by your plant workers. We at Koppers incorporate these in our Safety Program, review the program with our workers and have them sign a statement that such a review has been presented and that they understand the safety procedures they should follow. It is, of course, Time Oil's decision to follow or discard these comments. We attach a sample statement that is retained in our employee's files, and recommend an annual review and statement updating. (Exhibit A)

Again, to assist you in establishing a medical surveillance procedure, enclosed you will find a medical examination record. (Exhibit B) The standard items on the form are done upon pre-employment examination; upon annual re-examination our employees are subject to a physical examination that directs its attention to detecting pentachlorophenol exposures. The examination concentrates on the following:

1. A thorough occupational history with respect to possible exposures to pentachlorophenol and other chemicals.

2. A thorough skin examination checking for acne-like lesions.

3. An examination for chronic irritations of the nose and throat.

4. An examination of the eyes for cornea and iris damage.

5. Blood pressure tests in the standing and sitting position.

6. An examination of the abdomen for possible liver enlargement and/or tenderness.

7. A check on neurological functions in the arms and legs.

8. A chest x-ray.

9. Urinalysis including a microscopic examination, sugar and albumin.

10. Blood chemistry analysis, SMA-12 including blood sugar.

The doctor provides a short narrative explicitly noting abnormalities, particularly of these 10 items.

All of the employees at the St. Louis operation who have a potential exposure are required to participate in this program. After two years there have been no abnormal results from this examination program.

The physicians performing the examinations have been provided with listings of the chemicals handled. These physicians retain the records of the examinations and have been instructed to contact the employee and local management if abnormalities occur.

This extensive program was started to determine the effectiveness of the engineering controls and personal protective equipment programs that were designed to prevent employee exposure to chemicals. It is also possible to determine if there would be any adverse effects to our employees who handle chemicals. The application of this program is audited during routine loss prevention surveys.

Good personal hygiene practices cannot be overemphasised, therefore we insist on the following standards for employees working with chemicals:

All plant employees-

1. Upon arrival to begin work, wash hands, arms, face and neck with soap and water and rinse thoroughly. This is to remove any trace of oily film that accumulates on the skin since chlorophenols from penta are oil soluble and an oily skin greatly increases the probability of skin absorption of the chlorophenols.

2. This washing is to be repeated at each and every coffee, smoke or lunch break prior to eating or smoking.

3. Each employee is provided a daily change of clothing which should be utilized on plant. Work uniforms are not to be worn away from the plant, nor should street clothing be worn in the plant. An additional uniform clothing change should be on hand for unexpected accidental chemical wetting.

4. Safety items - gloves, goggles, respirators, air-pacs, shoes, boots, rain gear, protective suits and helmets - are all provided and instructions given for usage. This equipment is to be maintained, cleaned, inspected, and used as has been instructed.

5. Finally, each plant employee is required to shower thoroughly at his shift-end, prior to leaving the plant.

Again please note, Koppers has provided this material to you as reference and guidance, not for specific recommendation or required procedure under our blending contract. Advise if you have further questions.

Sincerely,

Bob

R. F. Simmons,
Operations Manager

RFS/pc

The following procedures were reviewed and understood at

_____ (location) by _____

(supervisor's name) with _____ (employee) on

_____ (date).

Pentachlorophenol & Solution Safety Precautions.
Material Safety Data Sheets

(List)

1.
2.
3.
4.
etc.

Lock-out Procedure.
Tank Entering & Cleaning Procedure.

Exhibit A

PLS-28

MEDICAL EXAMINATION RECORD

KOPPERS COMPANY, INC.

DATE _____

NAME _____ DATE OF BIRTH _____ SEX _____ M. S. W. D. SEP.

ADDRESS _____ PHONE _____ DIVISION _____ LOCATION _____

PREVIOUS OCCUPATIONS: (INDICATE EXPOSURES TO DUST AND SKIN IRRITANTS): _____

OCCUPATION FOR WHICH EXAMINED: _____

FAMILY MEDICAL HISTORY	CANCER	DIABETES	EPILEPSY	HEART DISEASE	HIGH BLOOD PRESSURE	MENTAL DISEASE	STROKE	TUBERCULOSIS	
PERSONAL MEDICAL HISTORY	ALLERGY	EPILEPSY	HERNIA	MALARIA	SKIN CONDITION	PLEURISY	PNEUMONIA	TUBERCULOSIS	RHEUMATISM
	VACCINATIONS		OPERATIONS			MEDICAL ATTENTION PAST 2 YEARS			
	COMPENSATION FOR INDUSTRIAL INJURY	NO	YES	WHEN	FOR WHAT				
	OCCUPATIONAL DISEASE	NO	YES	WHEN	WHAT KIND				
	MENSTRUAL HISTORY	REGULAR		PAINFUL		LOST TIME			

HAVE YOU ANY PHYSICAL DEFECTS OR ALLERGIES WHICH MIGHT MAKE IT INADVISABLE TO ACCEPT EMPLOYMENT IN THE JOB FOR WHICH EXAMINED: _____

NAME OF FAMILY DOCTOR: _____

I CERTIFY THE ABOVE STATEMENTS TO BE TRUE AND CORRECT

APPLICANT'S SIGNATURE _____

Exhibit B

BZTO104(e)010524

BEFORE THE STATE OF OREGON WORKERS' COMPENSATION DEPARTMENT
ACCIDENT PREVENTION DIVISION
Labor and Industries Building
Salem, Oregon 97310

In the Matter of the Alleged Violation)
of the OREGON SAFE EMPLOYMENT ACT.)
By: Time Oil Co.

CITATION AND NOTICE OF PENALTY

To: Mr. Newton P. Lesh, Vice-President
Time Oil Co.
12005 North Burgard
Portland, Oregon 97203

Employer I.D. No.: 521536-3-009
Citation No.: D7255-024-78
Date Issued: April 6, 1978

An inspection of a workplace under your ownership, operation or control located at or near 12005 North Burgard, Portland, Oregon

and described as follows: petroleum products wholesale

was conducted on October 13, 1977

On the basis of the inspection it is alleged that you have violated the Oregon Safe Employment Act, ORS Chapter 654, as alleged on the attached Exhibit "A" and incorporated herein by reference.

The penalty for all violations is: NONE

The "Notice of Correction" card must be received by: May 8, 1978

THE LAW REQUIRES THAT A COPY OF THIS CITATION BE PROMPTLY POSTED IN A CONSPICUOUS MANNER ABOUT YOUR WORKPLACE AND IN A SUFFICIENT NUMBER OF PLACES TO INFORM YOUR WORKERS OF THE FACTS. IT SHALL BE PROMINENTLY POSTED FOR A PERIOD OF 3 DAYS OR UNTIL THE VIOLATION IS CORRECTED, WHICHEVER OCCURS LAST.

EMPLOYER: SEE REVERSE SIDE OF THIS FORM FOR RIGHTS AND RESPONSIBILITIES REGARDING THIS CITATION

ACCIDENT PREVENTION DIVISION

Helen Drewe
Sanction Officer

R8219:mh

RIGHTS OF EMPLOYEES

Any employee or representative of employees who believes that any period of time fixed in this Citation for the correction of alleged violations is unreasonable has the right to request a hearing by submitting a letter to the Workers' Compensation Department, Safety Hearings Clerk, Hearings Division, Labor and Industries Building, Salem, Oregon 97310, within 20 days of your employer's receipt of this Citation.

cc: C. T. Corporation System

BZTO104(e)010525

EXHIBIT "A"

Employer Name: Time Oil Co. Date Issued: April 6, 1978

Employer I.D. No.: 521536-3-009 Citation No.: D7255-024-78

Item No.	Standard Allegedly Violated OAR Chap. 437 /436	Description of Alleged Violation	Date Correction Required	Penalty
1.	22-011(2)	Although the following employees were exposed to known health hazards they were inadequately informed as to the nature of the hazards, the measures taken to prevent and control such hazards, or the proper methods of utilizing such control measures. Employee / Location — Hazard 1. Don Stell - Mixing Area — Pentachlorophenol 2. David Wood Mixing Area — Pentachlorophenol within the compliance deadline the firm must undertake one of the following: A. Provide adequate information or training to affected employees by internal efforts and/or by the firm's Workmen's Compensation carrier,or, B. In cooperation with the Occupational Health Section prepare, develop and obtain approval of an employee information program. This program shall be designed to insure that employees are adequately informed of the health hazards to which they are exposed and the measures necessary to control such exposures. (Complied with at time of inspection). FIRST INSTANCE VIOLATION----------$25.00	N/A	SUSPENDED
2.	22-069 (4)(b)(1)	There were no written standard operating procedures governing the selection and use of respirators. FIRST INSTANCE VIOLATION-$0.00	5-6-78	SUSPENDED
3.	22-069 (4)(e)(5) (1)	Don Stell and David Wood, who were wearing respirators, had full beards which interferred with an effective face seal. (Complied with at time of inspection). FIRST INSTANCE VIOLATION----------$0.00	N/A	SUSPENDED
4.	7-5-1 & 7-2-1	Boots and raingear made of material impervious to pentachlorophenol were not provided to employees during mixing and filling operations when it was possible for this substance to come in contact with the employees skin. FIRST INSTANCE VIOLATION----------$15.00	5-6-78	SUSPENDED

Total Penalty

WCB 1221 (Rev. 1/76)

BZTO104(e)010526

EXHIBIT "A"

Employer Name: Time Oil Co.

Date Issued: April 6, 1978

Employer I.D. No.: 521536-3-009

Citation No.: D7255-024-78

Item No.	Standard Allegedly Violated OAR Chap. 437	Description of Alleged Violation /436	Date Correction Required	Penalty
5.	7-3-6	Adequate eye protection was not provided for employees during mixing and filling operations as evidenced by the safety glasses provided that did not prevent splashes from coming up under the bottom rim and entering their eyes. FIRST INSTANCE VIOLATION----------$35.00	5-6-78	SUSPENDED
6.	22-060(12)	There was no eye wash fountain in the warehouse area where pentachlorophenol was handled. FIRST INSTANCE VIOLATION----------$25.00	5-6-78	SUSPENDED
7.	22-015 (1)(a)	In the warehouse area where pentachlorophenol was stored and mixed there was no warning sign or other equally effective means of calling attention to such hazards at their location where the hazards exist. FIRST INSTANCE VIOLATION----------$0.00	4-20-78	SUSPENDED
			Total Penalty	NONE

WCB 1221 (Rev. 1/76)

BZTO104(e)010527

cc: J. D. Hite
File Copy
J. R. Brummett
G. A. Schultz
J. M. Montgomery
J. D. Palmer

KOPPERS

Interoffice Correspondence

To T. A. Beatty

From R. F. Simmons

Location K-1001

Location St. Louis, Mo

Subject Monthly Report February 1978

Date March 1, 1978

Wood Treating Chemicals Dept.

I Shipments February Accounting Month

(1) Camden, New Jersey Warehouse

Penta Wood Pres. Conc.	12 X 55 Gal.
Woodtox Preprime Conc.	7 X 55 Gal.

(2) Enfield, North Carolina Warehouse

Lumbrella 15 Redwood	4 X 53 Gal.
Lumbrella 25 Brown	11 X 55 Gal.
Lumbrella 33 Redwood S	54 X 3 Gal.
Lumbrella 33 Redwood S	3 X 55 Gal.
Green End Spray 400	2 X 55 Gal.
Woodtox 140 Conc.	1 X 55 Gal.
NTA/NA3	1 X 50 LBs.

(3) Atlanta, Georgia Warehouse

Green End Spray 400	3 X 55 Gal.
Liquid Noxtane SSI	1 X 55 Gal.

(4) Newark, California Warehouse

Liquid Noxtane SSI	8 X 345 Gal.
Liquid Noxtane SSI	45 X 55 Gal.
Liquid Azide 200	14 X 55 Gal.
Red End Sealer	10 X 55 Gal.

(5) Cotton Valley, Louisiana Blender

Woodtox 140 RTU	6175 Gal. Bulk

BZTO104(e)010528

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

(6) Portland, Oregon Blender

Redy Coat Penta Conc.	20 X 55 Gal.
Redy Coat Penta RTU	20 X 55 Gal.
Woodtox Preprime T RTU	6790 Gal. Bulk
Woodtox Preprime T RTU	141 X 55 Gal.
Woodtox 140 T RTU	1048 Gal. Bulk
Woodtox 140 T Conc.	60 X 55 Gal.
WR 340 Conc.	76 X 408 Lbs.
Petroset II	1 X 460 Lbs.

(7) Sauget, Illinois Blender

0

(8) Phoenix, Arizona Blender

0

(9) St. Louis, Missouri Plant

Woodtox Preprime RTU	59704 Gal. Bulk
Woodtox Preprime Conc.	10165 Gal. Bulk
Woodtox Preprime Conc.	7 X 55 Gal.
Woodtox RTU	5063 Gal. Bulk
Woodtox RTU	54 X 5 Gal.
Woodtox 140 RTU	3040 Gal. Bulk
Woodtox 140 RTU	8 X 55 Gal.
Woodtox 140 Conc.	45 X 55 Gal.
Penta Wood Pres. RTU	3 X 55 Gal.
Penta Wood Pres. RTU	2 X 5 Gal.
WR 340 Conc.	50 X 400 Lbs.
Poletox	20 X 57 Lbs.
Dowicide GST	40 X 50 Lbs.
WTC #71	8 X 515 Lbs.
KLB Beam Sealer	14 X 55 Gal.
Blue Anstrik Conc.	3 X 5 Gal.
Lumbrella Yellow S	27 X 3 Gal.
Lumbrella 33 Redwood S	56 X 3 Gal.
Penta Stain #502	2 X 55 Gal.
Penta Stain #504	3 X 55 Gal.

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

Penta Stain # 506 — 20 x 5 Gal.
Penta Stain # 509 — 2 X 55 Gal.

Penta Shipments Feb. Calendar Month-Lbs.

To	Supplier WTC	Monsanto	Reichhold	Vulcan	Total	Feb. Comparison 1977	1976
FPD	-	39900	193246	164720	397866	398331	395335
Customer	27800	162488	-	-	190288	290860	70700
WTC	-	-	125950	-	125950	67650	301893
	27800	202388	319196	164720	714104	756841	767928

Invoicing Feb. Accounting Month

	1978	1977	1976
FPD Penta	116641	134009	163210
Customer Penta	92592	131482	100354
WTC Products	195914	289341	139335
Total	405147	554832	402899

II Raw Materials

Penta - Monsanto Inventory as of 2/21
1,640,350 Lbs. 50# Bags, Single Pallets
567,000 Lbs. 50# Bags, Double Pallets
1,015,000 Lbs. 1000# Blocks
3,222,350 Lbs.

Monsanto did run until the end of February. Monsanto has 6000 Gal. of Penta Concentrate in the plant that we committed for, that we will have to take soon to allow their shutdown; we have 19,000 Gal. and tank is full.

Solvents - No Increases during February, none announced for March.

Chemicals - Several minor items up. Wax at Portland up .04/lb., Petroset announced but no amount set, Tadco dye up .60/lb.

BZTO104(e)010530

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

III Inventory and Expenses

January closing inventory		684,063
February purchases		125,311
Raw Materials	100,824	
Containers	350	
Resale products	24,137	
(Resale Penta	94,893)	
February materials converted to products		152,248
February estimated cost WTC products sold		158,886
February estimated closing inventory		650,488
March estimated closing inventory		675,000
April estimated closing inventory		700,000
May estimated closing inventory		700,000

February Plant Expenses

Detail

130 Safety	822	(includes 495 for plant emp. physical)
170 Rent	25	
190 Office Expenses & Svcs	332	
270 Telephone	397	
290 Postage	151	
331 Tankcars	(784)	
350/351 Repairs & Maint.	130	
370 Stationery	19	
381 Fuel & Power	4343	(incl. plant part 2 loads oil)
390/392 Operating Expense	359	
520 Proffesional Svcs.	520	(Traffic & Lab)
170 Whse Rent	1123	
390 Whse Oper. Expense	5041	Blending Newark & Portland
391 Tote Bin Maint	42	
Chem. Pumps	884	
Capital Expenses February	5171	

BZTO104(e)010531

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

IV Sales Forecast

	Mar.	Apr.	May
FPD Penta	250,000	200,000	230,000
Customer Penta	170,000	155,000	170,000
WTC Products	225,000	250,000	225,000
	645,000	605,000	625,000

V Assistance Requirements

1. Solution to Dow discontinuance of EC-7 in prill form.
2. Decision whether to pursue import sodium penta.
3. Sales.

VI General Comments

We are slowly losing accounts because we are not active:

1. Research
   A. Immediate need to overhaul present formulations of major products within label limitations to utilize less costly raw materials.

   B. With a few products, concentrates or more concentrated formulations are needed.
      (1) Wolman Prestain
      (2) Lumbrella

   C. Improved quality product replacement, or new product for same market.

   D. New market products - for instance, we have no interest in particleboard or plywood plants.

2. Sales
   A. Penta - customer orders continue to fall. There is a limit to what can be blamed on weather conditions of this winter.

BZTO104(e)010532

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

B. WTC Products - We are not competitively priced on many products. We are holding the accounts we have only because of superior product, good delivery and personal contact of field salesman with the account.

A cost study of Liquid Noxtane 120, SS and SSI was run for Portland production.

Work on solution and concentrate costing various locations continues; Harry Trautman, corporate purchasing, has been out on sick leave for some time and costing inquiry of oils has not been answered.

Non-EPA registered WTC products label revision proceeding hardly at all.

We still have 110 Gal. Conc. and 792 Gal. 140-T RTU in Phoenix.

Cotton Valley 140 RTU inventory reduced 12000 gallons to 18000 gallons ending February. Several inquiries the past few days are causing optimism for closeout 6-8 weeks.

VII Meetings/Travel

Feb. 2-8 Jones-Hamilton, Newark, CA - Reichhold Chemicals, Tacoma, WA - Time Oil Co., Portland, OR. 1/2 half day at Monsanto Plant, Sauget, IL.
Feb. 15 Loss Prevention Survey of our facility - Lee Allison.

March 2 or 3 - Asplundh visit to St. Louis with Mr. Hite .
March 8 - TOSCA seminar in St. Louis.
March 24 - Plant Holiday, Good Friday

R. F. Simmons

RFS/pdc

BZTO104(e)010533

cc: J. D. Hite
File Copy
J. R. Brummett
G. A. Schultz
J. M. Montgomery
J. D. Palmer

KOPPERS

Interoffice Correspondence

To T. A. Beatty — From R. F. Simmons

Location K-1001 — Location St. Louis, MO.

Subject Monthly Report January 1978 — Date February 1, 1978

Wood Treating Chemicals Dept.

I Shipments January Accounting Month

(1) Camden, New Jersey Warehouse

Woodtox Preprime Conc.	5 X 55 Gal.
Woodtox Preprime RTU	1 X 55 Gal.
Woodtox 140 RTU	2 X 55 Gal.

(2) Enfield, North Carolina Warehouse

Lumbrella 33 Redwood Soft	19 X 55 Gal.
Lumbrella 33 Redwood Soft	162 X 5 Gal.
Lumbrella 15 Yellow	1 X 53 Gal.
Green End Spray 400	2 X 55 Gal.

(3) Atlanta, Georgia Warehouse

Lumbrella 33 Clear	15 X 55 Gal.
Lumbrella 33 Redwood Soft	5 X 55 Gal.
Green End Spray 400	1 X 55 Gal.
WTC #71	1 X 515 Lb.

(4) Newark, California Warehouse

Liquid Noxtane SSI	20 X 55 Gal.

(5) Cotton Valley, Louisiana Blender

Woodtox 140 RTU	8$4 Gal. Bulk

K 43 - REV. 5 100M 12-76

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

(6) Portland, Oregon Blender

Woodtox Preprime RTUg	6044 Gal. Bulk
Woodtox Preprime RTU	80 X 55 Gal.
Woodtox 140 T RTU	41 X 55 Gal.
Woodtox 140 T Conc.	1 X 55 Gal.
Redy Coat Penta Conc.	30 X 55 Gal.
Redy Coat Penta RTU	10 X 55 Gal.
Timbertox 40 Conc.	4083 Gal. Bulk
WR 340 Conc.	6 X 408 Lb.

(7) Saugat, Illinois Blender 0

(8) Phoenix, Arizona Blender 0

(9) St. Louis, Missouri Plant

Woodtox Preprime RTU	24571 Gal. Bulk
Woodtox Preprime RTU	7 X 55 Gal.
Woodtox Preprime Conc.	5 X 55 Gal.
Woodtox 140 RTU	1018 Gal. Bulk
Woodtox 140 Conc.	80 X 55 Gal.
Woodtox 5 Conc.	10 X 55 Gal.
Penta Wood Pres. RTU	7 X 55 Gal.
Penta Wood Pres. Conc	5 X 55 Gal.
Tritox	4 X 57 Lb.
Timbertreat 625	1 X 55 Gal.
KLB Beam Sealer	12 X 55 Gal.
Liquid Noxtane SSI	1 X 55 Gal.
Green End Sealer	10 X 5 Gal.
Blue Anstrik 50 Conc.	1 X 5 Gal.
WTC #71	5 X 515 Lb.
Dowicide GST Beads	160 X 50 Lb.
Super Noxtane	322 X 100 Lb.
Lumbrella 33 Redwood S	27 X 3 Gal.
Red/Orange End Spray 400	4 X 55 Gal.
Black End Spray 400	2 X 55 Gal.

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

Penta Stain #502	2 X 5 Gal.
Penta Stain #504	5 X 55 Gal.
Penta Stain #506	4 X 55 Gal.
Penta Stain #509	3 X 55 Gal.

Penta Shipments January Calendar Month - Lbs

	Supplier					Jan. Comparison	
To	WTC	Monsanto	Reichhold	Vulcan	Total	1977	1976
FPD	-	-	180,927	80,000	260,927	395,335	398,381
Customer	51,600	42,000	93,900	-	187,500	301,893	290,860
WTC	-	-	-	-	-	70,700	67,650
	51,600	42,000	274,827	80,000	448,427	767,928	756,841

Invoicing ($) January Accounting Month

	1978	1977	1976
FPD Penta	142,870	176,297	149,592
Customer Penta	49,785	102,211	62,512
WTC Products	131,328	170,369	129,753
Total	323,983	448,877	341,857

II Raw Materials

Penta - No problems being encountered with distribution either Reichhold or Vulcan. We took into St. Louis a 2,000 Lb. box of Vulcan flakes that was carrier spilled enroute from Vulcan's plant to St. Louis warehousing; the product was exceptionally dark and produced unacceptable Woodtox Preprime upon testing. Conclusion: we will have to scrutinize Vulcan shipements and need to get assay reports and samplings from both Vulcan and Reichhold.

BZTO104(e)010536

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

Mc Phillips reports Monsanto continuing production to the end of February. Weather conditions have not permitted much production however, and inventory situation has not been provided as requested, except in very non-descript terms.

Solvents - Oxo bottoms again increases 2¢/Lb; this makes 25% increase since Sept. 1, 1977.

Steel Containers - U. S. Steel making a big howl on reduced profits to justify their position on increase of 5-6% May 1st. Rheem also announced expected increase of about the same on May 1.

Pigments - Cal Ink increase received today effective March 1 ranging from 4¢/Lb. to 22¢/Lb. Average per Lb. increase 8¢.

III Inventory & Expenses

December closing inventory		630,939	
January purchases			
Raw Materials	107,410		
Containers	8,758		
(Resale Penta	191,493)		
January raw material converted to finished goods		101,575	
January estimated cost WTC products sold		111,000	
January estimated closing inventory		636,107	
February estimated closing inventory		650,000	
March estimated closing inventory		670,000	
April estimated closing inventory		670,000	

Actual physical inventory year end St. Louis		439,388
All other WTC locations		273,701

January Plant Expenses		
Detail 130 Safety	273	
170 Rent	25	
190 Office Expenses & Svcs	599	
270 Telephone	383	
290 Postage	14	
331 Tankcars	(289)	

BZTO104(e)010537

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

350/351	Repairs & Maint.	113
370	Stationary & Printing	34
390/392	Direct Operating Expense	455
520	Prof. Svcs (Traffic & Lab.)	468
170	Whse. Rent	1232
390	Whse. Op. Expense	660
395	Whse. Freight	1149
391	Tote Bins	1692
	Chem. Pumps	1205

IV Sales Forecast

	Feb.	Mar.	Apr.
FPD Penta	170,000	200,000	200,000
Customer Penta	160,000	175,000	200,000
WTC Products	175,000	200,000	200,000
	505,000	575,000	600,000

V Assistance Requirements

1. Sales - Weather has been a plague for two months. Situation has to improve!

2. To our situation we have no solution if Dow discontinues EC-7 prills as scheduled. It is bound to cost plenty to convert to using block EC-7 for Liquid Noxtane, if possible at all.

VI General Comments

December closing physical reported. Terry Franklin, plant worker, laid off Feb. 10. Cecelia Wright, office, retired end of January.

BZTO104(e)010538

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

VII Travel & Meetings

Januray
3-4 Bud Harris - Pittsburgh photographer
12 & 20 - Monsanto, scrap penta inspection
30 & 31 - Harry Fry, Orrville, quality assurance inspection (to our knowledge, no plant gigs.)

February
2-3 - Newark, CA (LN-SSI production quality problems) and visit suppliers.
6 - Reichhold, Tacoma, Wa.
7-8 - Portland, OR Plant - Safety seminar, supplier visits.

R. F. Simmons

RFS/pdc

BZTO104(e)010539

KOPPERS

Interoffice Correspondence

To Ms. Sharyn Ott

Location Real Estate Section K-1928

Subject Oregon Personal Property Tax Figures

From Pat Coleman

Location St. Louis, Mo.

Date January 26, 1978

Sharyn, the following are inventory figures by month, for inventory located at Time Oil Co. Portland, Oregon for 1977.

January	$ 81,161.36
February	97,732.92
March	88,063.96
April	84,147.62
May	83,812.30
June	100,782.62
July	95,575.74
August	85,108.18
September	101,539.57
October	109,651.63
November	115,057.39
December	106,802.88

Pat Coleman

K 43 - REV. 5 100M 12-76

BZTO104(e)010540

KOPPERS

Interoffice Correspondence

To R. F. Simmons

Location WTC - St. Louis

Subject Time Oil

From T. A. Beatty

Location Pittsburgh - K/1001

Date January 13, 1978

Please make absolutely sure that you give Neil Gallagher a written confirmation of your comments offered in your meeting with Time Oil regarding penta safety. You should specifically declare that Koppers assumes no liability for the accuracy of the information presented and that the information is to be regarded as reference material and not for specific recommendations or required procedures under the contract we have with Time Oil.

Please let me see a copy of your confirmation to Mr. Gallagher.

TAB/jw

TAB:jw

T. A. Beatty
Ext. 2448

cc: G. L. Daugherty

BZTO104(e)010541

KOPPERS

Interoffice Correspondence

To R. F. Simmons — From G. L. Daugherty

Location St. Louis — Location Pittsburgh

Subject Penta Handling Procedures (Contract Blenders) — Date January 5, 1978

Enclosed are copies of pertinent information taken from our "Accident Prevention Program". The general policy of Loss Prevention normally forbids release of this information due to liability concerns. Since we are dealing with contract blenders, we must give them information for proper worker safety.

As I mentioned on the phone, workers are required to sign a form that a supervisor has reviewed the "program" with them and that they understand the safety procedures. People handling chemicals such as penta must review the program periodically and also note this on the form. We do not have a standard form as I thought. In any event, the workers note the above information on a document which is kept in their files.

Any information you relate to our contract blenders, whether pertaining to safe handling or medical surveillance, must be given strictly as information which may help them establish or improve their own safety program. You should establish at an early point in your discussions that these are not recommendations or procedures they must follow. A follow-up letter reiterating our position is necessary to safeguard Koppers.

Jerry

Gerald L. Daugherty

GLD/mz

cc: T. A. Beatty

K-5 REV. 2

BZTO104(e)010542

TIME OIL CO.
Correspondence - 1979

BZTO104(e)010543

22-069 PROTECTIVE EQUIPMENT AND APPAREL

(1) Workmen are required to utilize all special protective equipment or apparel necessary during the period of exposure to harmful or hazardous conditions. Employers and employees shall familiarize themselves with the use, sanitary care and limitations of such equipment.

(2) All necessary protective equipment or apparel used shall be designed and/fabricated so that during use the design or fabrication will not constitute a hazard.

(2) (a) Personal protective equipment intended for reuse shall be of such quality as will permit sanitizing without impairment of protective efficiency.

(2) (b) Each employer shall provide the means for sanitization and maintenance of equipment, and only personal protective equipment which has been sanitized shall be issued to workmen after having been worn or used by another person, except that which is worn over outer clothing, and does not contact the skin of the wearer.

(3) In all operations where an extreme occupational health hazard will result from equipment failure, suitable personal protective equipment shall be provided at convenient locations throughout the work area. Additional equipment shall be kept in a location outside the area most likely to be affected, and readily available for emergency use.

(4) Respiratory Protection

(4) (a) Permissible practice

(4) (a) (1) The control of those occupational diseases caused by breathing air contaminated with harmful dust, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination.

This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and location ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

61

ENCL. 4

BZTO104(e)010544

(4) (a) (2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

(4) (a) (3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(4) (b) Requirements for a minimal acceptable program.

(4) (b) (1) Written standard operating procedures governing the selection and use of respirators shall be established.

(4) (b) (2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(4) (b) (3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) (b) (4) Where practicable, the respirators should be assigned to individual workers for their exclusive use.

(4) (b) (5) Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(4) (b) (6) Respirators shall be stored in a convenient, clean, and sanitary location.

(4) (b) (7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(4) (b) (8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(4) (b) (9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(4) (b) (10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance annually).

61

BZTO104(e)010545

(4) (b) (11) The respirator furnished shall provide adequate respiratory protection against the particular hazard as approved by the National Institute of Occupational Safety and Health. When NIOSH has not established approval mechanisms for a particular respiratory hazard, then other respirators may be accepted for use when proof of acceptable performance is made available.

(4) (c) Selection of Respirators. Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z88.2-1969.

(4) (d) Air Quality.

(4) (d) (1) Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

(4) (d) (2) Breathing air may be supplied to respirators from cylinders or air compressors.

(4) (d) (2) (i) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 178).

(4) (d) (2) (ii) The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality.

A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monixide to insure that it meets the specifications in sub-paragraph (1) of this paragraph.

61

BZTO104(e)010546

(4) (d) (3) Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with non-respirable gases or oxygen.

(4) (d) (4) Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, 248.1-1954; Federal Specification BB-A-1034a, June 21, 1968, Air Compressed for Breathing Purposes; or Interim Federal Specification GG-B-00675b, April 27, 1965, Breathing Apparatus, Self-Contained.

(4) (e) Use of Respirators.

(4) (e) (1) Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.

(4) (e) (2) The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protective program. The individual issuing them shall be adequately instructed to insure that the correct respirator is issued. Each respirator permanently assigned to an individual should be durably marked to indicate to whom it was assigned. This mark shall not affect the respirator performance in any way. The date of issuance should be recorded.

(4) (e) (3) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

(4) (e) (3) (i) [redacted]

(4) (e) (3) (ii) When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life or health, standby men must be present with suitable rescue equipment.

61

BZTO104(e)010547

(4) (e) (3) (iii) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

(4) (e) (4) Respiratory protection is no better than the respirator in use, even though it is worn conscientiously. Frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained.

(4) (e) (5) For safe use of any respirator, it is essential that the user be properly instructed in its selection, use and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the men an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere.

(4) (e) (5) (i) Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a facepiece. The worker's diligence in observing these factors shall be evaluated by periodic check. To assure proper protection, the facepiece fit shall be checked by the wearer each time he puts on the respirator. This may be done by following manufacturers' facepiece fitting instructions.

(4) (e) (5) (ii) Providing respiratory protection for individuals wearing corrective glasses is a serious problem. A proper seal cannot be established if the temple bars of eye glasses extend through the sealing edge of the full facepiece. As a temporary measure, glasses with short temple bars or without temple bars may be taped to the wearer's head. Systems have been developed for mounting corrective lenses inside full facepieces. When a workman must wear corrective lenses as part of the facepiece, the face and lenses shall be fitted by qualified individuals to provide good vision, comfort, and a gastight seal.

61

BZTO104(e)010548

(4) (e) (5) (iii) If corrective spectacles or goggles are required, they shall be worn so as not to affect the fit of the facepiece. Proper selection of equipment will minimize or avoid this problem.

(4) (f) Maintenance and care of respirators.

(4) (f) (1) A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

(4) (f) (1) (i) Inspection for defects (including a leak check),

(4) (f) (1) (ii) Cleaning and disinfecting,

(4) (f) (1) (iii) Repair,

(4) (f) (1) (iv) Storage
Equipment shall be properly maintained to retain its original effectiveness.

(4) (f) (2) (i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.

(4) (f) (2) (ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.

(4) (f) (2) (iii) Respirators inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(4) (f) (2) (iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(4) (f) (3) Routinely used respirators shall be cleaned and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Each worker should be briefed on the cleaning procedure and be assured that he will always receive a clean and disinfected respirator.

BZTO104(e)010549

Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(4) (f) (4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(4) (f) (5) (i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

(4) (f) (5) (ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(4) (f) (5) (iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breating apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(4) (g) Identification of gas mask canisters.

(4) (g) (1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(4) (g) (2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

BZTO104(e)010550

(4) (g) (3) On each canister shall appear in bold letters the following:

(4) (g) (3) (i) Canister for ----------
(Name of atmospheric contaminant)
or
Type N Gas Mask Canister

(4) (g) (3) (ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister label: "For respiratory protection in atmospheres containing not more than ----------percent by volume of----------
(Name of atmospheric contaminant)

(4) (g) (3) (iii) All c[illegible]ld be placed on th[illegible]ces of the canis[illegible]

Rule (4)(g)(3)(iii) was repealed by WCD Admin. Order, Safety 4-1979; filed 5-21-79; EFFECTIVE 7-15-79.

(4) (g) (4) Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(4) (g) (5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

(4) (g) (6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table I-1. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

61

BZTO104(e)010551

TABLE I-1

Atmospheric contaminants to be protected against	Colors assigned*
Acid gases	White
Hydrocyanic acid gas	White with ½-inch green stripe completely around the canister near the bottom.
Chlorine gas	White with ½-inch yellow stripe completely around the canister near the bottom.
Organic vapors	Black
Ammonia gas	Green
Acid Gases and Ammonia Gas	Green with ½-inch white stripe completely around the canister near the bottom.
Carbon monoxide	Blue
Acid gases and organic vapors	Yellow
Hydrocyanic acid gas and chloropicrin vapor	Yellow with ½-inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases	Brown
Radioactive materials, excepting tritium and noble gases	Purple (Magenta)
Particulates (dust, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors	Canister color for contaminant, as designated above, with ½-inch gray stripe completely around the caniste near the top.
All of the above atmospheric contaminants	Red with ½-inch gray stripe completely around the canister near the top.

*Gray shall not be assigned as the main color for a canister designed to remove acids or vapors.

NOTE: Orange shall be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford.

61

BZTO104(e)010552

KOPPERS

Interoffice Correspondence

To John D. Hite — From Paul A. Goydan

Location K-1001 — Location K-1001

Subject Monthly Report - May, 1979 — Date JUN 07 1979

I. SALES HIGHLIGHTS - May, YTD

	MAY, '79	YTD '79	MAY, '78	YTD '78	YTD Relative Performance
WOLMANAC (ox. lbs.)					
To Licensees	1,348,990	5,120,132	945,630	3,796,625	+ 35%
To Koppers Plants	222,235	785,808	81,745	331,945	+ 37%
Total WAC Sales	1,571,225	5,905,940	1,027,375	4,128,570	+ 43%
NON COM (lbs.) (E & F)	332,891	1,696,490	309,807	1,426,785	+ 19%
NCX (lbs.)	90,338	294,841	76,820	282,562	+ 4%
ARSENIC ACID (lbs.)					
Outside Sales	158,860	531,371	41,290	369,640	+ 44%
K-Hickson	104,478	462,162	60,000	161,880	+186%
Total Arsenic Acid Sales	263,338	993,533	101,290	531,420	+ 87%
MISC CHEMICAL SALES ($)					
FCAP Solution	$ 1,324	$ 1,392	$ 0	$ 0	
Misc. Chemicals	0	101	20	47,213	-100%
Arsenic Trioxide	0	6,998	0	0	
Total Misc. Chemical Sales	$ 1,324	$ 8,491	$ 20	$ 47,213	- 82%
WTC CCA (ox. lbs.)					
CCA-C (50%)	72,140	214,005	60,625	100,630	+166%
CCA-B (40%)	50,532	135,476	0	0	
Total CCA-C & B Sales	122,672	349,481	60,625	100,630	+335%

K-5 REV. 2

BZTO104(e)010553

	MAY, '79	YTD '79	MAY, '78	YTD '78	YTD Relative Performance
PENTA (lbs.)					
To Outside Customers	205,240				
To Koppers Plants	616,567				
Total Penta Sales (lbs)	821,807	3,164,204			
Total Penta Sales ($)	$ 405,432	$1,480,078	$ 412,564	$1,519,902	-3%
WTC FORMULATED PRODUCTS ($)					
	$ 310,402		$ 261,449		

II. MARKET DEVELOPMENT

A. Penta

1. Dow is continuing to have weekly problems at the manufacturing level. It is one crisis after another; and although we receive promises on Monday or a previous Friday for three loads during the week and occasionally two loads, more often than not we are lucky to get one load for the week. Quite obviously this creates shortage problems. The problems have been discussed frequently by Bob Simmons and me with offices in Midland, St. Louis and Pittsburgh; and although I am sure Dow would like to sell to us and provide more penta, I believe their physical manufacturing operation leaves quite a bit to be desired. Our upcoming meeting on Wednesday, June 13, will obviously serve to iron out a few of these problems. During this meeting I want to establish a policy and discount rate for the west coast so that when penta becomes available, we will have an opportunity to start selling on the west coast. I would also like to discuss reimbursement for penta block dissolvers at four treated products division plants and the one at Walker-Williams.

KOPPERS

Interoffice Correspondence

To John Hyte — From Paul A. Geydan

Location Page 3 — Location

Subject Monthly Report - May, 1979 — Date June 7, 1979

(Penta cont'd.)

2. Penta Block Dissolving equipment has been at Walker-Williams for about three weeks, but Engineering has had no time to help Bill Herndon install the equipment. We have offered Stokely to assist during plant construction.

3. I will send a penta block dissolver contract to Meredith once I get a commitment from Dow to supply a minimum of 300,000 pounds a year of blocks for this particular account. This will also be discussed during the upcoming meeting.

4. I will be making contact with Domtar for possible penta purchases.

B. Non-Trademark CCA

1. This past month we received a new customer, Columns Lumber Mill of Allendale, South Carolina. We sold 72,140 ex. lbs. of type C and 50,532 ex. lbs. of type B for a monthly total of 122,672 ex. lbs. and a YTD total of 349,481 ex. lbs. Backlog for non-trademark CCA type C for June is 50,000 ex. lbs.

2. We are continuing to work with Jerry Cook, Southern Wood Piedmont, for business.

C. Arsenic Acid

1. This past month we received business from Salsbury Labs, Whitmoyer Labs and Bausch and Lomb totaling 160,000 lbs. Backlog for June is 160,000 lbs. YTD sales are running 44% over YTD 1978 and 187% over YTD 1978 including Koppers-Hickson.

2. Pennwalt's new arsenic acid price is $.2866 per pound, F.O.B. Brian, Texas.

BZTO104(e)010555

KOPPERS

Interoffice Correspondence

To John Hite — From Paul A. Geydan

Location Page 4 — Location

Subject Monthly Report - May, 1979 — Date June 7, 1979

(Arsenic Acid cont'd.)

3. The trial run at Corning Glass's Central Falls, Rhode Island plant was successful according to Corning. Corning Glass will be experimenting with our acid at the TV glass plants over the next two months. By October I hope to be in a supply position for at least three Corning plants.

D. Wolman Pre-Stain

1. Houston Chemical Service has purchased the pre-stain machine recently built for $16,700, F.O.B. Pittsburgh. We are arranging for freight to Houston and are completing final design modifications per Houston's requirements. We are negotiating the cost for the first machine, but it will not exceed $14,250. The next five machines will cost $11,600 each. We hope to use Houston as a model plant.

2. I will advise Keith Knowling, who has three licensees interested in the machine, that if they do not build the machine through Hallmar in Pittsburgh, the engineering drawings will cost $500 for each machine built in Canada. I may be able to work a three machine package for Keith; we will be talking further.

E. WTC Department

1. We will be getting with M & T Chemicals on Monday, June 11, and will try to solidify a distributor and conditional registration agreement. Once this is completed, we will make arrangements for offering a .75% TBTO product to our west coast millwork accounts. We expect an immediate interest from one or two prospects. The TBTO formula will cost $.05 per gallon over existing pre-prime.

BZTO104(e)010556

KOPPERS

Interoffice Correspondence

To John Hite | From Paul A. Gaydos

Location Page 5 | Location

Subject Monthly Report - May, 1979 | Date June 7, 1979

(WTC Dept. Cont'd.)

Bob, Please negotiate & advise me. PAG →

2. I have spoken to Bob Simmons regarding bulk storage facilities for ethylene gylcol isopropanol that will save us $.25 per gallon for Liquid Neotane [illegible]-1 at Jones Hamilton. We will be getting a firm cost number from Jones Hamilton and will be shooting for a charge of $.03 - .05 per gallon charge up to the cost of the installation, which will be approximately $13,000. We will attempt to negotiate with Jones Hamilton to only compensate them for 50% of the investment since they will have ownership rights to the tanks.

3. We are looking into the feasibility of adding non-quick dry mineral spirits at Texas Oil. Since this puts us at a cost disadvantage of approximately $.02 per gallon for those northwest prospects not requiring fast dry, potential millwork business in the northwest for non-fast dry mineral spirits is about 260,000 gallons a year.

4. Under separate cover a strategy and specific game plan will be offered to deal direct and eliminate distributors in the Pacific Northwest as well as in northern California. After spending a week assessing customer prospects and the value of the distributors, it appears that we will need to deal direct for two primary reasons: (1) selling the value of our products and (2) realizing some savings in a need to be competitive. We are putting numbers to the total logistics in the program. Alex will be talking to Jim Batchelder about the possibility of setting up a telephone in his office to handle sales ordering and phone calls for a new salesman that would be located in the north California area to deal direct in servicing our customers.

BZTO104(e)010557

KOPPERS

Interoffice Correspondence

To John Hite — From Paul A. Geydan

Location Page 6 — Location

Subject Monthly Report - May 1979 — Date June 7, 1979

(WTC Dept. cont'd.)

5. New price lists have been supplied to all salesmen for formulated products and all customers and distributors have been advised. All pricing has been approved by Templeton Smith.

III. PROSPECTIVE LICENSEE ACTIVITY

A. Louisiana - Pacific Corporation - Ukiah, CA

Under separate cover I have advised you that Louisiana-Pacific Oroville Division is now very interested in moving ahead with a CCA plant in Inyo Kern, California which is approximately 75 miles east of Bakersfield. I met with Louisiana-Pacific on my recent west coast trip and will be preparing an engineering cost estimate for two 6' x 88' automated treating cylinders. Louisiana-Pacific's Coast Division is still searching for plant property in the Solerno and Mendocino County area. The divisions operate separately. Louisiana-Pacific's interests in Inyo Kern would be primarily to supply Sun Lumber Company in Los Angeles. LP has recently acquired Sun, one of the largest distributors of CZC sill plate, from J. M. Baxter. I have to believe that their first year's production will be atleast 15 million board feet and very likely 20 million. Jim Batchelder has not been advised at this time. I will leave it up to you.

B. Houston Chemical Service - Houston, TX

Houston Chemical Service will be going ahead with a plant in San Antonio once property and financing has been worked out.

BZTO104(e)010558

KOPPERS

Interoffice Correspondence

To John Nitz | From Paul A. Goydan

Location Page 7 | Location

Subject Monthly Report - May, 1979 | Date June 7, 1979

(Prospective Licensee Activity)

C. **New Kent Wood Preserving - Providence Forge, VA**

We have been approached by New Kent Wood Preserving for a "Wolman" license. We have also been approached by New Kent to build an additional 6' x 80' cylinder for them. We will discourage all involvement in either a license arrangement or engineering arrangement with this firm.

D. **Webb and Sons - Sherburne, NY**

Webb and Sons approached us some time ago for a "Wolman" license. We will be exploring their interest once again but will try to discourage them since their location is only 100 miles from Athens. If we are not successful in discouraging Webb from entering the CCA business, we will attempt to license them; but only after we get the blessing of Atlantic Wood Industries.

E. **Union Camp - Franklin, VA**

Union Camp is continuing to explore entering the CCA treating business. We have met with Union Camp to discuss our programs and invited them to visit us in Pittsburgh for a more formal program. We are not pushing this prospect but want to be in a position to have their business once they decide to move with a treating plant. They have visited Loren Bowman of AWPI to discuss markets. They seem to be methodically touching base with everyone before making a move. We will continue to monitor this prospect.

BZTO104(e)010559

KOPPERS

Interoffice Correspondence

To John Hite

From Paul A. Geydan

Location Page 8

Location

Subject Monthly Report - May, 1979

Date June 7, 1979

IV. LICENSEE ACTIVITY

A. We have verbally advised all west coast licensees of a $.05/ex. lb. price increase effective July 1. I will discuss with you some of the particular problems encountered at Exterior Wood Preserving.

V. ENGINEERING QUOTATIONS

A. The following quotations have been submitted:

1. A-79-23 Union Camp Corp. - Franklin, VA
   6' x 80' Automated Wood Preserving Plant

2. A-79-24 Southwest Forest Industries - Phoenix, AZ
   6' x 88' Automated Treating Plant

3. A-79-25 Walker Williams Lumber Co. - Hatchechubbee, AL
   6' x 86' Automated Treating Plant

4. A-79-26 Crown-Zellerbach - Gulfport, MS
   7' x 120' Automated CCA Wood Preserving Plant

5. A-79-29 E. A. Thompson Co., Inc. - Russellville, AR
   5' x 51' Manual Treating Plant

PAG

cc: Bob Brummett
Ken Cogan
Bob Simmons
Frank Klasnick

BZTO104(e)010560

cc: P. A. Goydan
H. P. Struessel
P. Armbruster

KOPPERS

Interoffice Correspondence

To Alex Saucedo
Ken Luse

From R. F. Simmons

Location

Location St. Louis, Mo.

Subject Order Entry - Time Oil Co. &
Jones-Hamilton Co.

Date May 15, 1979

We have occasionally had verbal orders misunderstood and improperly shipped form these locations because of the misunderstanding.

Today, in conversation with Neil Gallagher at Time Oil we have had to agree that no orders will be shipped until confirming written order is received at the plant, with complete shipping information. This is a result of one of those instances of either incomplete information being given by telephone order or the plant improperly handling; in any event, neither of us want to accept additional expesnes incurred.

The same problem has occurred at Newark, very infrequently, but it has happened.

We have likewise previously asked your cooperation in securing and transmitting written orders and to large measure, had noticeable improvement; this is greatly appreciated.

Now eith our latest problem however, we see so alternative but to insist upon complete written orders being at the plants prior to shipment to alleviate any further misunderstandings.

R. F. Simmons

RFS/pds

BZTO104(e)010561

February 12, 1979

Mr. Neil Gallagher
Time Oil Co.
P. O. Box 03117
St. John's Station
Portland, Oregon 97203

Dear Neil:

Enclosed find a copy of the National Institute of Occupational Safety & Health's guide for pesticide formulators. Whereas your only pesticide formulation is for us, this booklet is basically pertinent information for all industry and is specifically aimed at those plants which handle chemicals and petroleum products.

I hope this booklet enables and aids you to stay abreast of federal standards. Note on the inside front cover addition guides prepared for specific industries, some of which may be of interest to you.

Yours truly,

R. F. Simmons,
Operations Manager

RFS/pds

BZTO104(e)010562

cc: F. M. Klasnick

KOPPERS

Interoffice Correspondence

To Sharyn Ott

Location Real Estate Section K-1928

Subject 1979 Personal Property Tax Information - Wood Treating

From R. F. Simmons

Location St. Louis, Mo.

Date January 30, 1979

The following are inventory figures for our Portland, Oregon location

Time Oil Co.
12005 N. Burgard Rd.
Portland, Oregon

January	106,803
February	67,017
March	107,904
April	107,785
May	86,421
June	86,283
July	74,057
August	71,315
September	104,299
October	85,644
November	82,961
December	80,221

The Indiana and California are both based on cut-off as of 2/28/79 and will follow then.

Pat

Pat Simmons

K 43 - REV. 5 100M 8-77

BZTO104(e)010563

JAN 22 1979

cc: Paul Goydan K/1001
Harold Struessel
Pam Armbruster

Alex Saucedo
Ken Luse

R. F. Simmons

Western Region

St. Louis, Missouri

Verbal Orders

January 18, 1979

Over the past few months we have experienced an increasing number of verbal orders and instructions to orders being given to various personnel at the plants - Jones-Hamilton, Far-Best and Time Oil which are never confirmed in writing. In many instances through some misunderstanding there has been a resultant problem and all too frequently this has ended up costing the operation some money.

It simply is not good business practice to operate without written purchase orders and change orders if necessary. With recent personnel changes at Jones-Hamilton and Time Oil and dealing with some people not totally familiar with the customers and their slang and product abbreviations it is even more important to receive written orders. Therefore, I believe it is in order to insist that we begin receiving written orders. I will leave it to your disgression whether you want:

1. The orders would either be sent to you for transmittal to the plant, or to St. Louis, or direct to the plant involved.

2. Whether any shipment is to occur prior to receipt of written order, although you will be accountable for misinterpretation of verbal, unwritten instruction.

In any event, the order (or copy) or written instruction/change order should be sent to St. Louis to be incorporated in our permanent order/billing file at least by the time the order is shipped.

At this writing we are not issuing any instructions to the plants. We expect your written comments shortly on how to make this situation livable with all concerned and less confusing.

Bob Simmons

RFS/PA

94

TIME OIL CO.
Correspondence - 1980

BZTO104(e)010565

December 16, 1980

Mr. Neil Gallagher
Time Oil Co.
P. O. Box 03117
St. John's Station
Portland, OR 97203

Dear Neil:

EPA has transferred pentachlorophenol from the list of acutely hazardous wastes (Section 261.33 (E) to the list of chemicals classified as toxic wastes (Section 261.33 (F) if discarded under RCRA regulations (45 FR 78532). Penta's new hazardous waste number is U242.

To us, this means that empty drums from penta containing products and penta bags are not subject to RCRA regulations. (Previously, under the regulation, containers were exempt only after triple rinsing or equivalent method of cleaning). Further now, drums, bags and other packaging forms that are stored and/or transported prior to being used, reused, recycled, or reclaimed are not subject to RCRA regulations.

We are not sure at this point if your state has regulations that might provide any other restriction on disposal of empty penta bag or used, unrinsed drums, although we assume this RCRA down regulation will allow you to again return to simple trash disposal of empty bags and disposal of used drums to reconditioners after proper rinsing. We will keep you advised of any regulatory restriction we learn of applicable to your operation and trust you will likewise keep us informed if you hear it locally first.

Best regards,

R. F. Simmons,
Operations Manager

RFS/pds

June 25, 1980

Mr. James Bretson
Reichhold Chemicals Inc.
2340 Taylor Way
Tacoma, WA 98401

Dear Jim:

Having just returned from Time Oil Company this week, from taking physical inventory, I would like to return for credit two drums of penta. One drum weighs 272# and the other 128#. The penta has solidified as well as having some other interesting qualities, so you should take a look at the material.

As we have no way of disposing of this material, and loss of production dollars for the penta, we thought this material would also explain why we do not want drum penta at Portland.

Please advise if this is satisfactory with you.

Best regards,

R. F. Simmons,
Operations, Manager

BZTO104(e)010567

WOOD TREATING CHEMICAL TANKS

6-1-80

TANK NUMBER	PRODUCT
13001	TIMBERTOX 40 CONCENTRATE
20001	WOODTOX 140 RTU
20002	WOODTOX PREPRIME RTU
20003	KB-3
7004	MTY
8005	MTY
8006	OXO BOTTOMS
8007	OXO BOTTOMS
6008	325 SOLVENT
38009	325 SOLVENT
3010	MTY
RICHFIELD	WOODTOX 140 CONCENTRATE

BZTO104(e)010568

KOPPERS

Interoffice Correspondence

To Sharyn Ott

From Pat Simmons

Location Tax Section K-1928

Location St. Louis, MO.

Subject 1980 Personal Property Tax

Date January 29, 1980

Return Information for Wood Treating

Sharyn the following are inventory figures as of December 31, 1979:

Enfield Bonded Warehouse, Enfield, North Carolina
Location 233 $28,095

Kimbro Service Warehouse, Atlanta, Georgia
Location 103 $12,929

Time Oil Co. Portland, Oregon
Location 743

January	99,967
February	83,811
March	84,196
April	86,552
May	78,885
June	70,211
July	84,747
August	79,929
September	91,776
October	79,258
November	88,636
December	86,336

We have no inventory in Louisiana, the Missouri inventory is all in the city of St. Louis and is reported on a four month basis to Mr. Eisenbeis for Manufacturers Tax License.

The Indiana tax will be reported by April 1 for location 893, however this is a Wolman Mix Plant and is reported for Specialty Wood and not part of Wood Treating, inventory.

Pat Simmons

cc: F. M. Klasnick
Rosemarie Stefanski

K 43 - REV. 5 100M 1-79

TIME OIL CO.
Correspondence - 1984

JIM GARRITY

Don,

for your records.

DEC 19 1991

WESCOMP inc.

Western Compliance Services, Inc.

"The Waste Management People"

INVOICE # 10442

SOLD TO: Koppers Inc.
701 Koppers Bldg.
Pittsburgh, PA 15219

MANIFEST # 2766NWVT
DATE: 11-30-84
YOUR ORDER # 10-4-3032
SHIPPED TO: Arlington

OUR ORDER #	CONTACT	TERMS
TK	Terry Kraft	2%/10 NET 15 DAYS

DESCRIPTION	UNIT PRICE	unit	AMOUNT
Hazardous Waste Services: Permitting, labeling, loading, manifesting, inspecting, transportation and disposal.	$6.40	2500	$16,000.00
	$1.50	1000	$ 1,500.00

Please Pay This Amount $17,500.00

Please Remit Payment to: Western Compliance Services, Inc.
P.O. Box 338
Tualatin, Oregon 97062

P.O. Box 338, Tualatin, Oregon 97062 (503) 684-3066

▲6" ▲7" ▲8"
NOTE - Tear Tape To Size Of Invoice

Accounts Payable Invoice Sticker

KOPPERS

Transmittal Number

Plant Audit No. 730-1220

For Plant or Purchasing Dept. Use

Purchase Order No. | Requisition Number | Date Inv. Rec'd 12/13/84 | Date Mat'l. Received | Commitment Change Approval

Terms | Prepaid ☐ Collect | Receiving Report No. | Date Inv. F'W'D To Pittsburgh 12/17/84 | Increase $

F.O.B. | Used For | Decrease $

Prices Verified By | Calculations Verified By | Commitment Change Approved By

Vendor Number | Invoice Number 10442 | Invoice Date 11/30/84 | Terms Code | Due Date / /

Account Distribution

General Ledger	Detail	Sub Detail	Location or Contract	Dept. or Org. Loc.	Tax* Codes	Emp. No.	Purchase Order No. or Rec ID	Br.	P.O. No.	P.O. Add.	P O Add Resource	Quantity	Unit Code	Amount Distributed
318	391		743		0367									17 500 00

O.K. to Pay James F Hanusky
For Treasury & Accounting Section Use Only

Invoice Audited By | Check Audited By

Audit Number: Division 476 | Send. Loc. 730 | Month 12 | Serial No.

Invoice Amt. (Gross) | Cash Discount | Net Amount Payable 17 500 00

ADS-37W REV. 9 75M 5/84 *See Reverse Side For Instructions

61

BZTO104(e)010572

WESCOMP inc.

Western Compliance Services, Inc.

"The Waste Management People"

INVOICE # 10442

SOLD TO: Koppers Inc.
701 Koppers Bldg.
Pittsburgh, PA 15219

MANIFEST # 2766NWVT
DATE: 11-30-84
YOUR ORDER # 10-4-3032
SHIPPED TO: Arlington

OUR ORDER #	CONTACT	TERMS
TK	Terry Kraft	2%/10 NET 15 DAYS

DESCRIPTION	UNIT PRICE	unit	AMOUNT
Hazardous Waste Services: Permitting, labeling, loading, manifesting, inspecting, transportation and disposal.	$6.40	2500	$16,000.00
	$1.50	1000	$ 1,500.00

61

Please Pay This Amount $17,500.00

Please Remit Payment to: Western Compliance Services, Inc.
P.O. Box 338
Tualatin, Oregon 97062

BZTO104(e)010573

TO: J. GARRITY
ST. LOUIS MO

12/11/84

FROM: DONALD F. MARION

Jim,

Attached for your processing is Wescorp, Inc's invoice for Hazardous Waste Services at Times D.S. Please call me regarding this invoice. Let's make sure it's paid in December prior to the end of fiscal 1984 & don't want it to affect 1985.

Thanks,
Don

61

BZTO104(e)010574

M E M O R A N D U M

December 13, 1984

TO: Robert Abendroth (less encl) Seattle
Terry Henderson (less encl) Seattle
Neil Wallis Portland

FROM: John Denham Seattle

SUBJECT: DEQ INSPECTION AT NORTHWEST TERMINAL

This is a follow-up to my July 5, 1984 memo on above subject and DEQ inspection (part on October 25 and part on December 12).

BACKGROUND

DEQ is participating in EPA's HW 3012 Superfund Inspection Program during 1984 to determine hazardous wastes at 44 abandoned, uncontrolled hazardous wastes facilities in Oregon. Our Northwest terminal has been designated as such a facility even though neither TOC nor any of the other companies listed meet any of these three categories. ORS 459.670 authorizes such inspections and all that follows. The time frame of DEQ interest is from date of facility ownership (1953) until 1972.

On October 25, DEQ inspected the site, heard how we did what, viewed our procedures and decided it would sample the ground within all diked areas. On December 12, DEQ took 12 samples at locations shown on attached plot plan. We obtained split samples and are maintaining them at 40°F. in the Northwest terminal refrigerator. DEQ estimates sample analysis to be completed by January 15, 1985 and will advise us of results in writing. We in turn would then consider having only unfavorable results analyzed by a laboratory of our own selection and take it from there.

Attachments a/s

JPD/ch

December 12, 1984 Soil Sample Locations at Northwest and Bell Terminals

Sample Number	Sample Sequence	Reference Distances
Northwest Terminal		
Z1020	1	17'0" from tank 5313 38'0" from dike stairs
Z1007	2	25'7" from tank 38016 37'3" from tank 20511
Z1019	3	32'8" from tank 15005 47'8" from tank 38016
Z1008	4	21'0" from tank 5312 31'3" from tank 20511
Z1009	5	43'1" from tank 4408 75'4" from tank 3007
Z1010	6	68'7" from tank 38017 80'5" from tank 55021
Z1011	7	31'6" from tank 80014 29'6" from tank 55021
Z1012	8	21'0" from tank 15002 47'2" from tank 16804
Z1018	9	50'0" from tank 2524 48'3" from tank 2525
Z1017	10	38'0" from dike wall 19'0" from warehouse 47'3" from dike corner
Bell Terminal		
Z1016	11	72'0" from tank 80009 24'0" from pipe "T" 25'3" from tank 80010
Z1004	12	79'6" from tank 80010 57'8" from tank 80408 38'8" from tank 1407

FLP/ch

December 12, 1984
DEQ sample.

(Extra Copies for distribution)

LEGAL

26/49

DATE: 03 JAN 85 DH

LAB #: 84-1020
ITEM #: 9
SAMPLE: Z1018

ACID EXTRACTABLES
METHOD 625
EXTRACTED BY RCRA METHOD 3540

AMOUNT MG/KG	PARAMETER
<1	PHENOL
<1	2-CHLOROPHENOL
<1	2-NITROPHENOL
<1	2,4-DIMETHYLPHENOL
<1	2,4-DICHLOROPHENOL
<1	4-CHLORO-3-METHYLPHENOL
<1	2,4,6-TRICHLOROPHENOL
<1	2,4-DINITROPHENOL
<1	4-NITROPHENOL
<1	2-METHYL-4,6-DINITROPHENOL
<15	PENTACHLOROPHENOL
12	TETRACHLOROPHENOL **

** REPORTED AS
2,3,4,6-TETRACHLOROPHENOL

BASE/NEUTRAL EXTRACTABLES
METHOD 625

AMOUNT MG/KG	PARAMETER
<1	BIS(2-CHLOROETHYL) ETHER
<1	1,3-DICHLOROBENZENE
<1	1,4-DICHLOROBENZENE
<1	1,2-DICHLOROBENZENE
<1	HEXACHLOROETHANE
<1	N-NITROSO-DI-N-PROPYLAMINE
<1	NITROBENZENE
<1	ISOPHORONE
<1	BIS(2-CHLOROETHOXY) METHANE
<1	1,2,4-TRICHLOROBENZENE
<1	NAPHTHALENE
<1	HEXACHLOROBUTADIENE
<1	HEXACHLOROCYCLOPENTADIENE
<1	2-CHLORONAPHTHALENE
<1	ACENAPHTHYLENE
<1	DIMETHYLPHTHALATE
<1	2,6-DINITROTOLUENE
<1	ACENAPHTHENE
<1	2,4-DINITROTOLUENE
<1	FLUORENE
<1	DIETHYLPHTHALATE
<1	N-NITROSODIPHENYLAMINE
<1	4-BROMOPHENYL PHENYL ETHER
<1	HEXACHLOROBENZENE
<1	PHENANTHRENE
<1	ANTHRACENE
<1	DIBUTYL PHTHALATE
<1	FLUORANTHENE
<1	PYRENE
<1	BUTYL BENZYL PHTHALATE
<1	BENZ(A)ANTHRACENE
1	CHRYSENE
<1	3,3'-DICHLOROBENZIDINE
7	BIS(2-ETHYLHEXYL) PHTHALATE
<1	BENZ(A)PYRENE

LEGAL

27/49

DATE: 03 JAN 85

LAB #: 84-1020
ITEM #: 9
SAMPLE: Z1018

PESTICIDES
METHOD 625
EXTRACTED BY RCRA 3540

AMOUNT UG/KG	PARAMETER
<5	ALPHA-BHC
<5	HEPTACHLOR
<5	ALDRIN
<5	HEPTACHLOR EPOXIDE
<5	ENDOSULFAN I
<5	TRANS-NONACHLOR
<5	P,P'-DDE
<5	DIELDRIN
<5	ENDRIN
<5	ENDOSULFAN II
<5	P,P'-DDD
<5	ENDOSULFAN CYCLIC SULFATE
<5	P,P'-DDT
<5	GAMMA-BHC (LINDANE)

LEGAL

28/49

DJH

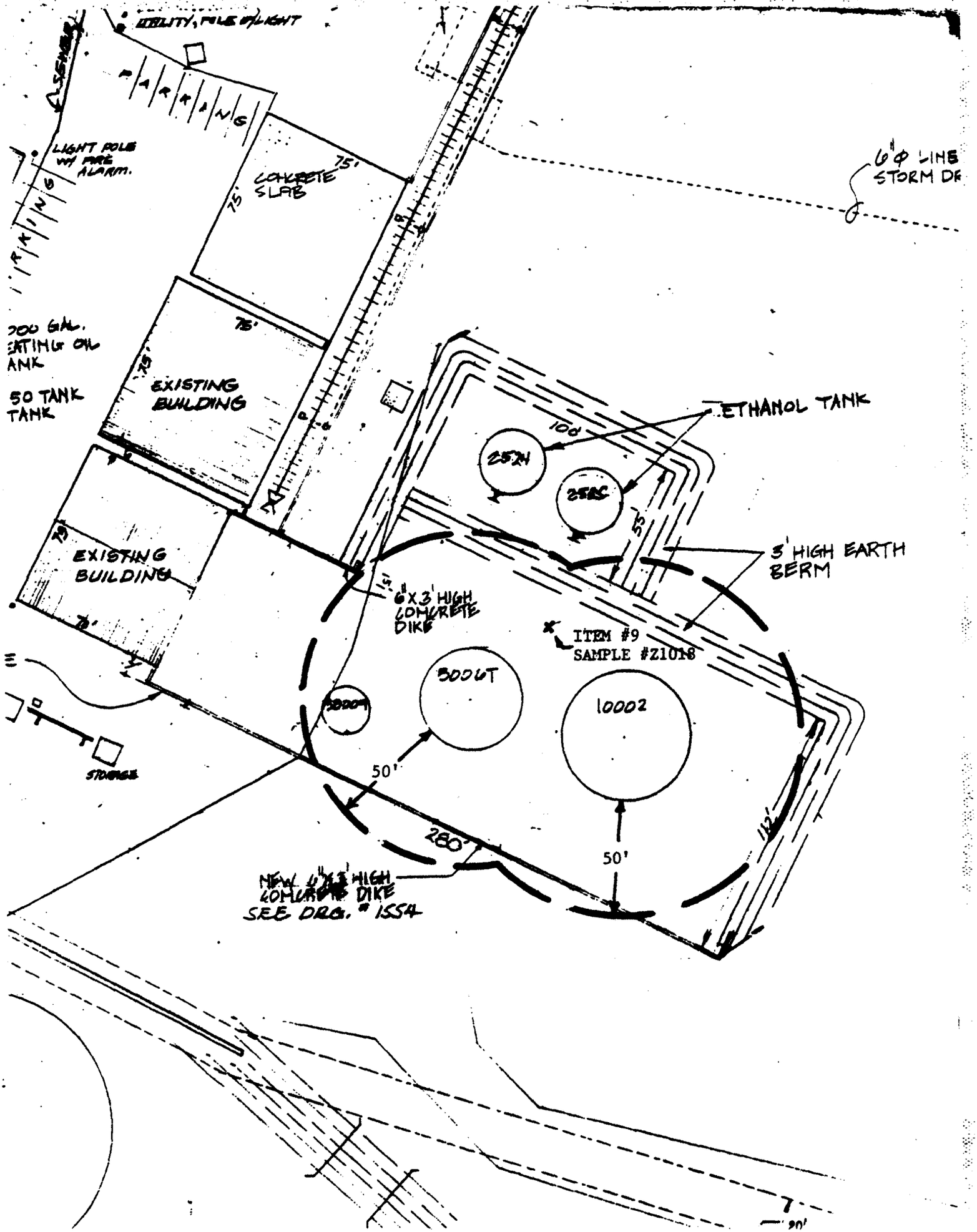
03 JAN 85

GC/MS SCAN ID

84-1020 Z1018

THE WATER SAMPLE WAS EXTRACTED BY EPA RCRA PROCEDURE 3540 (ACETONE/HEXANE) AND ANALYZED BY GC/MS. IN ADDITION TO THE PRIORITY POLLUTANT CHEMICALS, THE SAMPLE WAS SCANNED FOR ANY OTHER UNKNOWNS ABOVE THE DETECTION LIMIT OF 1.0 MG/L. THE FOLLOWING COMPOUNDS WERE TENTATIVELY IDENTIFIED WITH THE ESTIMATED CONCENTRATIONS SHOWN.

COMPOUND	MG/KG
DODECANE	6
TRIDECANE	8
PENTADECANE	6


UTILITY POLE W/ LIGHT
SEWER
LIGHT POLE W/ FIRE ALARM.
CONCRETE SLAB
75'
EXISTING BUILDING
EXISTING BUILDING
ETHANOL TANK
10d
25ZH
25EC
55'
5' HIGH EARTH BERM
6" X 3' HIGH CONCRETE DIKE
ITEM #9
SAMPLE #Z1018
30006T
10002
50'
50'
280'
STORAGE
NEW 6" X 3' HIGH CONCRETE DIKE
SEE DRG. # 1554

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

November 20, 1984

Department of Environmental Quality
Northwest Region
Attn: John L. Smits, R.S.
522 S.W. Fifth Avenue, P.O. Box 1760
Portland, Oregon 97207

Dear Mr. Smits:

This is to acknowledge receipt of your November 14, 1984 letter regarding DEQ HW-3012 assessment of Time Oil Co. facility at 12005 N. Burgard in Portland, Oregon.

As per our telecon today, date of sampling was confirmed to be December 12, 1984. One additional bit of information is needed at the time sampling is done - the name of the tests to be performed on soil samples taken.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

JPD/ch

BZTO104(e)010582

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

November 14, 1984

Time Oil Company
P.O. Box 24447
Terminal Annex
Seattle, WA 98124

Re: HW-3012 Superfund
Time Oil Company
Multnomah County

The Department is conducting an assessment of past waste disposal practices at your facility at 12005 N. Burgard, Portland, Oregon as part of a RCRA Section 3012 cooperative agreement with EPA. The assessment included a site inspection and interview with John Denham and Neil Wallis on October 25, 1984.

In order to properly complete the assessment, a grid of composite soil samples tested for priority pollutants is required from within the tank farm. This includes the old Bell Oil Terminal and additional samples near the tanks leased to Crosby and Overton. Proposed sampling points are shown on the attached map.

The purpose of this activity is to determine if there are environmental problems associated with past handling of tank bottoms, draw waste waters, separator sludge, pentachlorophenol and wastes handled by Crosby and Overton. The Department cites Oregon Revised Statutes (ORS) 459.670 (copy enclosed) governing hazardous waste as authority to enter the site for sample collection.

The Department requests your cooperation in completing the assessment work. We have a limited amount of time to complete this activity and, therefore, as agreed we propose to collect samples on December 5 (7) 1984 beginning at 1:30 p.m. Sampling will take two to three hours. Split samples will be provided in containers to you. If you wish to hold samples for later analysis, the temperature should be maintained at 4° C. We expect to be able to phone preliminary results about 30 days after collection. Test procedures will be provided to you at the time of sampling.

If you have any questions, please feel free to contact me at our Portland office at (503) 229-5296 or (503) 738-5949.

Sincerely,

John L. Smits
Environmental Analyst
Northwest Region

JLS:b
RB3953
Enclosure(s)
cc: Northwest Region, DEQ
Hazardous Waste Operations, DEQ
Crosby and Overton
EPA Region X
Superfund Program Management Section
DEQ - Laboratory

DEQ-1

BZTO104(e)010583

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

November 7, 1984

Department of Environmental Quality
Northwest Region
Attn: John L. Smits, R.S.
522 S.W. Fifth Avenue, P.O. Box 1760
Portland, Oregon 97207

Dear Mr. Smits:

The following information is provided per your verbal request of October 25, 1984 regarding this company's storage terminal located at 12005 North Burgard in Portland Oregon.

Enclosed are:

a. Lists of product stored, by tank, at our Northwest terminal from 1973 to date.

b. Three copies of terminal SPCC and drainage plan (#1140).

As I mentioned in our telecon earlier today, terminal acreage is 51.53 and terminal storage capacity is 770,000 bbls.

It is my understanding that your efforts are intended to access waste disposal practices on site from 1940 to 1972 to determine if the groundwater has been affected. A check of our records shows this location actually opened in 1953. Our policy is to generate no waste, so we reclaim products handled. Products which can not be reclaimed are recycled. Products become a waste only in those instances where recycling can not be effected. Quantities of hazardous waste generated are reported to the DEQ.

It is also my understanding that you may wish to sample and test the ground inside several diked areas of the facility. Should this thought materialize, kindly identify desired locations on one copy of enclosed plan and return it, along with a listing of the tests to be conducted, a copy of the test procedures to be used by your laboratory and the date test is desired so such actions can be coordinated. Request you provide Time Oil Co. with a split of each sample obtained from our site.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Enclosures a/s

BZTO104(e)010584

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

TANK NO.	YE-73	YE-74	YE-75	YE-76	YE-77	YE-78	YE-79	YE-80	YE-81	YE-82	YE-83
164	S	S	S	MT	MT	MT	MT	MT	MT	MT	MT
301	S	S	S	PE	PE	PE	PE	PE	PE	PE	PE
471	PE	S	PE	PE	PE	PE	PE	PE	PE	PE	PE
472	PE	PE	PE	PE	PE	PE	PE	PE	PE	PE	PE
473	S	PE	S	S	S	S	S	S	S	S	S
910	S	S	S	S	S	S	S	S	S	S	S
2524	NI	NI	NI	NI	NI	NI	NI	NI	NI	MT	MT
2525	NI	NI	NI	NI	NI	NI	NI	NI	NI	MT	ME
4408	M	J	P	UL	UL	UL	#2	#2	MT	MT	MT
5006	#1	LO	#2	#2	#2	#2	#2	#2	MT	MT	MT
5006T	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO
5312	#2	#2	#2	UL	UL	R	#2	#2	MT	#2	#2
5313	#2	#2	P	#2	#2	LL	LL	LL	MT	MT	#2
9509	#2	#2	#2	#2	#2	LO	LO	LO	MT	MT	MT
9510	J	LO	P	#2	#2	LO	LO	LO	MT	MT	MT

KEY

CO - Crosby & Overton
FA - Fatty Acid (by-prod. of wood)
I - Isobutanol
J - Jet Fuel
LF - Liquid Fertilizer
LL - Lignin Liquor
LO - Lube Oil
M - Methanol
ME - Methyl 10
MT - Empty
NI - Not Installed
P - Premium Gasoline
PE - Pentachlorophenol
R - Regular Gasoline
S - Solvent
T - Turpentine
U - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010585

BZTO104(e)010586

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

TANK NO.	YE-73	YE-74	YE-75	YE-76	YE-77	YE-78	YE-79	YE-80	YE-81	YE-82	YE-83
10002	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO
11005	#2	#2	#2	#2	#2	#2	#2	#2	#2	#2	#2
12001	R	R	P	#2	#2	#2	MT	#2	MT	MT	MT
12002	R	R	P	#2	#2	#2	MT	MT	MT	MT	MT
12003	R	R	P	#2	#2	#2	MT	MT	MT	MT	MT
12004	R	M	M	FA	FA	FA	MT	MT	MT	MT	MT
12005	R	M	M	R	R	#2	MT	MT	MT	MT	MT
14501	#2	UL	UL	UL	UL	UL	#2	#2	#2	#2	#2
15001	R	P	P	R	R	UL	P	R	R	R	MT
15002	R	P	P	R	R	UL	#2	R	R	R	MT
15005	#1	#1	#1	UL	UL	#1	#1	#2	#2	#2	#2
16003	#1	#1	#1	#1	#1	#1	LL	#2	#2	MT	MT
16804	ME	MT	M	LL	LL	LL	LO	LO	MT	MT	MT
20511	R	R	P	P	P	LO	#2	LO	MT	MT	#2
29508	T	T	P	#2	#2	MT	P	#2	MT	MT	MT

KEY

CO - Crosby & Overton
I - Isobutanol
J - Jet Fuel
FA - Fatty Acid (by-prod. of wood)
LO - Lube Oil
LF - Liquid Fertilizer
LL - Lignin Liquor
M - Methanol
ME - Methyl 10
MT - Empty
NI - Not Installed
PE - Pentachlorophenol
P - Premium Gasoline
R - Regular Gasoline
S - Solvent
T - Turpentine
U - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

TANK NO.	YE-73	YE-74	YE-75	YE-76	YE-77	YE-78	YE-79	YE-80	YE-81	YE-82	YE-83
38015	P	P	P	P	P	P	R	P	R	MT	MT
38016	P	#2	#2	R	R	UL	R	R	R	MT	MT
38017	J	J	J	J	J	#2	UL	UL	UL	UL	MT
55021	#2	#2	#2	#2	#2	#2	#2	#2	MT	MT	MT
80009	M	R	R	R	R	#2	R	R	MT	MT	MT
80010	NI	NI	NI	NI	#2	#2	#2	R	MT	MT	MT
80014	R	R	R	#2	#2	R	R	R	R	MT	MT
80408	M	M	R	R	R	R	M	M	M	M	M

KEY

CO - Crosby & Overton
I - Isobutanol
J - Jet Fuel
FA - Fatty Acid (by-prod. of wood)
LO - Lube Oil
LF - Liquid Fertilizer
LL - Lignin Liquor
M - Methanol
ME - Methyl 10
MT - Empty
NI - Not Installed
PE - Pentachlorophenol
P - Premium Gasoline
R - Regular Gasoline
S - Solvent
T - Turpentine
U - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010587

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1984

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
301	PE	PE	PE	PE	PE	PE	PE	PE	PE	MT		
471	PE	PE	PE	PE	PE	PE	PE	PE	PE	MT		
472	S	S	S	S	S	S	S	S	S	MT		
473	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
910	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
2524	I	I	I	I	I	I	I	I	I	I		
2525	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME		
4408	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
5006	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
5006T	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO		
5312	#2	LF	LF	LF	LF	LF	LF	MT	MT	MT		
5313	MT	MT	MT	MT	MT	MT	MT	MT	#2	MT		
9509	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
9510	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		

KEY

CO - Crosby & Overton
I - Isobutanol
J - Jet Fuel
FA - Fatty Acid (by-prod. of wood)
LO - Lube Oil
LF - Liquid Fertilizer
LL - Lignin Liquor
M - Methanol
ME - Methyl 10
MT - Empty
NI - Not Installed
PE - Pentachlorophenol
P - Premium Gasoline
R - Regular Gasoline
S - Solvent
T - Turpentine
U - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010588

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1984

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO		
11005	#2	#2	#2	#2	#2	#2	#2	#2	#2	#2		
12001	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
12002	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
12003	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
12004	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
12005	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
14501	#2	LF	LF	LF	LF	LF	MT	MT	MT	MT		
15001	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
15002	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
15005	#2	LF	LF	LF	LF	LF	MT	MT	MT	MT		
16003	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
16804	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
20511	#2	#2	#2	#2	#2	#2	#2	#2	#2	#2		
29508	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		

KEY

CO - Crosby & Overton
I - Isobutanol
J - Jet Fuel
FA - Fatty Acid (by-prod. of wood)
LO - Lube Oil
LF - Liquid Fertilizer
LL - Lignin Liquor
M - Methanol
ME - Methyl 10
MT - Empty
NI - Not Installed
PE - Pentachlorophenol
P - Premium Gasoline
R - Regular Gasoline
S - Solvent
T - Turpentine
U - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010589

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1984

BZTO104(e)010590

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
38016	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
38017	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
55021	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
80009	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
80010	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
80014	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT		
80408	M	M	M	M	M	M	M	M	M	M		

KEY

CO - Crosby & Overton
I - Isobutanol
J - Jet Fuel
FA - Fatty Acid (by-prod. of wood)
LO - Lube Oil
LF - Liquid Fertilizer
LL - Lignin Liquor
M - Methanol
ME - Methyl 10
MT - Empty
NI - Not Installed
PE - Pentachlorophenol
P - Premium Gasoline
R - Regular Gasoline
S - Solvent
T - Turpentine
U - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

Back up data used
for preparation of
Nov. 7, '84 letter
to DEQ John Smits.

JRR

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1973

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164											SHELL-SOL	
301												ITB-21
471												WT-140
472												WT-140
473												ITB-21
910												SHELL-SOL
2524												NI
2525												NI
4408												M
5006												#1
5006T												W
5312												#2
5313												#2
9509												#2
9510												J

KEY

NT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- Waste Oil
J- JET FUEL

BZTO104(e)010592

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1973

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												R
12002												R
12003												R
12004												R
12005												R
14501												#2
15001												R
15005												#1
16003												#1
16804												M
20511												R
29508												T

15002 Sold on 01

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4
M - METHANOL

W- WASTE OIL
J- JET FUEL
T- CRUDE TURPENTINE

BZTO104(e)010593

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1973

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												P
38017												J
55021												#2
80009												N
80010												NI
80014												R
80408												M

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4
M - METHANOL

W - WASTE OIL
J - JET FUEL

BZT0104(e)010594

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1974

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												SHELL-SOL
301												KB-3
471												KB-3
472												WT-140
473												WT-140
910												SS
2524												NII
2525												NII
4408												J
5006												L
5006T												W
5312												#2
5313												#L
9509												#L
9510												L

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

J- JET FUEL
L- LUBE OIL
W- WASTE OIL

BZT0104(e)010595

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												R
12002												R
12003												R
12004												M
12005												M
14501												UL
15001												P
15005												#1
16003												#1
16804												MT
20511												R
29508												T

15002 Same as #1

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W - WASTE OIL
T - CRUDE TURPENTINE
M - METHANOL

BZTO104(e)010596

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1974

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												#2
38017												J
55021												#2
80009												R
80010												MT
80014												R
80408												M

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

J - JET FUEL

BZT0104(e)010597

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1975

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164											SHELL-SOL	
301												KD-3
471												WT-140
472												WT-140
473												KD-3
910												SHELL-SOL
2524												NT
2525												NT
4408												P
5006												#2
5006T												W
5312												#2
5313												P
9509												#2
9510												P

KEY

NT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W - WASTE OIL

BZT0104(e)010598

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1975

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												P
12002												P
12003												P
12004												M
12005												M
14501												UL
15001												P
15005												#1
16003												#1
16804												M
20511												P
29508												P

15002 same as 01

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W - WASTE OIL

M - METHANOL

BZT0104(e)010599

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1975

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												#2
38017												J
55021												#2
80009												R
80010												MT
80014												R
80408												R

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

J - JET FUEL

BZTO104(e)010600

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

~~Monthly~~ 1976

TANK NO.	~~JAN~~ YE 72	FEB YE 73	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												#-40
471												#40
472												WT
473												KB
910												[redacted] CH
2524												NI
2525												NI
4408												UL
5006												#2
5006T												WO
5312												UL
5313												#2
9509												#2
9510												#2

Called next # okay

cleaned more toward 77'

KEY

MT - Empty,
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010601

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												WO
11005												#2
12001												#2
12002												#2
12003												#2
12004												FA
12005												R
14501												UL
15001												R
15005												UL
16003												#1
16804												LL
20511												P
29508												#2

15a2

R

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010602

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												R
38017												J
55021												#2
80009												MT
80010												#2
80014												#2
80408												R

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZTO104(e)010603

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1977

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												TT40
471												T40
472												UT-P
473												UTB-3
910												CHEV-325
2524												NI
2525												NI
4408												UL
5006												#2
5006T												W
5312												UL
5313												#2
9509												#2
9510												#2

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W - WASTE OIL

BZTO104(e)010604

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1977

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												#2
12002												#2
12003												#2
12004												F
12005												R
14501												UL
15001												R
15005												UL
16003												#1
16804												LL
20511												P
29508												#2

15002 — Same as 01

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W - WASTE OIL
F - FATTY ACID
LL - LIGNIN LIQUOR

BZT0104(e)010605

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1977

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												R
38017												J
55021												#2
80009												R
80010												#2
80014												#2
80408												R

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

J - JET FUEL

BZTO104(e)010606

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1978

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												T 40
471												WP 140
472												WT-P
473												FD-3
910												CHEV-30
2524												MT
2525												MT
4408												UL
5006												#2
5006T												W
5312												R
5313												LL
9509												L
9510												L

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- WASTE OIL
L- LUBE OIL

BZTO104(e)010607

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1974

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												#L
12002												#L
12003												#L
12004												F
12005												#2
14501												UL
15001												UL
15005												#L
16003												#2
16804												LL
20511												L
29508												MT

Name of 01

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W - WASE OIL
F - FATTY ACID
LL - LIGNIN LIQUOR
L - KUBOTA

BZT0104(e)010608

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1978

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												UL
38017												#2
55021												#2
80009												#2
80010												#2
80014												R
80408												R

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

BZT0104(e)010609

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1979

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												TK40
471												WT-140
472												WT-P
473												KB-3
910												CHEV-325
2524												NI
2525												NI
4408												W 2
5006												W 2
5006T												W
5312												#2
5313												LL
9509												L
9510												L

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- WASTE OIL
LL- LIGNIN LIQUOR
L- LUBE OIL

BZTO104(e)010610

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1979

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												MT
12002												MT
12003												MT
12004												MT
12005												MT
14501												#2
15001												P
15005												#2
16003												#1
16804												LL
20511												L
29508												#2

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W - WASTE OIL
LL - LIGNIN LIQUOR
L - LUBE OIL

BZT0104(e)010611

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1979

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												R
38017												UL
55027												#2
80009												R
80010												#2
80014												R
80408												M

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4
M - METHANOL

BZT0104(e)010612

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1980

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												TT40
471												WT1V0
472												WTP
473												FB-3
910												CHEV-32
2524												NI
2525												NI
4408												#L
5006												#2
5006T												W
5312												#L
5313												L2
9509												L
9510												L

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- WASTE OIL
LL LIGNIN LIQUOR
L- LUBE OIL

BZTO104(e)010613

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1980

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												#2
12002												MT
12003												MT
12004												MT
12005												MT
14501												#2
15001												R
15005												#2
16003												#2
16904												LL
20511												L
29508												#2

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W-WASTE OIL
LL-LIGNIN LIQUOR
L - LUBE OIL

BZT0104(e)010614

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1980

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												P
38016												R
38017												UL
55021												#2
80009												R
80010												UL
80014												R
80408												M

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4
M - METHANOL

BZT0104(e)010615

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1981

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												IT 40
471												WT-140
472												WT P
473												ITB-3
910												CHEV-32
2524												NI
2525												NI
4408												MT
5006												MT
5006T												W
5312												MT
5313												MT
9509												MT
9510												MT

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- WASTE OIL

BZT0104(e)010616

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1981

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												MT
12002												MT
12003												MT
12004												MT
12005												MT
14501												#2
15001												R
15005												#2
16003												#2
16804												MT
20511												MT
29508												MT

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2

W- WASTE OIL

BZTO104(e)010617

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1982

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												MT 40
471												WT-140
472												WT-P
473												MB-3
910												CHEV-340
2524												MT 46
2525												MT 46
4408												MT
5006												MT
5006T												W
5312												UL
5313												MT
9509												MT
9510												MT

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- WASTE OIL

BZTO104(e)010618

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1982

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												#2
12001												MT
12002												MT
12003												MT
12004												MT
12005												MT
14501												#2
15001												R
15005												#2
16003												MT
16804												MT
20511												MT
29508												MT

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W- WASTE OIL

BZTO104(e)010619

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1982

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												MT
38016												MT
38017												UL
55021												MT
80009												MT
80010												MT
80014												MT
80408												M

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

M - METHANOL

BZTO104(e)010620

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1983

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002												W
11005												W 2
12001												MT
12002												MT

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1983

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164												MT
301												JT 40
471												WT 140
472												WT P
473												HB-3
910												CHEV-320
2524												MT
2525												M-10
4408												MT
5006												MT
5006T												W
5212												

BZTO104(e)010621

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1983

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015												MT
38016												MT
38017												MT
55021												MT
80009												MT
80010												M2
80014												MT
80408												M

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

M - METHANOL

BZT0104(e)010622

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1984

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
164	MT									MT		
301	TT40									MT		
471	WT40									MT		
472	NB-3									MT		
473	MTT									MT		
910	MT									MT		
2524	I									I		
2525	M10									M10		
4408	MT									MT		
5006	MT									MT		
5006T	W									W		
5312	#2	SOL32	SOL32	SOL32	SOL32	SOL32	SOL32	MT	MT	MT		
5313	MT							MT	#2	MT		
9509	MT									MT		
9510	MT									MT		

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - FUEL OIL #4

W- WASTE OIL
I- ISOBUTINOL
M10- METHYL 10

BZT0104(e)010623

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

1984

TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10002	W									W		
11005	#2									#2		
12001	MT									MT		
12002	MT									MT		
12003	MT									MT		
12004	MT									MT		
12005	MT									MT		
14501	#2	Sol 32	Sol 32	Sol 32	Sol 32	Sol 32	MT			MT		
15001	MT									MT		
15005	#2	Sol 32	Sol 32	Sol 32	Sol 32	Sol 32	MT			MT		
16003	MT									MT		
16804	MT									MT		
20511	#2									#2		
29508	MT									MT		

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

W - WASTE OIL

BZT0104(e)010624

NORTHWEST AND BELL TERMINALS
12005 N. BURGARD
PORTLAND, OR

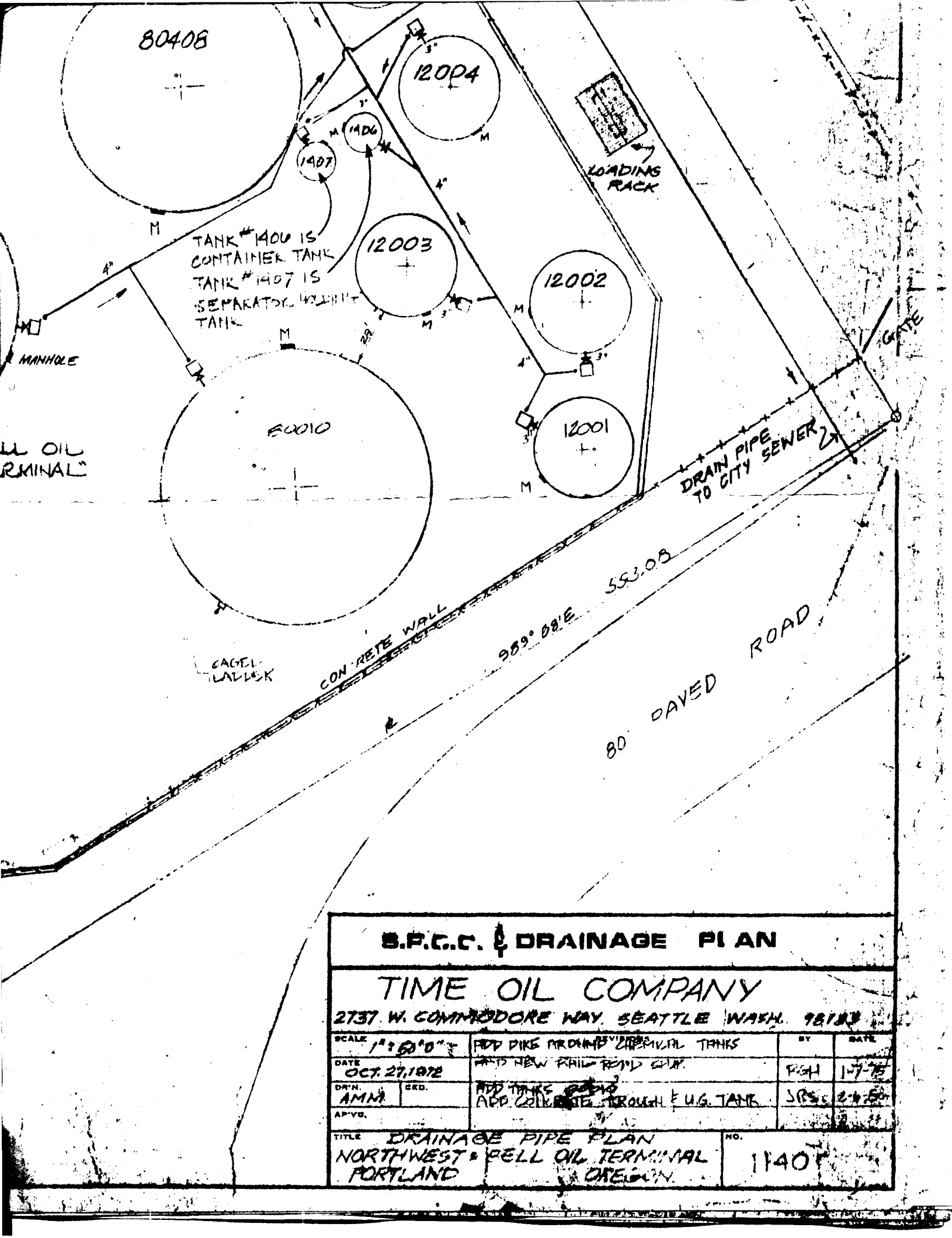
TANK NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
38015	MT									MT		
38016	MT									MT		
38017	MT									MT		
55027	MT									MT		
80009	MT									MT		
80010	MT									MT		
80014	MT									MT		
80408	M									M		

KEY

MT - Empty
P - Premium Gasoline
R - Regular Gasoline
UL - Unleaded Gasoline
#1 - Fuel Oil #1
#2 - Fuel Oil #2
#4 - Fuel Oil #4

M - METHANOL

BZT0104(e)010625



S.P.C.C. & DRAINAGE PLAN

TIME OIL COMPANY

2737 W. COMMODORE WAY SEATTLE WASH. 98199

SCALE 1" = 50'-0"	ADD DIKE AROUND CHEMICAL TANKS	BY	DATE
DATE OCT. 27, 1972	ADD NEW RAIL ROAD SPUR	FGH	1-7-75
DR'N. AMM CKD.	ADD TANKS ADD CONCRETE TROUGH & U.G. TANK	SRS	2-6-80
APV'D.			

TITLE DRAINAGE PIPE PLAN NORTHWEST & PELL OIL TERMINAL PORTLAND OREGON

NO. 1140

BZTO104(e)010626

cc: B BALDWIN
R. HAMILTON ✓

KOPPERS

Interoffice Correspondence

To Don Marion — From James F. Garrity (Over St Louis Plant Mgr.)

Location K-700 — Location St. Louis

Subject Time Oil — Date October 17, 1984

Met with Neil Wallis, John Denham, Fred Proby, and Neil Gallagher to discuss a clean-up procedure at Time Oil.

The clean-up will be broken down into three phases: Phase one, internally clear theirteen tanks and remove as bulk waste; Phase two, remove Koppers own storage tanks to an area to be scrapped; Phase three, determine soil contamination.

Phase One:

Western Compliance Service, Inc. (Wescomp) is taking care of arranging the tank clean-out. One tank will act as a holding tank for the waste and rinse liquids. From this tank a homogeneous sample will be taken and submitted to Coffey Labs. Once results are known, either the existing profile sheet can be used or a new profile sheet must be submitted to the Department of Environmental Quality for approval. Once approved Chemical Security will solidify and arrange to move the hazardous waste to the waste landfill in Arlington, OR. (Estimated completion time, eight weeks.)

Phase Two:

George McGinley, Pittsburgh Purchasing, is receiving bids on removing the six horizontals and one mobile tank that Koppers own. These seven tanks will be scrapped (away from danger) on Time Oil's property.

Phase Three:

The diked area where the storage tanks rest need ground samples taken. The floor in this area of concern consists of sand and dirt. Over the years an unknown amount of Woodtox Preprime and 140 has leaked into the soil. The clean-up responsibilities are Time Oil's, but they would like Koppers to contribute. I'll be in contact with Bill Baldwin to update him so he can get involved.

This is a general description of what will take place over the next few months. If a more detailed report is needed, please advise.

WTC Inventory (10/2/84)

1.	Mineral Spirits	300 gals.
2.	Paraffin Wax	1111 gals.
3.	Phosphoric Acid	125 lbs.
4.	WR-340 Conc.	165 gal.
5.	55 gal., TH, B&W, Drum	50 ea.

61

K-5 REV. 2

1. The mineral spirits will be used to rinse the storage tanks after they have been pumped dry.

2. The paraffin wax is being sent back to St. Louis to be used there.

3. The phosphoric acid will be returned to Van Walter and Rogers.

4. Three drums of WR-340 are being offered at distressed price to Cal Wood Door.

5. Sold Time Oil the 50 empty drums.

Jim/mp
James F. Garrity

JFG/mp

61

KOPPERS

Interoffice Correspondence

To Joe Kusar

From D. W. May

Location K-750

Location K-750

Subject TIME OIL AGREEMENT

Date June 13, 1984

JUN 1 4 1984

A complete report will be written in the near future providing the details of our decision concerning signing a contract to have Woodtox Preprime T manufactured at Time Oil Company. We have decided that it is in Koppers' best interest to produce this product in St. Louis. I project the sales of the product to be at 60,000 gallons in bulk, and an additional 10,000 to 20,000 gallons in drums for 1984. This small volume does not justify the $90,000 expense to have the material produced at Time Oil. We have decided to make bulk shipments direct from St. Louis and to find a low cost warehousing location for drum material on the West Coast. We will consider storing the drums at Jones Hamilton as well as manufacturing the product at Jones Hamilton and also look at potential warehouse sites nearer to the customer's plant.

One of the major drawbacks in manufacturing the product at St. Louis is the high freight cost of $0.65/gallon to move it in a bulk shipment to the customer's plant on the West Coast. The actual cost to produce in St. Louis based on the latest accounting procedures and estimated results of labor negotiations on the contract, etc., is $1.49/gallon. Including the $0.65 for freight, this gives a delivered cost to Koppers of $2.14 to the customer. Don Marion is going to concentrate on finding a way to reduce the freight cost since it represents approximately one third of the total delivered cost. Producing the product at Time Oil would have a cost of $1.92/gallon plus approximately $0.08/gallon freight to the customer, or a delivered cost of $2.00/gallon compared to $2.14 out of St. Louis with new economics. Due to the low volume sales of Woodtox Preprime T on the West Coast, there is only $0.12 absorption involved and is not the main factor for making the decision not to use Time Oil. The main factor was the low volume sales and the high cost ($90,000) to get the product made at Time Oil.

Before the decision becomes final, we wanted to give you and John Hite the opportunity to ask additional questions and/or change our decision. Please give us your final decision as soon as possible since it is essential that we get notice back to Time Oil.

61

DWM/mbm

cc: J. Hite
D. Marion
J. Palmer
J. Garrity

D. W. May

Don Marion 6/15 Get Harold and Fred Fleury working on freight charges.
Don Mac
Joe Kusar
Good decision to make in St Louis - let's work hard on Freight.
J. Hite

K-5 REV 2

BZTO104(e)010629

KOPPERS

Interoffice Correspondence

To Joe Kusar — From D. W. May

Location K-750 — Location K-750

Subject TIME OIL AGREEMENT — Date June 13, 1984

JUN 14 1984

A complete report will be written in the near future providing the details of our decision concerning signing a contract to have Woodtox Preprime T manufactured at Time Oil Company. We have decided that it is in Koppers' best interest to produce this product in St. Louis. I project the sales of the product to be at 60,000 gallons in bulk, and an additional 10,000 to 20,000 gallons in drums for 1984. This small volume does not justify the $90,000 expense to have the material produced at Time Oil. We have decided to make bulk shipments direct from St. Louis and to find a low cost warehousing location for drum material on the West Coast. We will consider storing the drums at Jones Hamilton as well as manufacturing the product at Jones Hamilton and also look at potential warehouse sites nearer to the customer's plant.

One of the major drawbacks in manufacturing the product at St. Louis is the high freight cost of $0.65/gallon to move it in a bulk shipment to the customer's plant on the West Coast. The actual cost to produce in St. Louis based on the latest accounting procedures and estimated results of labor negotiations on the contract, etc., is $1.49/gallon. Including the $0.65 for freight, this gives a delivered cost to Koppers of $2.14 to the customer. Don Marion is going to concentrate on finding a way to reduce the freight cost since it represents approximately one third of the total delivered cost. Producing the product at Time Oil would have a cost of $1.92/gallon plus approximately $0.08/gallon freight to the customer, or a delivered cost of $2.00/gallon compared to $2.14 out of St. Louis with new economics. Due to the low volume sales of Woodtox Preprime T on the West Coast, there is only $0.12 absorption involved and is not the main factor for making the decision not to use Time Oil. The main factor was the low volume sales and the high cost ($90,000) to get the product made at Time Oil.

Before the decision becomes final, we wanted to give you and John Hite the opportunity to ask additional questions and/or change our decision. Please give us your final decision as soon as possible since it is essential that we get notice back to Time Oil.

D. W. May

DWM/mbm

cc: J. Hite
D. Marion
J. Palmer
J. Garrity

K-5 REV. 2

M E M O R A N D U M

July 5, 1984

TO:	Robert Abendroth	Seattle
	Terry Henderson	Seattle
	Neil Wallis	Portland
FROM:	John Denham	Seattle

SUBJECT: DEQ PROPOSED INSPECTION OF NORTHWEST TERMINAL

On April 27, 1984, the DEQ advised our Portland office by letter, that the Northwest terminal was on a list of 44 companies, which are scheduled to be inspected during 1984. Inspection was allegedly pertinent to "uncontrolled abandoned" hazardous waste disposal sites in Oregon". Letter was finally received by me on May 15th.

Since TOC does not operate a hazardous waste disposal site, I attempted to find out from both the DEQ and the EPA, just why we were on the list at all. As it turned out, the EPA provided DEQ with Superfund money for coming up with a list of sites to be inspected, the inspection of those sites and the rendering of a report of inspection. It is of interest to note that none of the 44 companies scheduled for inspection are TSD's. All this information was noted in my May 25th request to the DEQ that TOC be removed from the list.

Today my May 25th request was denied, copy attached. Contact with Terry on this matter resulted in a legal opinion that we can do nothing to prevent the inspection. Contact with the DEQ (John Smits 503 325-8660) revealed inspection is scheduled for late August. I will be there.

JPD/ch

Attachment a/s

VICTOR ATIYEH
GOVERNOR

Department of Environmental Quality

522 S.W. 5th AVENUE, BOX 1760, PORTLAND, OREGON 97207

North Coast Branch
P. O. Box 869
Astoria, Oregon 97103
Phone (503) 325-8660

June 28, 1984

Time Oil Company
P.O. Box 24447
Terminal Annex
Seattle, Washington 98124

Attn: John P. Denham
Environmental Manager

RE: HW-3012 Superfund
Time Oil Company
Multnamah County

Dear Mr. Denham,

I have your May 25, 1984 letter to Gary Calaba regarding the listing of Time Oil in Portland, on the Uncontrolled (Abandoned) Hazardous Waste Disposal Sites list. I have been asked to respond.

Time Oil is listed in EPA's Emergency and Remedial Response Information System (ERRIS). The DEQ did not list Time Oil, EPA did. We are participating in the 3012 - Superfund inspection program to determine if there are potential hazardous waste impacts at the sites. We believe that the list was generated in a somewhat random fashion. It appears several business categories have been targeted for review, possibly because problems have been found at similar facilities in other parts of the country. We also wonder why some companies are listed and others are not. Time Oil cannot be removed from the list unless the assessment/inspection warrents that action.

It appears to me that the listing of Time Oil is appropriate due to the recent incident involving the tank(s) leased from Time Oil by Crosby and Overton. My preliminary assessment/site inspection in the next couple months will concern that incident as well as review of past and present disposal practices involving tank bottoms, slops, etc.

I hope this answers your question. If not, please feel free to contact me at (503) 325-8660. I will contact you in advance of any planned inspection.

Sincerely,

John L. Smits

John L. Smits, R.S.
Environmental Analyst
North Coast Branch

JLS:ccv
cc: Northwest Region, DEQ
Hazardous Waste Section, DEQ
EPA

DEQ-1

BZTO104(e)010632

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

May 25, 1984

Gary Calaba
Department of Environmental Quality
522 S.W. Fifth Avenue, Box 1760
Portland, OR 97207

Dear Gary,

This pertains to DEQ letter, dated April 27, 1984 regarding Uncontrolled (Abandoned) Hazardous Waste Disposal Sites and attachments thereto which include the listing of Time Oil in Portland as one of the 44 sites scheduled to be surveyed in 1984.

In our recent telecon, I explained that Time Oil Co. does not operate any hazardous waste disposal sites in Portland or anywhere else, that our petroleum terminal operations in Portland are neither uncontrolled nor abandoned and that it appeared an error occurred in placing Time Oil on the survey list. You advised that Region X EPA put us on the list and was the only one which could remove us from it. Contact with the EPA revealed this was correct, however the reason expressed for placement was that your office desired it.

As near as I can determine, there seems to be an impasse. Per referenced letter, the situation appears to be that EPA is interested in spending Superfund money on hazardous waste disposal sites, that EPA ask DEQ to send in a list of Oregon sites that qualify for Superfund money, that EPA gave DEQ some money for sending in the list, that DEQ sent it and that list included Time Oil in Portland which does not operate a hazardous waste disposal site.

Time Oil has no permit to operate a hazardous waste disposal site and has not requested any because we just do not do that job. A check of DEQ permit files will verify this fact.

Request DEQ inform the EPA that Time Oil in Portland was erroneously listed as a hazardous waste disposal site and that this office be advised of Time Oil Co. removal from the list.

Sincerely,

John P. Denham

John P. Denham
Environmental Manger

cc: EPA
Attn: Debbie Flood
EPA Region X
M/S 530 - A
1200 Sixth Avenue
Seattle, WA 98101

bcc: Robert Abendroth
Neil Wallis

BZTO104(e)010633

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

April 27, 1984

Time Oil Company
12005 N. Burgard Street
Portland, OR 97203

Inspection Program mgr. Greg Gaesler 229-5296

Dear Plant Manager:

Your company has been listed as one of 44 which our staff will be inspecting this year to gather better information about your past waste disposal practices. This effort is part of a year-long study funded by the federal Environmental Protection Agency (EPA).

The inclusion of your company on this list does not indicate that we believe any environmental problem exists on your property. Generally, there have been hazardous waste management problems nationwide at other types of businesses similar to yours and consequently we would like to gather additional data. The list of 44 sites was developed by EPA using a variety of information sources including industrial categories, information voluntarily gained under the Superfund reporting system, and others.

John Meyer 442-7215

I have enclosed a report which went to our Commission earlier this month which discusses our abandoned site investigation work in greater detail. Should you need additional information about the specific reason your company was included on the list, please contact Debbie Flood in EPA's 37 Times Seattle Regional Office at 206/442-2722. Should you want more information about our hazardous waste management program here in Oregon, please contact Rich Reiter in Portland at 229-6434. Our toll-free telephone number is 1-800-452-4011.

developed list 11 Times

Sincerely,

Fred Hansen

Fred Hansen
Director

FH:d
FD761 (44)

EQ-1

VICTOR ATIYEH
GOVERNOR

Environmental Quality Commission

Mailing Address: BOX 1760, PORTLAND, OR 97207
522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. I, April 6, 1984 EQC Meeting

Informational Report: Uncontrolled (Abandoned) Hazardous Waste Disposal Site Survey - Progress Report IV.

Background

This report updates the Department's efforts to identify, inspect and evaluate uncontrolled (abandoned) hazardous waste disposal sites in Oregon. Previous reports were published on February 1, 1980; March 1, 1981; and August 27, 1982.

In 1979, the Department and the Environmental Protection Agency (EPA) began surveying uncontrolled (abandoned) hazardous waste sites in Oregon. The objective of the investigations was to determine if hazardous waste was disposed of at a site, the amount disposed of, and whether the waste posed a threat to public health or the environment. The sites were selected based upon information found in consultant reports, from environmental inspections done by the Department, from a list of companies that notified the EPA of the existence of sites, and from information solicited from the public.

The survey is about chemical waste disposal sites and not about sites that may contain radioactive wastes. Radioactive wastes are regulated by the Oregon State Health Division and the Oregon Department of Energy.

Results

One-hundred-eleven sites have been subjects of preliminary investigations. As discussed later in this report, an additional 44 preliminary investigations will start in 1984. To date, the Department has completed 85 site investigations (see Attachment I) which are currently being reviewed by the EPA for completeness. New information received caused four previously closed site investigations to be reopened (McCormick & Baxter, Portland; Dant & Russell, Portland; St. John's Landfill, Portland; and Martin Marietta, The Dalles). Deschutes Valley Sanitation, Inc., a defunct industrial waste disposal site, was added to the survey.

...ains
Recycled
Materials

DEQ-46

BZTO104(e)010635

Twenty-six site investigations are continuing, seven in the Doane Lake study area:

1. Allied Plating, Portland
2. Bloomberg Road Landfill, Eugene
3. Dant & Russell, Portland
4. Deschutes Valley Sanitation, Inc., Terrebonne
5. Georgia Pacific, Coos Bay
6. Georgia Pacific, Toledo (new solid waste site)
7. Georgia Pacific, Toledo (old burning site)
8. Gilmore Steel, Portland (Doane Lake)
9. Gould, Inc., Portland (Doane Lake)
10. Industrial Air Products, Portland (Doane Lake)
11. Koppers, Co., Portland (Doane Lake)
12. Lawrence David Co., Eugene
13. Martin Marietta, The Dalles
14. McCall Oil & Chemical Corp., Astoria
15. McCormick & Baxter, Portland
16. Northwest Natural Gas, Portland (Doane Lake)
17. Nu-Way Oil, Portland
18. Pennwalt, Portland (Doane Lake)
19. Rhone-Poulenc, Portland (Doane Lake)
20. Shell Oil Company, Portland
21. Southern Pacific Railroad Co., Eugene
22. St. John's Landfill
23. Umatilla Army Depot, Hermiston
24. Union Pacific, Bridal Veil
25. United Chrome Products, Inc., Corvallis
26. Weyerhaeuser Company, North Bend.

Progress has been made at several sites. Gould, Inc., Portland, where 10,000 lead-contaminated battery cases were disposed of, is being cleaned up. The lead dust and slag from the empty battery cases will be removed and sent to a smelter for reuse. The cleaned cases will be recycled or burned as a fuel. Following this Phase I cleanup, the company will analyze the soil to determine the amount of lead remaining at the site. Additional remedial cleanup may or may not be required.

Rhone-Poulenc, Portland, a manufacturer of agricultural chemicals, is monitoring the shallow groundwater beneath the plant. Tests of the groundwater show that chlorinated phenols from past herbicide manufacturing contaminated the shallow groundwater. The company plans to remove the phenols at the plant site by recovering and treating the contaminated shallow groundwater.

Precision Castparts, Inc., Portland, a metal parts investment casting firm, voluntarily removed 635 drums of corrosive hazardous wastes from the defunct Deschutes Valley Sanitation industrial waste disposal site located

BZTO104(e)010636

near Terrebonne in Central Oregon. Still to be removed are 5,600 gallons of ink sludge contaminated by lead, and 161 drums of low-level radioactive waste. The Oregon State Health Division is directing the removal of the radioactive drums. Cleanup should be completed by June 1984.

McCormick and Baxter, a wood treating company in Portland, installed four groundwater monitoring wells to sample the shallow groundwater beneath a closed surface impoundment at their plant site. After discovering heavy metals and chlorinated phenols in the groundwater, the company notified the DEQ and hired a consulting firm to determine the extent of the contamination. Once the extent of contamination is known, a remedial action plan will be developed.

The Department asked Dant and Russell, North Plains, to install groundwater monitoring wells at the firm's wood processing site. The wells are needed to evaluate the presence and levels of suspected wood treating chemicals in the groundwater.

At the St. Johns Landfill, the Department determined that additional groundwater monitoring wells are needed to better assess the groundwater quality in the deeper zones.

Martin Marietta, an aluminum reduction plant in The Dalles, hired a consulting firm to evaluate the extent of cyanide contaminated groundwater beneath the company's solid waste disposal site. The consulting firm is working on a plan to eliminate the source of contamination and to evaluate the need for additional remedial action.

For years, United Chrome, a chrome plating facility near Corvallis, discharged chromium waste into a seepage bed located near the plant. Analysis of the soil and groundwater in 1983 showed high levels of chromium contamination. The EPA is conducting a Remedial Investigation and Feasibility Study of the site this spring. The study will focus on the nature and extent of the pollution problem and recommend cleanup alternatives.

Superfund

On December 3, 1980, Congress passed the Comprehensive Environmental Response Compensation and Liability Act, commonly known as Superfund. The Act states that if an imminent hazard to the environment or to people's health is identified, immediate removal or planned remedial action may be taken at a site by using money from Superfund. Responsible party cleanups are also possible under Superfund, assuming there is timely action by the state and the responsible party.

In 1982, the Department responded to a request from the EPA to submit candidate sites for entry on the National Priorities List (NPL). The NPL is a national Superfund list of over 400 hazardous waste sites that qualify

BZTO104(e)010637

for Superfund money. The objective of the national Superfund list is to:

1. Identify for the states and the public those hazardous waste sites which appear to warrant remedial action.

2. Prioritize sites for use of Superfund money to implement remedial action if a responsible party cannot be found or is uncooperative.

In July 1982, based on their hazard ranking score, Gould, Inc., Portland, and Teledyne Wah Chang, Albany, were placed on the national Superfund list. In a subsequent August 1983 update of the list, United Chrome Products, Inc., Corvallis, was added. The next national update of the Superfund list is scheduled for early summer 1984. The Department is evaluating its recent work to determine if any additional candidate sites should be nominated for inclusion on the Superfund list.

Future Action

The Department will continue to work on the specific projects identified earlier in this report, and with the EPA on the Superfund sites to pursue cleanup as needed. In addition, the Department intends to begin evaluating the 44 new sites listed in Attachment II. The Department is able to do this assessment work because of a special one-year grant from the EPA. The work began in February 1984. The Department expects to publish the results of the work in March 1985.

Conclusion

To date, eight sites have been identified which will likely require some form of remedial action (Gould, Rhone-Poulenc, Precision Castparts, McCormick and Baxter, Dant and Russell, St. Johns Landfill, Martin Marietta and United Chrome). As described earlier, remedial action is occurring, or additional investigation and/or testing is being done at those sites. So far, no federal Superfund money has been spent on remedial action in Oregon, although three sites have been placed on the Superfund list and are eligible for federal funding. Assuming the responsible parties continue to cooperate and do the required remedial actions in a timely manner, federal Superfund money may not be required, even though available. Before federal money can be spent for remedial action, the state would have to agree to provide a 10 percent match (50 percent if the land on which a site is situated is publicly owned). Oregon's 10 percent match would have to be provided by a special appropriation of the legislature.

Attachment III lists all of the sites investigated and the status of the work done at each site through 1983. For further information concerning this report, please contact Richard Reiter or Gary Calaba at 229-5913. In addition, if anyone has any information on a site they believe the

BZTO104(e)010638

Department should be investigating, please contact Richard Reiter or Gary Calaba, 229-5913 or write the Department of Environmental Quality, Hazardous Waste Section, P.O. Box 1760, Portland, OR 97207.

Director's Recommendation

It is recommended that the Commission approve the following course of action to be pursued by the Department:

1. Continue investigating uncontrolled (abandoned) hazardous waste disposal sites and initiate remedial action where necessary.

2. Submit candidate sites to the EPA for entry on the national Superfund list.

Fred Hansen

Attachment(s) I: Completed DEQ Site Investigations Currently under Review by the EPA
II: Sites Scheduled to be Surveyed in 1984
III: Status of Work Completed at each Uncontrolled (abandoned) Site

Gary Calaba:b
229-6534
March 23, 1984
ZB2912

Attachment I
Agenda Item No. I
April 6, 1984, EQC Meeting

COMPLETED
DEQ SITE INVESTIGATIONS
CURRENTLY UNDER REVIEW BY THE EPA

1. A. B. Plating, Portland
2. Ace Galvanizing, Portland
3. Airport Glue Waste Disposal, Josephine County
4. Alexander Paper Stock, Portland
5. Alkali Lake Disposal Site, Lakeview
6. American Can Co., Salem
7. American Timber and Trading Company, Portland
8. Anodizing, Inc., Portland
9. Associated Chemists, Inc. Portland
10. Bethel-Danebo Landfill, Eugene
11. Boise Cascade, Elgin
12. Boise Cascade, Valsetz
13. Borden Chemical Company, Springfield
14. Brown's Island Landfill, Salem
15. Caron Chemical Corp., Monmouth
16. Cascade Plating Co., Eugene
17. Champion International, Hood River
18. Champion International, Lebanon
19. Charles H. Lilly Co., Portland
20. Chempro of Oregon, Portland
21. Chem-Security Chemical Waste Landfill, Arlington
22. Chevron Asphalt, Portland
23. Chevron Chemical Co., Milwaukie
24. Coffin Butte Landfill, Corvallis-Albany
25. Crosby and Overton, Portland
26. Day Island Landfill, Eugene
27. Drum Recovery, Portland
28. Farmcraft, Inc., Tigard
29. Frank's Sanitary Service, Sherwood
30. Frontier Leather, Sherwood
31. Globe Union, Canby
32. Griffen Brothers, Inc., Portland
33. Hercules, Inc., Portland
34. ICN/United Medical Lab, Portland
35. Ideal Basic Inc., Gold Hill
36. International Paper Co., Gardiner
37. J. H. Baxter and Co., Eugene
38. J. H. Baxter and Co., The Dalles
39. John C. Taylor Lumber Sales, Sheridan
40. Johnson Creek Blvd. and Crosswhite St. Landfill, Portland
41. Koppers Company, Wauna
42. Krishell Laboratories, Portland

BZTO104(e)010640

43. L. D. MacFarland, Eugene
44. Lakeview, Oregon Dump Site
45. Lavelle (King Road) Landfill, Milwaukie
46. Liquid Air, Inc., Medford
47. Miller Products Co., Portland
48. Milwaukie Dumping Area, Milwaukie
49. Monsanto, Eugene
50. Norris Paint and Varnish Company, Salem
51. North Wasco Co. Landfill, The Dalles
52. Northwest Printed Circuits, Medford
53. Noslers Bullets, Bend
54. Nurnberg Scientific Company, Portland
55. OECO Corporation, Portland
56. Oregon City Gravel Pit
57. Oregon Technical Products, Grants Pass
58. Owens Illinois, Portland
59. Pacific Carbide and Alloy Co., Portland
60. Parrott Mountain Landfill, Sherwood
61. Permapost Products Company, Hillsboro
62. Reynolds Metal Company, Troutdale
63. Reichhold Chemicals, Inc., St. Helens
64. Rossman Landfill, Oregon City
65. Scappoose Dumping Area, Scappoose
66. Short Mountain Landfill, Eugene
67. Sinclair & Valentine formerly Martin Marietta, Portland
68. South Willamette Street Landfill, Eugene
69. Spe-de-way Paint Stain Company, Portland
70. States Industries, Inc., Eugene
71. Stauffer Chemical, Portland
72. Tektronix, Inc., Beaverton
73. Teledyne Wah Chang, Albany
74. 38th & Hilyard, Eugene
75 Texaco Terminal, Portland
76. Union Pacific Railroad, Hermiston
77. United Foam Corporation, Portland
78. U.S. Railway Manufacturing, Springfield
79. Uranium Mill, Lakeview
80. Van Waters and Rogers, Portland
81. Whiteson Landfill, McMinnville
82. Widing-Transportation Co., Portland
83. Wilbur-Ellis Company, Portland
84. Winter Products Company, Portland
85. Zehrung Corp., Portland

ZB2912 (3/84)

BZTO104(e)010641

Attachment II
Agenda Item No. I
April 6, 1984, EQC Meeting

SITES SCHEDULED TO BE SURVEYED IN 1984

1.	Ace Sanitary Service	Portland
2.	Appollo Metal Finishing	Portland
3.	Auto Chlor	Eugene
4.	Baron Blakeslee	Portland
5.	Boeing of Portland	Portland
6.	Borden	Portland
7.	Borden	La Grande
8.	Brand S	Corvallis
9.	Capital Chrome	Salem
10.	Chapman Chemical	Portland
11.	Chem Central	Portland
12.	Chevron (Willbridge)	Portland
13.	Columbia American Plating Co.	Portland
14.	D & D Septic Service	Grants Pass
15.	Eastside Plating	Portland
16.	Evans Products	Corvallis
17.	Farmers' Supply Cooperative	Ontario
18.	FMC (Ag. Div.)	Hood River
19.	FMC (Ag. Div.)	Medford
20.	Gilsonite	Portland
21.	Great Western	Tigard
22.	Hewlett Packard	Corvallis
23.	Klix Chemical	Portland
24.	Magnus Company	Portland
25.	Mammal Survey and Control Service	Portland
26.	Master Chemical	Portland
27.	McKenzie Chrome Plating	Springfield
28.	Merlin Landfill	Grants Pass
29.	Metal Finishing Contractors	Portland
30.	Mogul Corp.	Portland
31.	Mt. Hood Chemical	Portland
32.	Old Plant Site Area	Jacksonville
33.	Pacific Resins	Eugene
34.	Paramount Pest Control	Portland
35.	Precision Equipment	Portland
36.	Richhold Chemical	White City
37.	Rodda Paint	Portland
38.	The Gibson-Homans Co.	Portland
→ 39.	Time Oil	Portland
40.	U.S. Plating	Eugene
41.	Valley Plating	Eugene
42.	Western Farms	Athena
43.	Western Farms	Dufur
44.	Wilbur Ellis	Hood River

ZB2912 (3/84)

BZTO104(e)010642

Attachment III
Agenda Item No. I
April 6, 1984, EQC Meeting

STATUS OF WORK COMPLETED AT EACH UNCONTROLLED (ABANDONED) SITE

Disposal Site	Page
A.B. Plating, Portland	9
Ace Galvanizing, Portland	36
Airport Glue Waste Disposal, Josephine Co.	39
Alexander Paper Stock, Portland	27
Alkali Lake Disposal Site, Lakeview	7
Allied Plating, Portland	15
American Can Co., Salem	59
American Timber and Trading Company, Portland	6
Anodizing, Inc., Portland	47
Associated Chemists, Inc., Portland	16
Bethel-Danebo Landfill, Eugene	17
Bloomberg Road Landfill, Eugene	49
Boise Cascade, Elgin	68
Boise Cascade, Valsetz	60
Borden Chemical Company, Springfield	18
Brown's Island Landfill, Salem	51
Caron Chemical Corp., Monmouth	45
Cascade Plating Co., Eugene	59
Champion International, Hood River	64
Champion International, Lebanon	63
Charles H. Lilly Co., Portland	12
Chempro of Oregon, Portland	14
Chem-Security Chemical Waste Landfill, Arlington	18
Chevron Asphalt, Portland	1
Chevron Chemical Co., Milwaukie	16
Coffin Butte Landfill, Corvallis-Albany	19
Crosby and Overton, Portland	30
Dant and Russell, North Plains	1
Day Island Landfill, Eugene	50
Deschutes Valley Sanitation, Terrebonne	69
Drum Recovery, Portland	28
Farmcraft, Inc., Tigard	24
Frank's Sanitary Service, Sherwood	60
Frontier Leather, Sherwood	40
Georgia Pacific, Coos Bay	66
Georgia Pacific (two sites) Toledo	60

BZTO104(e)010643

Gilmore Steel, Portland 55
Globe Union, Canby 36
Gould, Inc., formerly N.L. Industries, Portland 53
Griffen Brothers, Inc., Portland 20
Hercules, Inc., Portland 2
ICN/United Medical Lab, Portland 46
Ideal Basic Ind., Gold Hill 66
Industrial Air Products, Portland 54
International Paper Co., Gardiner 65
J. H. Baxter and Co., Eugene 3
J. H. Baxter and Co., The Dalles 4
John C. Taylor Lumber Sales, Sheridan 4
Johnson Creek Blvd. and Crosswhite St. Landfill, Portland . . . 8
Koppers Company, Portland 54
Koppers Company, Wauna 5
Krishell Laboratories, Portland 21
L. D. MacFarland, Eugene 3
Lakeview, Oregon Dumpsite 57
Laurence David Co., Eugene 69
Lavelle (King Road) Landfill, Milwaukie 8
Liquid Air, Inc., Medford 7
Martin Marietta, The Dalles 13
McCall Oil & Chemical Corp., Astoria 61
McCormick and Baxter, Portland 6
Miller Products Co., Portland 11
Milwaukie Dumping Area, Milwaukie 37
Monsanto, Eugene 22
Norris Paint and Varnish Company, Salem 22
North Wasco Co. Landfill, The Dalles 65
Northwest Natural Gas, Portland 55
Northwest Printed Circuits, Medford 43
Noslers Bullets, Bend 9
NuWay Oil, Portland 31
Nurnberg Scientific Company, Portland 12
OECO Corporation, Portland 23
Oregon City Gravel Pit 56
Oregon Technical Products, Grants Pass 27
Owens Illinois, Inc., Portland 61
Pacific Carbide and Alloy Co., Portland 2
Parrott Mountain Landfill, Sherwood 10
Pennwalt, Portland 53
Permapost Products Company, Hillsboro 14
Reynolds Metal Company, Troutdale 44
Reichhold Chemicals, Inc., St. Helens 24
Rhone-Poulenc, Portland 52
Rossman Landfill, Oregon City 48
Scappoose Dumping Area, Scappoose 38
Shell Oil Co., Portland 62
Short Mountain Landfill, Eugene 21

Sinclair and Valentine (formerly Martin Marietta), Portland . . 61
South Willamette Street Landfill, Eugene 41
Southern Pacific, Eugene 67
Spe-de-way Paint Stain Company, Portland 29
St. Johns Landfill, Portland 35
States Industries, Inc., Eugene 59
Stauffer Chemical, Portland 33
Tektronix, Inc., Beaverton 11
Teledyne Wah Chang, Albany 13
38th & Hilyard, Eugene 68
Texaco Terminal, Portland 62
Umatilla Army Depot, Hermiston 58
Union Pacific Railroad, Bridal Veil 62
Union Pacific Railroad, Hermiston 5
United Chrome Products, Inc., Corvallis 34
United Foam Corporation, Portland 20
U.S. Railway Manufacturing, Springfield 63
Uranium Mill, Lakeview 25
Van Waters and Rogers, Portland 10
Weyerhaeuser Co., North Bend 67
Whiteson Landfill, McMinnville 64
Widing Transportation Co., Portland 32
Wilbur-Ellis Company, Portland 26
Winter Products Company, Portland 23
Zehrung Corp., Portland 42

ZB2912 (3/84)

ATTACHMENT III

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Dant & Russell, Inc. 7755 W. Millcrest North Plains, OR Wood Processing	on-site and possibly at company's Vadis pole yard.	sludge lagoon	pentachlorophenol; creosote; heavy metals	inorganic and organic toxic materials	Sludge currently being hauled to hazardous waste management facility	Investigation reopened. Groundwater sampling necessary	File search; telephone contact. On-site inspection; surface water sampling.
	off-site (St. Johns Landfill)	Municipal landfill	industrial sludge (10 truckloads)				
	off-site (Arlington Disposal Site)	chemical waste landfill	industrial sludge (periodic shipments as needed)				
Chevron Asphalt Co. Standard Oil of California 5501 NW Front Portland, OR asphalt manufacturer	off-site (St. Johns landfill)	municipal landfill	process sludge contaminated with oil	industrial sludge contaminated with oil	1. No accumulation of uncontrolled chemicals on-site 2. Process sludge disposed of at St. Johns landfill	No imminent health hazard of environmental problems identified. Uncontrolled site investigation closed	file search; telephone conversation

BZT0104(e)010646

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Pacific Carbide & Alloys Co. 9901 N. Hurst Av. Portland, OR - - - - - - - - - Manufacturer of quicklime and calcium carbide	on-site	settling pond	calcium hydrate; calcium carbonate; carbon (10,000 cubic yards per year)	corrosive	1. No accumulation of uncontrolled chemicals on-site. 2. Waste lime sludges are marketed as agricultural soil conditioners.	No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed	file search; site visit; sample collection
Hercules, Inc. 3366 NW Yeon Ave. Portland, OR - - - - - - - - - Manufacturer of coating agents for paper industry	off-site	contract with Crosby & Overton	settleable solids containing resins, fatty acids, wax, emulsifiers and starch	industrial sludge	1. No accumulation of uncontrolled chemicals on-site. 2. Industrial sludge disposed of off-site via contract with Crosby & Overton	1. No imminent health hazard or environmental problem identified on-site. 2. Uncontrolled site investigation closed.	file search; telephone conversation

BZTO104(e)010647

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
J.H. Baxter & Co. 85 Baxter Street Eugene, OR --- wood preserving	off-site Bethel-Danebo landfill --- off-site Arlington disposal site --- off-site	municipal landfill --- chemical waste landfill --- contract with Roto-Rooter or other pumper	pentachlorophenol; creosote (up to 25,000 gallons per year)	organic toxic materials	1. No accumulations of uncontrolled chemical on-site 2. Wastes currently disposed of at Arlington Disposal Site	1.No imminent health hazard or environmental problems identified on-site. 2. Uncontrolled site investigation closed.	personal interview
L.D. McFarland Company Highway 99N Eugene, OR --- wood preserving	on-site	land spreading for dust control	pentachlorophenol contaminated sludge (3000 gallons per year)	organic toxic material	1. No accumulation of uncontrolled chemicals on-site. 2. Negligible levels of pentachlorophenol in soil and surface runoff water	1. No imminent hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	personal interview; site visit; sample collection

BZTO104(e)010648

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
John C. Taylor Lumber Sales, Inc. (dba Sheridan Pressure Treated Lumber) Rock Creek Rd. off of Business Hwy 18 Sheridan, OR	on-site	storage in drums	pentachlorophenol; creosote; arsenic, copper and ammonium salts (15-55 gallon drums per year)	organic and inorganic toxic materials	1. No accumulation of uncontrolled chemicals on-site. 2. Drummed waste shipped to Arlington disposal site or firm in Kelso, Washington.	1. No imminent health hazard or environmental problems identified on-site. 2. Uncontrolled site investigation closed.	file search; telephone conversation
wood preserving	off-site Arlington disposal site	chemical waste landfill	same as above				
	off-site Kelso, Washington	unknown at this time	same as above				
J.H. Baxter & Co. East of City The Dalles, OR	on-site	accidental spillage	pentachlorophenol; creosote	organic toxic materials	no accumulation of uncontrolled chemical on-site	No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed.	file search; telephone conversation
wood preserving							

BZTO104(e)010649

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Union Pacific Railroad Hinkle Rail Yards Hermiston, OR railroad switching and maintenance yard	on-site	land spreading	waste oil (80,000 gallons per year)	industrial sludge	1. No accumulation of uncontrolled chemicals on-site. 2. Land spreading of waste oil discontinued in 1976.	No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed	file search; site visit
Koppers, Wauna Wauna, OR wood preserving	on-site	liquid waste recycled	pentachlorophenol; creosote; copper, chrome, and arsenic salts	organic and inorganic toxic materials	1. Plant permanently closed in 1962. 2. Former site now part of Crown Zellerbach paper mill site.	1. No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed.	telephone conversation

BZTO104(e)010650

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
McCormick and Baxter 6900 N. Edgewater Street Portland, OR --- wood preserving	off-site Arlington disposal site On-site	chemical waste landfill Surface impoundment	pentachlorophenol; creosote; copper, chrome and salts; boric acid; isopropyl ether liquid butane	organic and inorganic toxic materials	1. Wastes currently hauled to Arlington disposal site. 2. A closed, covered surface impoundment containing sludge has been identified on-site. 3. Pentachlorphenol and arsenic found in ground and surface waters.	Investigation reopened. Firm hired private consultant for groundwater investigations and preparing remedial action plan.	file search; telephone conversation. Groundwater monitoring
American Timber & Trading Co. (Now Columbia Woodworking Co.) 6432 NE Columbia Blvd. Portland, OR --- wood preserving	on-site	disposal wells	pentachlorophenol; creosote; copper, chrome and arsenic salts	organic and inorganic toxic materials	1. Plant operated from 1962-1970. 2. Plant disposed of liquid wastes into disposal wells. 3. Former plant site now under warehouse with an address of 6510 Columbia Blvd.	1. No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed	telephone conversation; site visit; sample collection

BZTO104(e)01065

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Alkali Lake 60 miles north of Lakeview, OR --- chemical waste landfill	on-site	shallow disposal trenches	residue from the manufacture of pesticides, primarily 2,4,D (23,500-55 gallon drums)	organic toxic materials	1. All drums were buried under state supervision in Nov-Dec. 1976. 2. Twice a year monitoring on and off-site is continuing by DEQ. 3. Site currently owned by State of Oregon. 4. This was a one time corrective disposal program.	1. Twice a year monitoring on and off-site continuing. 2. No imminen health hazard or environmental problem identified at this time. Uncontrolled site investigation closed.	file search sampling.
Liquid Air, Inc. 320 N. Pacific Hwy. Medford, OR --- acetylene manufacturer	on-site	surface impoundment	slaked lime (4 to 5 tons per month)	corrosive material	1. No accumulation of uncontrolled chemicals on-site. 2. Slaked lime has an agricultural use, however, Medford Valley's soils are already alkaline.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

BZTO104(e)010652

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Johnson Creek Blvd. and Crosswhite Street Landfill Johnson Creek Blvd and Crosswhite Street Portland, OR --- Demolition Landfill	on-site	building demolition waste land clearing debris; and industrial wastes from Precision Castparts.	Sodium hydroxide potassium hydroxide, kolene and alcohol wastes.	flammable and corrosive wastes	1. No accumulation of uncontrolled chemicals on-site. 2. Landfill is filled to capacity and warehouse has been built on-site. 3. Relative to building demolition waste and land clearing debris, the waste from Precision Castparts was incidental in terms of volume.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit
Lavelle Landfill King Road Milwaukie, Oregon --- Demolition Landfill	on-site	building demolition waste; land clearing debris; and industrial waste from Precision Castparts	sodium hydroxide potassium hydroxide; kolene and alcohol wastes	flammable and corrosive wastes	1. No accumulation of uncontrolled chemical on-site. 2. Landfill is filled to capacity and was covered with two (2) feet of dirt. 3. Relative to building demolition waste and land clearing debris, the waste from Precision Castparts was incidental in terms of volume.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

BZT0104(e)010653

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
A B Plating 6724 N.E. 46th Ave. Portland, OR --- Metal plating	on-site	Cesspool	sodium hydroxide; sodium hydroxide sludge; chromic acid and muriatic acid.	corrosive and toxic metal wastes	1. No accumulation of uncontrolled chemicals identified. 2. Small quantities of drippings and splashings are disposed of in cesspool. 3. No recorded wells within one mile of site. Groundwater estimated at 40 to 50 feet.	1. No imminent health hazard or environmental problems identified. 2. Current and future waste disposed practices will be evaluated under hazardous waste disposal requirements. 3. Uncontrolled site investigation closed.	site visit
Hoslers Bullets, Inc. 61396 Parrell Road Bend, Oregon --- Manufacturers of ammunition	on-site	shallow hand-dug disposal pits	formerly $Na_2Cr_2O_7$ (80 gallons per year); currently H_2SO_4 (200 gallons per year)	toxic and corrosive liquid wastes	1. No accumulation of uncontrolled chemicals on-site. 2. Small amount of spent acid disposed of in shallow pits (20 inches deep) 3. No visual evidence of environmental problem as a result of these practices.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

BZTO104(e)01065

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Parrott Mountain Landfill Parrott Mountain Road 2 miles southwest of Sherwood, OR --- septic tank waste; industrial waste.	on-site	evaporation/ seepage surface impoundment lagoons	septic tank sludge; chemical toilet sludge; pesticide manufacturing residue.	organic and toxic organic sludges	1. No accumulation of uncontrolled chemical identified on-site. 2. Pesticide manufacturing residues removed from site by court order. 3. Septic tank and chemical toilet sludge has dried up and is covered over.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	file search; telephone contacts; site visit
Van Waters and Rogers 3950 N.W. Yeon Portland, OR --- distributor of commercial and industrial chemicals and recycler of chlorinated solvents.	off-site (Arlington Disposal site)	chemical waste landfill	spilled products; spill contaminated soil; and still bottoms (sludges) from chlorinated solvent recovery process.	organic and inorganic toxic material	1. No accumulation of uncontrolled chemical identified. 2. Spill clean-up and chlorinated solvent still bottom sludges shipped to Arlington.	1. No imminent health hazard or environmental problem identified. 2. Site to be licensed by state of Oregon as hazardous waste treatment facility. 3. Uncontrolled site investigation closed.	file search; site visit

BZT0104(e)010655

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Miller Products Company Foot of S.W. Caruthers Portland, OR Defunct manufacturer of lime-sulfur and formulator of pesticides	on-site	settling pond	lime-sulfur sludge	corrosive industrial sludge	1. No accumulation of uncontrolled chemicals on-site. 2. Plant closed in 1960 at this location. 3. Land where plant was located is now part of freeway system.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	file search; site visit
Tektronix, Inc. M.W. Milliken Way Beaverton, OR electronics manufacturing	on-site	evaporation pond/ landfill	zinc; cadmium; nickel; copper; chrome; (56,000 gallons of sludge per year)	inorganic toxic materials	1. No accumulation of uncontrolled chemicals on-site. 2. Three sites have been used for landfilling of industrial sludge containing heavy metals. 3. Sludge is pretreated prior to landfilling to reduce heavy metals to environmentally safe level.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	file search; site visit; sample collection.
	off-site (Grabhorn Mountain Landfill)	demolition landfill					
	off-site (Arlington Disposal Site)	chemical waste landfill					

BZT0104(e)010656

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Charles H. Lilly Co. (Miller Products Co.) 7737 N.E. Killingsworth Portland, OR formulator of commercial fertilizer and pesticide products	on-site	concrete pit with approximate dimensions of 150' by 6' by 5' deep	DDT powder (2000 lbs) DDT liquid (200 gallons) miscellaneous quantities of chlordane, lindane, kelthane, etc. as they may have been mixed with DDT product	organic toxic materials	1. One time disposal as a result of the ban on DDT. 2. Department of Agriculture and Department of Environmental Quality had reviewed burial site in 1977. 3. Current pesticide contaminated wastes are hauled to Arlington disposal site.	1. Permanent record of one time disposal needs to be created. 2. No imminent health hazard or environmental problems identified. 3. Uncontrolled site investigation closed.	file search; telephone conversation
	off-site Arlington disposal site	chemical waste landfill	miscellaneous discontinued pesticide products (50,000 pounds)				
Nurnberg Scientific Company 3237 N. Williams Portland, OR Defunct distributor of laboratory chemicals	on-site	filled in basement	fire damaged laboratory chemicals (unknown quantity of chemicals not salvageable)	miscellaneous acids; bases; oxidizers; flammables; cyanide	following major fire (1967) attempts were made to salvage as many chemicals as possible. Remainder of chemicals were buried in basement along with charred remains of building. Debris leveled & covered with dirt.	1. Permanent record of this information need to be created. 2. No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed.	file search; telephone conversation; site visit

BZT0104(e)010657

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Teledyne Wah Chang Teledyne Industries, Inc. 1600 Old Salem Road Albany, OR manufacturer of non-ferrous metals	off-site Coffin Butte landfill off-site Roche Road landfill off-site Albany landfill off-site Arlington disposal site	municipal landfill demolition landfill municipal landfill (now closed) chemical waste landfill	stainless steel liners and furnace shield with adhering masses of zirconium and magnesium; zirconium fines; metal chlorides, chlorinator residues, filter residues and used carbo-column materials; flammable liquids	pyrophoric materials; reactive materials; flammable materials; low level radioactive wastes	1. No accumulation of uncontrolled chemicals on-site. 2. Pyrophoric, reactive and flammable material disposed of in several area landfills. 3. Excavation of previously disposed of materials could result in spontaneous combustion or explosion.	1. Permanent record of off-site disposal information needs to be created. 2. No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed. 3. Oregon State Health Division studying radioactive waste disposal sites.	file search
Martin Marietta Aluminum Co. 3313 West 2nd The Dalles, OR manufacturer of aluminum	on-site	industrial landfill	potliners; carbon blocks; sludge from air scrubbers; leachate contaminated by cyanide	industrial sludge. Toxic.	Surface water and groundwater contaminated by cyanide.	Investigation reopened; firm hired consulting company to evaluate situation & develop remedial action plan.	file search; telephone conversation. Site visit groundwater monitoring

BZTO104(e)010658

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Chempro 11535 N. Force St Portland, OR	on-site	sludge lagoon	process sludge contaminated with oil	industrial sludge contaminated with oil	1. No accumulation of uncontrolled chemicals on-site 2. Oily sludge currently being hauled to Arlington disposal site 3. Samples were taken 4/2/81 from run-off pond and underneath tanks. Results show no contamination.	1. No imminent health hazard or environmental problems identified. 2. Reference to Pasco, Washington site referred to EPA for followup. 3. Uncontrolled site investigation closed. 4. The chemical reprocessing industry as an industrial category may receive further EPA review.	file search; telephone conversation sample collection
Reprocessor of waste oil	off-site (Pasco, Washington) off-site (Arlington disposal site)	chemical waste landfill chemical waste landfill	oily sludge oily sludge				
Permapost Product Company 25600 SW Tualatin Valley Hwy Hillsboro, OR	on-site	short-term holding/recirculation lagoon and long-term storage/ evaporation lagoon	pentachlorophenol; creosote; copper, chrome and arsenic salts	organic and inorganic toxic materials	1. No accumulation of uncontrolled chemicals identified 2. Violations of state water pollution control facilities permit occurring.	1. No imminent health hazard or environmental problems identified. Uncontrolled site investigation closed. 2. Compliance program initiated. Company currently installing pollution control and prevention equipment.	file search; telephone conversation; site visit; sample collection
wood preserving	off-site (Vancouver, Washington)	metal containers recycling firm	metal containers that contained copper, chrome and arsenic salts				

BZTO104(e)010659

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Allied Plating 8135 NE Union Portland, OR metal plating	on-site	evaporative/ seepage lagoon	cyanide; copper nickel; chrome; (up to 150 gallons per minute)	inorganic toxic materials	1. No known accumulation of uncontrolled chemicals on-site. 2. Because of expanding production capacity lagoon becoming inadequate. 3. State Water Pollution Contro Facility Permit applied for. 4. Wastewater analysis indicates concentration of Cu, Ni, Cr, Cy, and pH below levels for HW classification. 5. Groundwater contains chromium and cyanide.	1.Uncontrolled site investigation continuing. 2.Groundwater monitoring well installed. 3. Company's bankrupt, business closed.	-file search; telephone conversation; site visit -groundwater monitoring

BZT0104(e)010660

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Chevron Chemical Company 2300 S.E. Harvester Drive Milwaukie, Oregon --- Blend and package dry (powder) pesticide mixtures.	off-site (landfill near Yakima, Washington.)	industrial landfill.	spilled pesticide product; damaged containers.	organic and inorganic toxic materials.	1. No accumulation of uncontrolled chemicals identified. 2. Plant clean up wastes shipped to landfill near Yakima, Washington.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	telephone conversation; site visit.
Associated Chemists, Inc. 4401 S.E. Johnson Creek Blvd. Portland, OR --- Formulating and packaging cleaning compounds, paints, solvents and fungicides.	off-site (Arlington disposal site)	chemical waste landfill	paint sludge (2-3, 55 gallon drums per month)	industrial sludge	1. No accumulation of uncontrolled chemicals identified. 2. Sludge currently being hauled to Arlington.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	site visit

BZTO104(e)010661

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Bethel-Danebo Landfill West 11th and Beltline Road Eugene, Oregon --- former municipal/ industrial landfill.	on-site	Municipal/industrial disposal site that is filled to capacity.	Domestic garbage; building demolition waste; land clearing debris; wood waste; miscellaneous industrial/ commercial waste	organic and inorganic mixed wastes.	1. Former gravel pit filled with municipal and industrial wastes. 2. Potential exists for local groundwater contamination due to degradation of municipal/ industrial wastes. 3. No evidence of hazardous wastes having been disposed of. 4. No accumulation of uncontrolled chemicals identified.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	file search; site visit.

BZT0104(e)010662

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Chem-Security Systems Inc. Star Route Arlington, Oregon --- chemical waste landfill known as Arlington Disposal Site	on-site	Disposal trenches for sludges and solids; evaporation ponds for liquids; land treatment facility for oily wastes and covered storage for liquid PCBs.	ignitable, corrosive, reactive and toxic waste according to Oregon's hazardous waste definitions. (approximately 1,000,000 cubic feet per year)	organic and inorganic toxic wastes.	1. No accumulation of uncontrolled chemical on site. 2. Site approved and licensed by state of Oregon. 3. Site in compliance with license conditions.	1. No imminent health hazards or environmental problem identified. 2. Uncontrolled site investigation closed.	file search; site visit.
Borden Chemical Co. 470 South Second St. Springfield, Oregon --- Manufacturer of urea and phenol formaldehyde resins for wood products industry.	off-site (prior to 1976 Lane County landfills) --- (since 1976 Arlington Disposal Site)	Municipal Landfill --- chemical waste landfill	industrial sludge from pretreatment holding ponds.	industrial organic sludge.	1. No accumulation of uncontrolled chemicals identified. 2. Industrial sludge from pretreatment holding basins formerly hauled to local municipal landfills. 3. Industrial sludge now hauled to Arlington Disposal site.	1. No imminent health hazards or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

BZTO104(e)010663

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Coffin Butte landfill Albany, Oregon	on-site	municipal/ industrial disposal site	domestic garbage; land clearing debris, miscellaneous industrial/ commercial wastes	organic and inorganic mixed wastes; previously pyrophoric wastes; previously low level radioactive wastes	1. No accumulations of uncontrolled chemicals on-site. 2. Potential exists for local groundwater contamination due to degradation of municipal/industrial wastes. 3. Pyrophoric wastes from Teledyne Wah Chang, Albany are no longer accepted (Wah Chang now manages these wastes on-site). 4. Low level radioactive wastes are no longer accepted. These wastes are hauled by Wah Chang to the Hanford Disposal Site in Washington.	1. Site licensed by state of Oregon. Periodic inspections conducted. 2. No imminent health hazard or environmental problems identified. 3. Uncontrolled site investigation closed. 4. Permanent record (i.e., deed restriction, restrictive covenant, etc.) regarding disposal of pyrophoric and low level radioactive materials needed.	file search; site visit

BZTO104(e)010664

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Griffin Brothers, Inc. 1806 S.E. Holgate Portland, Oregon --- Formulator of sanitary maintenance products including: liquid detergents, bacteriacides, floor waxes, floor finishes and janitorial supplies.	off-site (St. Johns Landfill)	municipal waste landfill	General office and business refuse (no industrial or hazardous wastes.)	none	1. No accumulation of uncontrolled chemicals identified.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit
United Foam Corp. 3900 N.E. 158th Portland, Oregon --- manufacturer of polyurethane foam	off-site (Arlington Disposal Site)	chemical waste landfill	Methylene chloride; glycol toluene disocyanate	toxic organic materials	1. No accumulation of uncontrolled chemicals identified. 2. Manufacturing wastes placed in 55 gallon metal drums prior to shipment to Arlington.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

BZTO104(e)010665

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Short Mountain Landfill Goshen, Oregon (operated by Lane County) --- Municipal/ industrial landfill	on-site	Municipal/ industrial landfill	domestic garbage building demolition wastes; land clearing debris; commercial and general business refuse	organic and inorganic mixed wastes	1. No accumulation of uncontrolled chemicals identified. 2. Active site operating under permit from State of Oregon. 3. Leachate control system installed to prevent contamination of local ground and surface waters.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	file search; site visit
Krishell Laboratories 1735 S.E. Powell Portland, Oregon --- Defunct pesticide formulator	off-site (St. John's Landfill)	Municipal/ industrial disposal site	general office and commercial manufacturing refuse (No known disposal of hazardous waste)	None	1. No accumulation of uncontrolled chemical identified on site of former plant. 2. Plant was demolished and new commercial warehouse constructed.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	file search; telephone contact; site visit

BZTO104(e)010666

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Monsanto 855 South Seneca Eugene, Oregon 97402 --- Manufacturer of urea and phenol formaldehyde glue resins for wood products industry.	on-site	pretreatment lagoons to remove solids prior to discharge to Eugene Sanitary Sewer	industrial sludge	organic industrial sludge	1. No accumulation of uncontrolled chemicals identified 2. Industrial sludge being disposed of at state permitted municipal landfills.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit
	off-site (Lane County landfills, such as Day Island, Bethel Danebo and Short Mountain)	Municipal disposal site.	dewatered sludge from pretreatment lagoons				
Norris Paint and Varnish Co. 1675 Commercial Street, N.E. Salem, Oregon --- formulator of paints and varnishes.	off-site (Brown's Island Disposal Site)	Municipal Disposal site.	industrial sludge containing residual amounts of organic solvent (500 lbs. per month); industrial sludge containing latex paint solids (5000 gallons per year); paint pigment bags (100-300 per day).	industrial sludge or waste paper bags.	1. No accumulation of uncontrolled chemicals identified. 2. Industrial sludges and general waste hauled to Brown's Island Landfill.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	site visit

BZTO104(e)010667

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
OECO Corporation 712 S.E. Hawthorne Portland, Oregon --- Manufactures transformers and power supplies for missles and aircraft	on-site --- off-site (St. Johns Landfill)	Recovery and reuse --- Municipal waste landfill	cleaning solvents --- epoxy resins, non-solvent liquid waste solutions	Non-hazardous general manufacturing refuse	1. No accumulations of uncontrolled chemicals identified. 2. Cleaning solvents are recovered for reuse. 3. General manufacturing refuse hauled to St. Johns Landfill.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigations closed.	site visit
Winter Products Company 3604 S.W. Macadam Avenue Portland, Oregon --- Manufacture furniture hardware	off-site (St. Johns Landfill) --- off-site (Arlington Disposal Site)	Municipal/ Industrial disposal site --- chemical waste landfill	Contaminated acid cleaner and plating rinse-water sludge (2000 gallons per year); brass plating bath solution sludge (4000 gallons per year).	Inorganic toxic materials	1. No accumulation of uncontrolled chemicals identified. 2. Prior to 197(contaminated sludges were disposed of at St. Johns landfill. 3. Currently, contaminated sludges are hauled to Arlington.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	telephone conversation; site visit

BZT0104(e)010668

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Reichhold Chemicals, Inc. North Columbia River Highway Box 810 St. Helens, Oregon Manufacturer of anhydrous ammonia, prilled urea, and liquid fertilizers.	on-site	above ground storage	spent catalysts, spent silica gel and activated carbon	None- inert materials	1. No accumulation of uncontrolled chemicals identified. 2. Inert materials stored on-site are not considered potential problem. 3. Organic sludges are hauled to Arlington. 4. Waste oils are sent to Chem-Pro for recovery and reuse.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	site visit
	off-site (Arlington Disposal Site)	chemical waste landfill	sludges accumulated during manufacturing process (1500 gallons per year)	toxic organic sludge			
	off-site (Chem-Pro)	Recovery of useable oil	Waste oils	organic waste			
Farmcraft, Inc. 8900 S.W. Commercial Street Tigard, Oregon formulator of agricultural fertilizers and pesticides.	none	Decontaminated empty containers are reused/ recycled.	Not applicable.	Not applicable	1. No accumulation of uncontrolled chemical identified. 2. Empty containers are reused/ recycled.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	Site visit.

BZTO104(e)010669

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Uranium Hill Lakeview, Oregon --- former uranium smelter	on-site	piles and surface lagoons	tailings left over from uranium recovery process	low level radioactivity; fine dust	1. No accumulation of uncontrolled chemicals identified. 2. The tailings and some lagoons were stabilized with earth cover 3. Some lagoons are still uncovered and occasionally cause localized dust problems. 4. Oregon Health Division continues to monitor site and wells by sampling groundwater.	1. No imminent health hazard or environmental problem identified. 2. Uncontrolled site investigation closed.	file search

BZTO104(e)010670

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Wilbur-Ellis Company 1220 N.W. Marshall Portland, OR --- Warehouse and distribution center for farm chemical and fertilizer products.	off-site (St. Johns Landfill) --- off-site (Arlington Disposal Site)	Municipal/ industrial disposal site --- chemical waste landfill	in-plant spills	Organic and inorganic toxic materials	1. No accumulation of uncontrolled chemicals identified. 2. Prior to 197[illegible] spilled materials were disposed of with general plant refuse at St. Johns Landfill. 3. Currently spilled materials are picked up, packed in drums and sent to Arlington.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	site visit

BZT0104(e)010671

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Alexander Paper Stock (formerly Resource Recovery By-products) 701 North Hunt Portland, Oregon --- Recycling paper products	off-site (St. Johns landfill)	municipal disposal site	miscellaneous contaminants coming in with waste paper	none	1. No accumulation of uncontrolled chemicals identified. 2. Facility designed to recover materials such as wood or paper for their reuse or energy value.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	file search; site visit.
Oregon Technical Products 1636 N.W. Washington Blvd. Grants Pass, Oregon --- Assembly of airborne electronic radar ports.	off-site (Grants Pass Fire Department)	used for training fire fighters	solvents (14 gallons per month)	organic flammable materials	1. No accumulation of uncontrolled chemicals identified. 2. Flammable solvents reused by Grants Pass Fire or Highway Departments. 3. Paint sludges disposed of at Josephine County Airport glue waste lagoon.	1. No imminent health hazard or environmental problem identified. 2. EPA conducting separate investigation of Josephine County Airport glue waste lagoon 3. Uncontrolled site investigation closed.	site visit
	off-site (Grants Pass Highway Department)	used for equipment cleaning purposes	solvents (14 gallons per month)	organic flammable materials			
	off-site (Airport Glue Waste Disposal Site)	industrial sludge lagoon	paint sludge from spray booth (350 gallons per month)	industrial sludge			

BZT0104(e)010672

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Drum Recovery 112th & Holman Portland, OR --- 1. Transporter of hazardous wastes (registered with Oregon PUC and EPA) 2. Proposed operator of hazardous waste collection site. 3. Proposed operator of hazardous waste treatment facility.	off-site (Arlington disposal site) (Wes-Con disposal site)	chemical waste landfill chemical waste landfill	miscellaneous inorganic/ organic liquids and solids	ignitable; corrosive; and toxic industrial inorganic and organic chemicals.	1. New company leasing office facilities from ICN/UNL at 112th & Holman. 2. Primary business at this time is registered transporter of hazardous waste. 3. Proposed operator of hazardous waste collection site at 112th & Holman. 4. Proposed operator of hazardous waste treatment facilities at 112th & Holman.	1. No imminent health hazard or environmental problems identified. 2. Transportation business and proposed facilities currently regulated by state and federal hazardous waste management regulations. 3. Uncontrolled site investigation closed.	Site visit

BZTO104(e)010673

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Spe-de-way Paint Stain Co. & Sol-Pro 8000 NE 14th Pl. Portland, OR --- Spe-de-way manufactures paints and lacquers. Sol-Pro is a reprocessor of chlorinated and non-chlorinated waste solvents.	off-site (Arlington disposal site) (Wes-Con disposal site)	chemical waste landfill chemical waste landfill	miscellaneous organic liquids and solids	ignitable and toxic organic chemicals	1. No accumulation of uncontrolled chemicals on site. 2. Company receives waste solvents from other businesses for treatment. Following treatment, chemicals are returned to businesses for reuse. 3. Wastes removed during treatment are drummed and shipped to Arlington or Wes-Con disposal sites.	1. No imminent health hazard or environmental problems identified. 2. Treatment facilities are regulated by both federal and state hazardous waste management regulations. 3. Uncontrolled site investigation closed. 4. Plant relocated to State of Washington.	file search; site visit

BZTO104(e)010674

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Crosby and Overton 5420 N. Lagoon Av. Portland, OR	on-site	temporary storage in steel tanks	ship bilge water (oil-water mixture)	organic and inorganic toxic materials; liquids and sludges contaminated with oil; industrial sludges	1. No accumulation of uncontrolled chemicals on site. 2. Temporary storage of oil-water mixtures at Time Oil is practiced. 3. Direct hauling to recycle facilities or authorized disposal sites is practiced for most customer-derived wastes.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site Investigation closed.	site visit
	off-site recycle plants	recycling	varies by customer				
Industrial tank cleaning and servicing	off-site Arlington disposal site	chemical waste landfill	varies by customer				
	off-site St. Johns Landfill	municipal landfill	varies by customer				

BZTO104(e)010675

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Nuway Oil 7039 NE 46th Portland, OR rerefiner of used motor oil	on-site	settling lagoon	1. Clay sludge contaminated with oil (up to 70 tons per year) 2. acid sludge contaminated with oil (up to 90,000 gallons per year)	1. Industrial sludge contaminated with oil. 2. Corrosive material	1. No imminent health hazard or environmental problems identified. 2. Clay sludge was disposed of on-site. 3. Acid sludge used for road base in Eastern Oregon and Washington. 4. Clay & acid sludges once disposed of at St. Johns landfill.	1. Waste confined to disposal site. 2. Uncontrolled site investigation continuing	file search; telephone conversation; site visit; sample collection. additional sampling may be necessary.
	off-site (St. Johns landfill)	municipal landfill	clay and acid sludges				
	off-site (miscellaneous holes-North Portland)	filling in of depressions in North Portland	clay sludge				
	off-site (Eastern Oregon and Washington)	Used for road base material	acid sludge				

BZTO104(e)010676

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Wilding Transportation Co., Inc 10145 N. Portland Road Portland, OR --- transporter of commodities including hazardous materials and hazardous wastes	on-site	6-cell aeration/ gravity settling basin and 4-acre settling pond	liquids and sludges from cleaning inside of bulk carrier transport trucks (50,000 gallons of water contaminated with urea and phenol formaldehyde glue resins, surfactants, oil, black liquor, & defoamer)	1. Organic and inorganic toxic material 2. Sludges contaminated with oil. 3. Corrosive.	1. No accumulation of uncontrolled chemicals on-site. 2. Following pretreatment some contaminated sludge stored on-site. 3. Following pretreatment some contaminated sludges hauled to Arlington disposal site.	1. Evaluation of water and sediments in 4-acre settling pond continuing to determine chemical contaminants. 2. The facility is now under a State license to operate. Ability to evaluate and regulate the site has been established. 3. Uncontrolled site investigation closed.	file search; telephone conversation; site visit; sample collection
	off-site (Arlington disposal site)	chemical waste landfill	liquids and sludges as described above (periodic shipments as needed)				

BZTO104(e)010677

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Stauffer Chemical Corp. 4429 N. Suttle Rd. Portland, OR	On-site	Settling pond	alum sludge (900 tons/yr.)	Corrosive, organic, toxic material.	1. Shallow ground water contamination detected in on-site monitoring wells adjacent to oxidation lagoon; quantities are small. 2. Pesticide contaminated wastes currently hauled to Wes-Con disposal site, ID. 3. Alum sludge currently hauled to St. John's landfill. 4. No good record exist relative to on-site chemical waste landfill. 5. No connection between shallow aquifer & deeper aquifer, the aquifer of concern demonstrated. All water users in the area supplied by municipal water system	1. Uncontrolled site investigation closed. 2. Sampling has indicated there are some h.w. on site but in low levels. 3. Impact does not affect beneficial uses.	File search, sample collections, site visit.
Mfg. of aluminum sulfate & formulator of commerical pesticide products.	On-site	Oxidation lagoon	Pesticide contaminated wash water (2300 lbs/yr.)				
	On-site	Chemical waste landfill	Pesticide contaminated liquid & solid (100-200 tons)				
	Off-site St. John's landfill	Municipal landfill	Alum sludge				
	Off-site Wes-Con Idaho disposal site.	Chemical waste landfill (20-30 tons/yr.)	Pesticide contaminated waste.				

BZTO104(e)010678

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
United Chrome Products, Inc. Corvallis Airport Industrial Park Corvallis, OR metal plating	on-site off-site Coffin Butte Landfill	dry well municipal landfill	sludge containing chrome (1000 gallons per year) same as above	inorganic toxic material	1. Unknown quantity of process wastewater and sludge disposed of down seepage bed. 2. Soil and groundwater contaminated by chromium.	1. Placed on National Priorities List. 2. Remedial action plan being developed.	file search; telephone conversation. Site visit groundwater monitoring

BZT0104(e)010679

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
St. Johns Landfil 9393 N. Columbia Blvd. Portland, Oregon --- Municipal/ industrial disposal site	on-site	municipal/ industrial landfill	5000 55-gallon drums of pesticide manufacturing residue Miscellaneous industrial solid waste, industria sludges, and oily waste	organic and inorganic toxic materials	1. No accumulation of uncontrolled chemicals on-site. 2. Besides household and commercial refuse, site has received miscellaneous industrial solid waste and industrial sludges over the years. 3. First set of monitoring results from wells near pesticide disposal area showed no pesticide contamination. 4. Second set of monitoring results from perimeter wells showed no pesticide contamination. 5. Groundwater monitoring network being evaluated to determine if additional sampling points are needed.	1. Evaluation of historical and recent monitoring data being undertaken. 2. No imminent health hazard or environmental problem suspected at this time. 3. Uncontrolled site investigations reopened.	Industrial file searches; telephone contact; site visit; sample collection

BZT0104(e)010680

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Pacific States alias Ace Galvanizing 805 NW 15th Portland, OR --- metal plating	on-site --- off-site farm land in WA.	disposal well/ city sewer --- land spreading	Liquid waste high in zinc & iron. Sludge containing zinc.	Inorganic toxic material.	1. No accumulation of uncontrolled chemicals on-site. 2. Disposal well may have been used for disposal of waste water. 3. Land in WA. may have been used for land spreading of sludge containing zinc.	Evaluation of disposal well indicated sump was lined. No identification of lands in WA. Uncontrolled site investigation closed.	File search; site visit. Telephone contacts could be made.
Globe Union, Inc. 800 NW Third Canby, OR 97013 --- Manufacturer of batteries	On-site	Evaporation/ seepage surface impoundment	In-plant spills containing lead sulfate and lead hydroxide (5000 gallons per spill maximum)	Inorganic toxic material	1. No accumulation of uncontrolled chemicals identified. 2. Unlined evaporation/ seepage pond used to contain in-plant spills. 3. All wells sampled showed no detectable levels of lead.	1. No imminent health hazard or environmental problem identified. 2. Impact of seepage on local groundwater table has been evaluated. 3. Uncontrolled site investigation closed.	Site visit samples taken

BZT0104(e)010681

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Milwaukie Dumping area	Various locations none pinpointed.	Landspreading, landfilling, open pits, etc.	Industrial waste from McCormick and Baxter	Sludge and general manufacturing refuse	1. Contact with alleged generator (McCormick and Baxter) and transporter (The Schultz Company) did not pinpoint this site. 2. Records related to septic tank sludge show they were hauled to Columbia Blvd. sewage treatment plant. 3. Records related to general solid waste show they were hauled to either the St. Johns or Rossman's municipal landfill. 4. A specific site could not be pinpointed. Likely, no one site was used more than once.	1. No imminent health hazard or environmental problem identified. 2. Further evaluation of records to try & pinpoint all possible disposal sites has been done. 3. Uncontrolled site investigation closed.	telephone contacts EPA field investgation team tried to track down a specific site.

BZT0104(e)010682

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Scappoose dumping area	Various locations none pinpointed.	Landspreading landfill, open pits, etc.	Industrial waste from McCormick and Baxter	Sludge and general manufacturing refuse	1. Contact with alleged generator (McCormick and Baxter, Portland) and transporter (The Schultz Company) did not pinpoint this site. 2. Records related to septic tank sludge show they were hauled to Columbia Blvd sewage treatment plant. 3. Records related to general solid waste show they were hauled to either the St. Johns or Rossman's municipal landfills.	1. No imminent health hazard or environmental problem identified. 2. Further evaluation of records to try to pinpoint all possible disposa sites needed. 3. Uncontrolled site investigation closed.	telephone contacts EPA field investigation team tried to track down a specific site.

BZTO104(e)010683

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Airport Glue Waste Disposal Site Josephine County Airport Merlin, Oregon --- Industrial Disposal Lagoon	on-site	four shallow evaporation/ seepage ponds.	phenolic glue waste solids; septic tank pumpings; chemical toilet pumpings; paint and ink sludges and oils.	industrial and domestic sewage sludges.	1. Unsealed ponds, potential exists for surface and groundwater contamination. 2. All waste sludge delivered to site in bulk. (i.e. no drum disposal.) 3. Visual evidence exists of previous surface overflows into roadside ditches 4. Initial sampling of drinking water wells in the area showed no contamination. 5. Further sampling of drinking water wells in the area showed no contamination.	1. No imminent health hazard or environmental problem identified. 2.Samples of adjacent deep, drinking water wells showed no contamination. 3.Identified companies and their waste. 4.The site is permanently closed and covered.Waste material has been land farmed for disposal. 5.Uncontrolled site investigation closed.	file search; site visit; sample collection and analysis. -domestic wells sampled for cyanide

BZTO104(e)010684

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
FRONTIER LEATHER 1210 E. Pacific Sherwood, OR	On-site	Landspreading, burial in shallow trenches or above ground storage in piles	Beamhouse clarifier sludge containing sodium sulfide, lime & sodium sulfhydrate (800 lbs. per day); primary clarifier sludge containing trivalent chrome (1200 lbs. per day); leather splits and flushings and trimming solvents?	Organic and inorganic industrial sludges	1. No accumulation of uncontrolled chemicals identified. 2. Beamhouse sludge disposed of on-site by landspreading. 3. Primary clarifier sludge disposed of at Rossman's. 4. Leather splits are being stored on-site. 5. Flushings and trimmings are being picked up by a rendering plant.	1. No imminent health hazard or environmental problems identified. 2. Analysis of contaminants in beamhouse and primary clarifier sludge done. 3. EPA has exempted tanning industry since original material is Cr t3. 4. Uncontrolled site investigation closed.	File search; site visit, samples taken.
Leather tanner	off-site (Newberg land-fill, Newberg)	Municipal disposal site					
	(Rossman's landfill, OR. City)	Municipal disposal site					

BZTO104(e)010685

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
South Willamette Street Landfill 52nd and Willamette Street Eugene, Oregon --- Former municipal/ industrial disposal site	on-site	Municipal/ industrial landfill	domestic garbage; building demolition waste; land clearing debris; commercial and general business refuse	organic and inorganic mixed waste	1. Former landfill where open burning was normal operating practice. 2. Landfill only being used for land clearing debris at this time. 3. Some drums containing unknown materials on-site.	1. No imminent health hazard or environmental problems identified. 2. Samples collected and contents of drums determined. Lane County ensures proper disposal. 3. Uncontrolled site investigation closed.	site visit samples taken

BZT0104(e)010686

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type:	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Zehrung Corporation 2201 N.W. 20th Portland, Oregon	on-site	underground storage tanks	paint mix tank wash water and solvent alcohol.	industrial sludge and flammable organic material	1. No accumulation of uncontrolled chemicals on-site.	1. No imminent health hazard or environmental problem identified.	site visit
Formulator of shellacs, solvent alcohols, primers and wood preservatives.		Incidental Insecticide dust accumulation beneath warehouse floor	Insecticide dusts (rotenone B and 2,4D	organic toxic material	2. Unknown (but presumed small) quantity of insecticide dust has accumulated beneath warehouse floor during packaging operations. 3. Spill clean-up debris hauled to St. Johns Landfill. 4. Outlet to wastewater sump determined to be city sewer.	2. Uncontrolled site investigation closed.	
	off-site (St. Johns Landfill)	municipal/ industrial disposal site	pentachlorophenol and/or shellac spill cleanup	organic toxic material			

BZT0104(e)010687

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Northwest Printed Circuits 2655 SE Pacific Highway Medford, OR --- manufacturer of printed circuit boards for electronic industry	off-site (Arlington disposal site)	chemical waste landfill	nitric acid (24 drums/yr) sodium persulfate (12 drums/yr)	corrosive sludge containing copper	1. No accumulation of uncontrolled chemicals on site. 2. Some drummed corrosive wastes currently being shipped to Arlington disposal site. 3. Organic solvents being returned to vendors for reuse, recycling or subsequent resale. 4. Certain treated industrial wastewaters discharged to Medford sewage treatment plant.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	site visit
	off-site (various suppliers such as Van Waters & Rogers, Great Western Chemical Island Chemical, etc.)	Return to vendor for reuse, recycling or resale for secondary use	Various solvents such as trichloroethylene, methylene chloride and etylene glycol (700 drums/yr)	flammable or toxic organic solvents			
	off-site (Medford sewage treatment plant)	municipal wastewater treatment plant	Various etchant liquid industrial wastes (alkaline etchant, electroless copper and sodium persulfate)	corrosive industrial wastewater			

BZTO104(e)010688

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Reynolds Metals Company Sundial Road Troutdale, Oregon	off-site (Reynolds Metal, Longview)	recovery of cryolite, land disposal of residual produc	potliner (430 tons/month)	low level of cyanide may be present in potliner	1. No accumulation of uncontrolled chemicals on site. 2. Potliner used to be stored on-site. Accumulation of potliner transported to Longview when cryolite recovery process installed. 3. Organic sludges from air control systems put in drums and hauled to Arlington disposal site.	1. No imminent health hazard or environmental problem identified. 2. Ground water samples in vicinity of Sundial Road plant were checked & found no detectable levels of cyanide. Uncontrolled site investigation closed.	site investigation samples taken.
primary aluminum reduction plant	off-site (Arlington	chemical waste landfill	sludge containing coal for pitch from wet electrostatic precipitator (20 drums/day)	organic industrial sludge			

BZT0104(e)010689

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Caron Chemical Corp. 8600 Suver Road Monmouth, Oregon	off-site (Arlington disposal site)	chemical waste landfill	still bottoms from reprocessing of waste solvents	ignitable	1. Treatment and collection facilities are both inactive at this time.	1. No imminent health hazard or environmental problems identified.	file search; site visit
1. Reprocessor of chlorinated/ nonchlorinated solvents (indefinitely closed at this time). 2. Hazardous waste collection site (license temporarily suspended for noncompliance at this time).			miscellaneous chemicals, including PCB solids, received through collection site.	ignitable, corrosive or toxic inorganic and organic chemicals.	2. Approximately 2000 drums of mixed inorganic/ organic chemicals were on-site. 3. Sufficient funds did not exist in the business to remove all chemicals to a secure disposal site. 4. Company working with original generators did secure their assistance in removing existing accumulation of chemical wastes.	2. Sold reprocessing equipment. 3. Efforts completed to secure generator assistance in removing accumulated wastes. 4. Accumulated waste removed and disposed of properly. 5. Uncontrolled site investigation closed.	

BZTO104(e)010690

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
ICN/United Medica Lab 222 N. Vincent Covina, CA (Plant Site: 11104 NE Holman Portland, OR) - - - - - - - - - - defunct clinical lab	historical disposal practices included some cyanide on site and other material off-site.	Dry well and haul to municipal landfill.	Laboratory chemicals including low level radioactive wastes. Small quantities.	Ignitable; corrosive; toxic; radioactive	1. Facility purchased in 1978 by ICN and closed shortly thereafter. 2. State Health Division investigated disposal of low level radioactive materials subsequent to closure and have found no problems. 3. 50 drums of unknown chemicals were stored behind one of the clinical lab buildings.	1. No imminent health hazard or environmental problems identified. 2. Identification and proper disposal of 50 drums of chemicals has been done. 3. EPA contractor finished investigation of the site. 4. Uncontrolled site investigation closed.	Site visit, samples taken.

BZTO104(e)010691

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Anodizing, Inc. 2005 NE Columbia Blvd. Portland, Oregon --- aluminum anodizing	on-site	surface impoundment	industrial wastewater treatment system sludge	industrial sludge (primarily aluminum sulfate)	1. No accumulation of uncontrolled chemicals on site. 2. Industrial wastewater treatment system closed down in early 1980 - wastewater discharged to Portland sewer system. 3. Surface impoundments no longer in use - accumulated sludge from treatment still remains in impoundment.	1. No imminent health hazard or environmental problems identified. 2. Samples of accumulated sludge taken for analysis and show no high levels of contamination. 3.Uncontrolled site investigation closed.	file search; site visit; sample collection

BZTO104(e)010692

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Rossman Landfill Holcomb & Washington Sts. Oregon City, OR --- municipal waste landfill	on-site	municipal waste landfill	residential, commercial, business and industrial garbage and refuse.	potential groundwater contamination; potential odor problems; potential off-site methane gas escapage.	1. No accumulation of uncontrolled chemicals on site. 2. Leachate collection and treatment system being installed to minimize water pollution. 3. Methane gas collection and treatment system being installed to minimize odors and potential explosions. 4. Effort made to operate site as sanitary landfill including daily cover, weather permitting.	1. No imminent health hazard or environmental problem identified. 2. Thorough review has been made of existing monitoring data and inspections scheduled on leachate and methane gas collection and treatment systems. 3. Uncontrolled site investigation closed. 4. Landfill closed.	file search; site visit

BZT0104(e)010693

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Bloomberg Road Landfill Bloomburg Road Lane County, Oregon --- former municipal/ industrial landfill.	on-site	municipal/ industrial disposal site that is filled to capacity.	Domestic garbage; land clearing debris; miscellaneous industrial/ commercial waste	organic and inorganic mixed wastes.	1. Potential exists for local groundwater contamination due to degradation of municipal/ industrial wastes. 2. No evidence of hazardous wastes having been disposed of. 3. No accumulation of uncontrolled chemicals identified.	1. No imminent health hazard or environmental problems identified. 2. Groundwater samples from local wells may be collected. 3. Uncontrolled site investigation continuing	file search; site visit.

BZTO104(e)010694

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Day Island Landfill Day Island Road Eugene, Oregon --- former municipal/ industrial landfill	on-site	municipal/ industrial disposal site that is filled to capacity.	Domestic garbage; building demolition waste; land clearing debris; wood waste; miscellaneous industrial/commercial waste.	organic and inorganic mixed wastes.	1. Potential exists for local groundwater contamination due to degradation of municipal/industrial wastes. 2. No evidence of hazardous wastes having been disposed of 3. No accumulation of uncontrolled chemicals identified	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	file search; site visit Evaluation of historical and recent monitoring data.

BZT0104(e)010695

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Brown's Island Sanitary Landfill Marion County Salem, Oregon Municipal/ industrial disposal site	On-site	Municipal/ industrial disposal site	Domestic garbage; building demolition waste; land clearing debris; miscellaneous commercial and industrial waste.	Organic and inorganic waste materials.	1. No accumulation of uncontrolled chemicals identified. 2. Potential for pollution of local groundwater due to biodegradation of organic materials. 3. Monitoring wells have been installed and monitoring of shallow groundwater table is occurring.	1. Permitted site by State of Oregon. Periodic inspections are conducted. 2. No imminent health hazard or environmental problems identified. 3. Evaluation of historical and recent monitoring data completed. 4. Uncontrolled site investigation closed.	File search; site visit.

BZTO104(e)010696

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Rhone-Poulenc (formerly Rhodia or Chipman Chemical) 6200 NW St. Helens Road Portland, OR	on-site	Doane Lake	liquid wastes	organic toxic materials	1. Chlorinated phenols in shallow groundwater generator plant site.	1. Evaluation continuing as part of Doane Lake area study. 2. Evaluation of St. Johns landfill scheduled. 3. Pasco, Washington reference referred to EPA for followup. 4. Twice a year monitoring of Alkali Lake con- continuing by DEQ 5. Remedial action plan developed. 6. Groundwater to be recovered and treated to remove phenols.	file search; personal interview; site visit; sample collection. On-site inspection.
	off-site St. Johns landfill	municipal landfill	manufacturing residues (5000-55 gallon drums)				
manufacturer and formulator of pesticides	off-site Alkali Lake landfill	chemical waste landfill	manufacturing residues (23,500-55 gallon drums)				
	off-site Pasco, Washington	chemical waste landfill	manufacturing residues				
	off-site Arlington disposal	chemical waste landfill	manufacturing residues (200 tons per year)				

BZT0104(e)010697

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Pennwalt Chemical 6400 NW Front Av. Portland, OR manufacturer of industrial chemicals - principally chlorine	on-site off-site Arlington disposal site	lagoons/landfill chemical waste landfill	brine purification sludge (1310 pounds per day) sodium arsenite; miscellaneous cleaning chemicals	inorganic toxic material	1. No accumulation of uncontrolled chemical on-site 2. Some industrial sludge disposed of on-site. 3. Some industrial chemicals disposed of at Arlington disposal site.	Evaluation continuing as part of Boone Lake area study	file search; site visit; sample collection On-site inspection.
Gould Inc. (formerly NL Industries) 5909 NW 61st Av. Portland, OR Secondary refining of lead and zinc	on-site	landfill	lead; zinc	inorganic toxic material	Lead dust and slag.	Lead dust and slag and empty battery cases being removed from site for re-use.	file search; site visit; sample collection

BZT0104(e)010698

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Koppers Company 7540 NW St. Helen Road Portland, OR --- manufacturer of pitch and electrobinding products	on-site	landfill	creosote residuals; pitch; phenols; oil and grease	industrial solid waste and sludge		Evaluation continuing as part of Doane Lake study area	file search; telephone conversation Sampling continuing.
Industrial Air Products (Division of Liquid Air Inc.) 6501 NW Front Av. Portland, OR --- manufacturer of acetylene	on-site	landfill	10% lime slurry	corrosive	1. No accumulation of uncontrolled chemicals on-site. 2. Lime slurry currently held in temporary holding pond and reused.	Evaluation continuing as part of Doane Lake area study	file search; site visit; sample collection

BZT0104(e)010699

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Gilmore Steel 6161 NW 61st Av. Portland, OR - - - - - - - - steel fabrication coating and engraving	on-site	landfill	rolling mill scale; melt furnace slag (7500 tons per year)	industrial solid waste	no accumulation of uncontrolled chemicals on-site	evaluation continuing as part of Doane Lake area study	file search; site visit; sample collection
Northwest Natural Gas St. Helens Road Portland, OR - - - - - - - - manufacturer of oil and gas from petroleum	on-site	landfill	tar bottoms; napthalenes	industrial sludges	1. Gasification plant ceased operation in early 1950's	Evaluation continuing as part of Doane Lake area study	personal interview; site visit; sample collection

BZT0104(e)010700

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Oregon City Gravel Pit (Believed to be Rossman's Landfill, Oregon City)	Not applicable	Not applicable	Not applicable	Not applicable	1. Galvanizers disposed of 12,000 gallons of iron and zinc hydroxide sludge in 1976. 2. Crosby and Overton hauled sludge to Rossman's landfill in Oregon City. 3. DEQ approved disposal in Rossman's landfill.	1. No imminent health hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	telephone contacts

BZT0104(e)010701

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Lakeview, Oregon dumpsite (determined to be Alkali Lake disposal site)	---	---	---	---	1. Jantzen, Inc. disposed of dry cleaning solvents thru Chem-Waste, Inc. 2. Chem-Waste, Inc. developed and operated Alkali Lake disposal site.	1. See discussion under Alkali Lake disposal site. 2. Uncontrolled site investigation closed.	File search; telephone contacts.

BZTO104(e)010702

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Umatilla Army Depot Hermiston, Oregon - - - - - - - - - - Army munitions and nerve gas repository	on-site	Long-term storage of pesticides and solvents; washwater from decontaminating munitions plant was piped to 2-cell unlined lagoon, plant inactive for over 10 years.	Total estimate 9,000 lbs.--pesticides, solvents, NaCN and NaCl, caustic brine.	Explosives and toxic organic waste contamination.	1.Outdated or nonusable munitions are detonated in an incinerator or open air depending on size. 2.Pesticides and solvents in storage. 3. Groundwater contaminated by nitrates from 2-cell unlined lagoon.	1. No imminent health hazard or environmental problem identified to date. 2. Uncontrolled site investigation is continuing. DEQ and EPA reviewing consultant report on groundwater contamination.	File search Groundwater monitoring

BZT0104(e)010703

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
American Can CO. 3334 Industrial Way N.E. Salem, OR --- Can mfg. facility	off-site	recycle	solder dross (lead) waste solvents (MIBK, MEK & cycloheranone) 40,000 lbs/yr.	Toxic-heavy metals & organic solvents	1. Drum storage area for solder dross and waste solvents 2. Company has filed as a generator and TSD facility. 3. Company filed SNP to be safe.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on site inspection.
Cascade Plating Co. 125 Waite St. Eugene, OR --- Electroplating facility	off-site --- Arlington h.w. disposal facility	--- landfill	Electroplating sludge - 3 drums over a 7 year period.	Toxic- heavy metals	1. Dates of waste handling 1980-present. 2. Material is collected & stored in drums. 3. Stored material is shipped to Arlington for disposal.	1. Preliminary investigation has been initiated. Uncontrolled site investigation continuing. 2. Uncontrolled site investigation closed.	File search, telephone contact.
States Industries Inc. Enid Rd & Hwy. 99N Eugene, OR 97402 --- prefinish plant	off-site unknown	municipal landfill	spent solvents	Toxic-ignitable	1. Material is stored on site in drums.	1. Preliminary investigation has been initiated and uncontrolled site investigation continuing. 2. Uncontrolled site investigation closed.	File search, telephone contact.

BZT0104(e)010704

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Boise Cascade Valsetz, OR - - - - - - - - - - plywood mfg.	on-site	landfill	10 cu/yds. of asbestos insulation.	Toxic-asbestos if air borne, could be inhaled then is considered a carcinogen.	1. Company allowed asbestos from old schools to be landfilled 2. Material has been covered & thus is not a hazardous waste.	1. No imminent hazard or environmental problems identified. 2. Uncontrolled site investigation closed.	File search, telephone contact, site inspection.
FRANK's SANITARY LANDFILL Rt. 4 Box 405 Sherwood, OR - - - - - - - - - - municipal landfill	On-site	municipal landfill	A variety of waste and in unknown quantities.	Unknown	1. Facility operated from 1963-1976.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search. On-site inspection.
Georgia Pacific Corp. Butler Bridge Rd. Toledo, OR - - - - - - - - - - paper plant	On-site	landfill (new solid waste site and old burning site)	3000 cu/yds. of mixed waste from the mill generation. Exact quantities of specific wastes unknown.	Toxic-small quantities of heavy metals, solvents, oil and other mill wastes.	1. Some slimeacides and other hazardous materials during the operation of the plant. 2. Surrounded on three sides by water treatment ponds. 3. Sampling of the ponds show no contamination.	1No imminent hazard or environmental problems identified. 2Uncontrolled site investigation continuing.	File search, on-site visit, sampling conducted.

BZTO104(e)010705

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
McCall Oil & Chemical Corp. 585 Hamburg St. Astoria, OR - - - - - - - - - Oil storage	On-site	Open pits	Tank bottoms & oil storage slog quantity unknown.	Toxic	1. Pits have been used in the past for spill material and tank sludge disposal.	Preliminary investigation has been initiated. Uncontrolled site investigation continuing.	Initial telephone contact made.
Sinclair & Valentine (formerly Martin Marietta Co) 2700 S. Ankeny St. Portland, OR - - - - - - - - - Producer of printing ink.	Unknown	Unknown	Unknown - printing inks/ solvents. Quantities unknown at this time.	Toxic	1. Facility ceased operation in 1971. 2. No accumulation of uncontrolled chemicals on site.	Uncontrolled site investigation closed.	File review. On-site inspection.
Owens Illinois Inc. 5850 N.E. 92nd Dr. Portland, OR - - - - - - - - - Glass Mfg. plant	On-site	Landfill	Chromium-quantities unknown at this time.	Toxic.	1. Buried refractory brick that have chrome in them until 1980. 2. Material has been covered. 3. Landfilled chromium is in refractory brick.	No imminent hazard or environmental problem identified. Uncontrolled site investigation closed.	File review.

BZTO104(e)010706

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Shell Oil Co. 5880 N.W. St. Helens Rd. Portland, OR. --- Petroleum Bulk Terminal activity	On-site --- Off-site at St. John's landfill	Land treatment and landfill	Pesticides, organics, unknown quantity disposed of on-site, a maximum of 60-70 bbls. off-site.	Toxic ---	Pending --- See St. John's landfill info.	Preliminary investigation made. Uncontrolled site investigation continuing.	Initial file search.
Texaco Terminal 3800 N.W. St. Helens Rd. Portland, OR --- Bulk Terminal Activity	On-site	Landfill	API separator sludge.	Toxic-heavy metals	1.In 1969 Texaco said drained settling from oil/water separator onto a sandy area of the tank farm. Alleged to be essentially water and sand. 2.Lead concentration less than toxic standards; leach test shows less than 0.1 mg/l.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	Initial file search. Site inspection, sampling.
Union Pacific Bridal Veil --- Transportation	Near railroad tracks between Bridal Veil and Multnomah Falls	Landfill	Paint & related products. Unknown quantities.	Toxic and/or ignitable.	1. Material was placed here as a result of a train derailment	Preliminary investigation made. Uncontrolled site investigation continuing.	Initial file search.

BZTO104(e)010707

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Champion Intern'tl P.O. Box 1329 Lebanon, OR - - - - - - - - - - Plywood mfg.	Off-site Abandoned gravel pit Liquids training site for the City of Lebanon Fire Dept.	Open burning.	Halogenated and non-halogenated solvents - 6,000 gals/yr.	Toxic & ignitable solvent waste.	1. Spent solvent given to City Fire Dept. A plastic lined pit was filled w/water & solvent in surface then ignited. Dept. would practice fighting fires. 2. Spent solvent is now shipped off-site for disposal according to EPA requirements.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, telephone contact.
United States Railway Mfg. 303-2 S. Fifth St. Springfield, OR - - - - - - - - - - Railcar Mfg.	Off-site (Lane Co. landfill)	Municipal landfill.	5-five gallon barrels of paint pigments.	Flammable	1. Waste consists of small quantities of paint residue. 2. No accumulation of uncontrolled chemicals on-site. 3. Small quantity is disposed of at co. municipal landfill, i.e., small quantity exclusion.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	On-site inspection.

BZT0104(e)010708

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Whiteson Landfill Rt. 1 Box 211 McMinnville, OR - - - - - - - - - - Municipal landfill	On-site	Municipal landfill.	Cascade Steel Rolling Mill baghouse dust, 2,000 tons/yr.	Toxic - heavy metal, lead & cadmium	1. Landfill accepted dust from 1973-1981. 2. Dust was deposited throughout the landfill. 3. Concentration of lead and cadmium below toxic standards.	1. No imminent hazard or environmental problem identified. Uncontrolled site investigation closed.	File search, on-site inspection telephone contact, sampling. Groundwater sampling.
Champion Intern'tl 4780 Dee Highway Hood River, OR - - - - - - - - - - Plywood mfg.	On-site	Industrial waste landfill.	1. Waste paint solvent 2. Exact quantity unknown. Volumes were spread over the wood waste to evaporate.	Toxic.	1. Site normally used for disposal of waste water treatment plant sludge and boiler fly ash. 2. Waste paint solvent was dumped over waste from 1967-1976. Intent was to evaporate material. 3. Co. has switched to water based paint and no longer generate waste solvents. 4. Site has a regular State SW permit.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection, telephone contact.

BZTO104(e)010709

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
North Wasco Co. Landfill Rt. 1, Box 136 A The Dalles, OR - - - - - - - - - - - Municipal landfill	On-site	Municipal landfill	Empty pesticide containers, unknown quantities.	Toxic.	1. All known pesticide containers that went into the landfill were triple rinsed. 2. Site has a regular State SW Permit.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection.
International Paper Co. Hwy. 101 Gardiner, OR - - - - - - - - - - - Paper Mfg.	On-site.	Landfill	Pulp sludge, wood fiber, lime dregs & demolition material. Exact quantity unknown, size of fill is 15 acres	Non-hazardous, organic (TOC, BOD, etc) loading of nearby river.	1. Located near the Umpqua River and Pacific Ocean. 2. Site is level & consists of diked trenches 3. No known hazardous waste has entered the site. 4. Site has a regular State S.W. Permit.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection, telephone contact.

BZT0104(e)010710

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Ideal Basic Ind. Gold Hill, OR - - - - - - - - - - - Defunct Cement plant	On-site	Landfill	Cement kiln Burning Zone Refractories. Approx. 13,000 cu. ft.	Toxic-Bricks have cr content.	1. Waste material consisting mainly of rock, dirt and sand is spread over large area. 2. Plant & site are inactive. 3. Area is served by community water system. 4. Cr content is not classified as hazardous waste.	No imminent hazard or environmental problems identified. Uncontrolled site investigation closed.	File search, on-site inspection, samples taken.
Georgia Pacific Chemical Plant Chamberlain St. Coos Bay, OR - - - - - - - - - - - Wood products chemical plant	On-site	Landfill	700 cu. ft. of paraformaldehyde.	Toxic - aquatic life, recreational use of the bay.	1. Material was buried over a nine year period from 1963 to 1972.	Evaluation is continuing	File search, on-site inspection, sampling

BZT0104(e)010711

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Weyerhaeuser Co. McDaniel St. North Bend, OR - - - - - - - - - - - Wood products plant	Weyerhaeuser property on Hettman Ridge.	Landfill.	One dumpster of penta dip-tank sludge.	Toxic - chlorinated phenol.	1. Landfill is used for waste wood residues & log pond dredgings only. 2. Penta dip-tank sludge entered landfill by accident on Dec. 1980. 3. Site is a regularly permited S.W. site. 4. Site has a trench around it to catch run-off.	Evaluation is continuing.	File search, on-site inspection. Samples collected.
Southern Pacific Transportation Co. Bethel Drive Eugene, OR - - - - - - - - - - - Industrial & municipal landfill	On-site	Landfill	Unknown	Unknown	1. Old borrow pit at east end of dumpsite. 2. Public at one time used this dump site which is now fenced off. 3. Awaiting evaluation.	1. Evaluation of this site is continuing. 2. Analysis of 129 priority pollutants. 3. Sample results being evaluated.	File search, on-site inspection, telephone contact. Sampling.

BZT0104(e)010712

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Boise Cascade Elgin, OR - - - - - - - - - - - Sawmill	On-site	Landfill	27 c. ft. of asbestos.	Toxic, if airborne, would be inhaled, then is considered a carcinogen.	1. Site is a regularly operated wood waste site accepting log deck clean-up and baghouse dust. 2. Asbestos has been covered and thus any hazard has been alleviated.	No imminent hazard or environmental problems were identified. Uncontrolled site investigation closed.	File search, on-site inspection.
38th & Hilyard Eugene, OR - - - - - - - - - - - Closed municipal landfill	On-site	Landfill - open burning dump	Demolition, municipal, industrial, & other typical waste brought to a landfill during that time.	Waste leachate	1. The site has been closed for 30 yrs. 2. The site was an open burning dump which left mainly ash residual. The site was covered and has grass growing on it. 3. No detectable amount of contaminants were measured going into an adjacent stream. 4. No methane gas was being generated at the site.	No hazards or environmental problems were identified. Uncontrolled site investigation closed.	On-site inspection, sampling for methane leachate indicators EP toxicity, & aquatic toxicity.

BZTO104(e)010713

UNCONTROLLED (ABANDONED) HAZARDOUS WASTE DISPOSAL SITE SURVEY

Name/ Business Type	Disposal Site Location	Type of Disposal	Waste Type/ Waste Quantity	Type of Hazard(s)	Finding(s)	Current Status	Type of Investigation
Laurence David Co. 1400 S. Bertelson Rd Eugene, OR	On-site	Open pit	Wood putty containing toluene, 50 cu. ft.	Flammable	Buried wood putty on-site.	Waste to be removed and landfilled.	On-site inspection, telephone contact, sampling.
Deschutes Valley Sanitation Terrebonne, OR	On-site	Lagoon;drums	Ink sludge containing 7% lead, 600 cu.ft.; 635 55-gallon drums of caustic sand, corrosive liquids, solvents; 161 drums of low-level radioactive wastes.	Toxic Corrosive Radioactive	Ink sludge disposed of in lagoon; corrosives, solvents, and low-level radioactive waste contained in drums, sitting on the ground.	635 drums removed to Arlington; removal of radioactive waste and ink sludge pending. Health Division overseeing removal of rad-wastes.	On-site inspections. Sampling.

BZT0104(e)010714

cc: J. D. Hite
ROUTE PGH: JFB, WHS, MAS, DBM, WJB, MAC, KEC, SS
Conley: F. Boge/F. Klasnick
Orrville: C. McIntyre/H. Fry
St. Louis: J. Palmer/C.Kempinska

KOPPERS

Interoffice Correspondence

To Joe Kusar — From D. W. May

Location K-750 — Location K-750

Subject MAY MONTHLY REPORT — Date June 4, 1984

SALES HIGHLIGHTS - May, 1984

WOOD TREATING CHEMICALS

	May '84 ($000)	YTD '84 ($000)	May '83 ($000)	YTD '83 ($000)	Performance YTD
NON-TRADEMARK CCA					
Distributor	0	0	249	1278	0
Others	275	988	201	842	17
TOTAL NON-TRADEMARK	275	988	450	2120	(53)
PENTA					
Customers	10	58	22	44	32
Koppers Plants	152	518	115	657	(21)
TOTAL PENTA	162	576	137	701	(18)
ARSENIC ACID					
Filtered Tech	80	227	104	165	37
High Purity	23	274	137	303	(10)
TOTAL ARSENIC ACID	103	501	241	468	7
FORMULATED PRODUCTS					
Millwork Solutions	79	345	67	347	0
Sawn Lumber Chemicals**	96	413	89	353	(17)
Remedial Pole Treatments	45	70	37	112	(37)
MISCELLANEOUS	101	613	306	1003	(39)
TOTAL FORMULATED PRODUCTS	321	1441	499	1815	(20)

**Sawn lumber chemicals ($) includes all Sapstain and end sealer/lumber castings.

GENERAL BUSINESS CONDITIONS

Dollar sales for the first five months of 1984 on Non-Trademark CCA (excluding distributor sales in 1983) are up significantly (17%) over last year. Dollar sales of tech-grade Arsenic Acid are 37% higher in 1984 compared to 1983 ($227M vs. $65M). High purity grade Arsenic Acid is down 10% this year compared to the same period 1983 ($274M vs. $303M). We are increasing our efforts to sell Arsenic Acid to the wood treating formulators by using distributors as well as selling direct. Formulated products dollar sales are running 20% below 1983 ($1,815M vs. $1,441M). Our goal is to increase business by concentrating on the millwork accounts and remedial pole treatment markets.

FORMULATED PRODUCTS

Woodbrite Chemical Company

We have not as yet been paid for the first quarter received by David Sorrell. He is advising us that he will soon be receiving some money so that he can pay his debt to Koppers Company. We are meeting with him in the next two weeks to discuss his performance which has been below par. He is difficult to contact and therefore we will expect communications to improve. Also, he was to set up a test program to evaluate Sapstain Control Chemical T-1 which has not been handled.

Anderson Corporation

They have accepted our price offer on Tribucide P30A of $2.30/gallon delivered. The next stage is to have a sample of our material tested by the swell-o-meter test. If the data is accepted by Anderson, we will produce a rail car for a trial run of the Tribucide P30A. If this tests out okay, the customer will give us a long term purchase order. The potential here is for 66--6,000 gallon rail cars/year.

Oscar Martin Chemical

I met with Oscar and discussed his performance. For the month of April, we determined that $9,000 out of the $34,000 of sales which were credited to him, were the direct result of his efforts. The remaining $25,000 was continued business that was generated in previous months by John Lind. Oscar Martin has done an exceptionally good job of servicing the accounts, repairing or replacing pumps and parts. I am pleased with his performance and expect it to even improve in the remainder of this year. I have asked Oscar to supply me with a forecast of what he anticipates his business level to reach by the end of 1984.

Marvin Windows

This account is in the process of switching to TBTO by the end of this summer. They will be using either PILT produced PPG or one of Koppers' Tribucide products. Sales potential here is $300M/year. Needless to say this is a prime account.

Pella

We are still working with personnel at this account in getting them to purchase Woodtox Preprime from Koppers Company. Current potential is for ten rail cars per year. They have requested delivered prices and we are reviewing the economics involved.

PRICING

We continue to receive information that our competition is lowering prices on products that are used in the millwork areas. Since we are currently revising our cost standards, no decisions have been made as yet as to our future position on pricing of these products.

REMEDIAL POLE TREATMENT PROJECT

We are continuing with the program described on the last monthly report. In addition, we are working on an advertising campaign to increase our exposure to the marketplace. We have established an incentive program to stimulate sales through our current sales force. We are near deciding on the product line that will be promoted. The recommendation will be for a reduced number of products eliminating such products as Pole-Life greases. This will eliminate confusion in the products that we are marketing and hopefully we will have a grease, pole fumigant, an internal treatment product for filling voids, and in the more distant future, a bandage. We have encountered stronger competition from Osmose now that they have introduced to the marketplace a product called Osmotox-Plus which is their counterpart for Tritox. The new Osmotox has 10% Penta incorporated into its formulation. The product will be available where they are in direct competition with Tritox and the customer has requested a Penta material. Koppers is looking into the possibility of making a product similar to Osmoplastic so that we can meet them head on in this effort to gain market share.

5% PENTA SOLUTION

There is continued degredation of pricing on this product. In Missouri, Simonson has quoted $1.07/gallon delivered. We are reviewing our economics prior to making decisions concerning the pricing of these products in the future.

TIME OIL

We have recommended that we discontinue production of Woodtox at this location due to the lack of justification for a $90M capital expenditure based on future sales potential of 80,000-100,000 gallons/year. A full report will be issued.

ARSENIC ACID

Hoover

This customer has not as yet signed our proposed contract for purchase of Arsenic Acid. It is still under review by the customer and hopefully a decision will be made prior to the next report period.

GTE (Versailes,KY)

This account has decided to stop using Arsenic Acid due to EPA requirements on stack emissions. We have arranged for Bill Baldwin to discuss this subject with the account directly in the event that a change in decision is possible.

Langdale

Sales of Arsenic Acid have been exceptionally good here being almost twice the volume required by the contract. We will continue to call on this account as a prime account and develop a forecast as to their requirement from Koppers for the rest of this year.

PB&S

We have contacted this account to urge increased effort to distribute Koppers Arsenic Acid. We have learned that pricing has reduced possibility of increased sales in that the market price in the areas involved is approximately $0.52/lb. delivered in drums. Koppers price to this account is $0.48/lb. in drums F.O.B. plant. PB&S is mostly interested in large volume business rather than promoting the Arsenic Acid to small accounts. They will, however, work up a program as to what they feel they can sell at the prices we have discussed and we can then make a decision whether to continue with them as a distributor or perhaps find a more aggressive distributor to replace them.

Sentinel Wood

We lost the last order of Arsenic Acid here to Chemical Specialists. Both Chemical Specialists and Koppers quoted $0.40/lb. F.O.B. plant however, the freight costs from Valdosta, GA are $0.01/lb. less and the customer made the decision to take the load from Chemical Specialists. Pam Armbruster has reported that there were other reasons involved in making that decision beyond that of pricing. We will increase our sales efforts here to develop improved relationships to obtain the next order for Arsenic Acid.

Component Purchasers

We have decided to promote Arsenic Acid direct to the formulators in Florida rather than using Traylor Chemical Company. John Lind will be given the assignment as well as the list of potential accounts to move our product.

CHROMAR (CHROMIC/ARSENIC ACID)

This product is being sold by Intracel Chemical. It is based on a CCA-A formulation. We would all attempt to educate the customers of this product of the advantage of using the CCA-C variety of CCA. Also determine how much potential Arsenic Acid business is being lost due to this new product.

PARTICIPATION AT TRADE SHOWS

We have planned to participate at the Fenestration Convention to promote our millwork chemicals in mid-July. We are updating various literature and preparing a presentation to be made in the booth for the visitors.

WEST COAST BUSINESS

After having spent a week on the West Coast, I am using the information I learned there as a building base for a plan to increase our wood treating chemical business in that market area. I am considering for future improvements, changes in the distributor system, the possibilities of having technical service representation on the West Coast, changes in our product line to give products more comparable to those being sold by the competition, and therefore, increasing our profitability and/or developing test data that can convince the account to use greater dilution rates of our concentrated products in order to reduce his costs but give performance equivalent to the competitive products.

PROCEDURE FOR BIDDING ON WTC BUSINESS

A procedure has been established for bid requests. The guidelines will enable the St. Louis plant personnel to automatically bid on these requests and hopefully be a means for obtaining a greater share of acceptances to the quotations.

NON-TRADEMARK CCA

Pricing

In the Southeast, we continually see pricing at $0.86 delivered at the accounts such as Quality Wood, Guy C. Lee Company, and Coastal. The rest of the Southeast area appears to be sold at $0.88 plus freight.

Account Analysis Study

We have received our first set of information from the sales force on the mail list as I had requested. I have now completed the account analysis forms and these will be soon sent out to the sales force for discussions with their customers and completion. It is hoped that the result of this effort will be improved knowledge of the market and our sales potential for the Non-Trademark CCA.

Aljoma, Florida

We have received a one truckload order to this account, but had anticipated a second one to be received by this date. We are told that the account will use five suppliers and at some later date determine the most reliable and best priced suppliers, and most likely decide on two out of the five. The customer is not interested in a contract for the CCA-C. We are considering working with them to establish them as a licensee but we believe that they will be reluctant to this action since they have good market share established without the assistance of our marketing department. I do feel that their greatest interest would be to have a fire retardant and also gain some of our technical expertise.

Quality Forest Products, Enfield, NC

This account is about to start up their new plant in Walton, KY. First quarters for CCA should be placed in about four weeks. 100% of the CCA requirement, however, will be initially given to Mineral Research. The main reason for this is the availability of a fire retardant from Mineral Research as well as a limited warranty program. Neither of these advantages can be offered by Koppers Co.

Quality Forest Products, Enfield, NC (cont.)

The plant at Enfield, NC is presently using about one truckload of CCA every three weeks and the business is being split between Mineral Research and Chemical Specialists. When the new plant begins in Walton, KY, it is likely that Quality will switch their Enfield plant completely to CCA concentrate and eliminate any formulating work. This will increase their requirement to a total of about two--three truckloads/month. At this time, Koppers stands a good chance of becoming a parts supplier here with Chemical Specialists. Although we have not as yet been asked to meet the competitive price situation, we were advised that prices are at $0.86 delivered. The account still wants to maintain a relationship with Koppers Company recognizing that Koppers is the leader in the technology and also wants to keep the door open for the future possibilities of being a licensee should this become of interest to Quality Forest Products. For the time being, however, we can only expect to get a truckload business on a once or twice a year basis. Should Quality Forest Products decide not to convert their formulating part of the plant over to concentrate, it is unlikely under the current situation that we could increase our business here. They have reviewed the letter written by Joe Kusar and feel they will enter into no written contracts with any supplier. As far as volume is concerned, this would be dependent upon decisions mentioned above.

New Prospects

John Lind has been working with Fortress Wood Preservers on the start up of their new plant but feels at this time, Chemical Specialists will have the initial business due to a lower delivered price. H. S. Nash Timber in Gladys, VA, is still considering Koppers since we are price competitive. We will continue our efforts on these new prospects.

D. W. May

DWM/mbm

cc: J. D. Hite
ROUTE: PGH. JFB, WHS, MAS, DB
WJB, MAC, KEC, S
Conley: F. Boge/F. Klasni
Orrville: C. McIntyre/H. Fr
St. Louis: J.Palmer/C.Kempin

KOPPERS

Interoffice Correspondence

To J. Kusar
Location K-750
Subject APRIL MONTHLY REPORT

From D. W. May
Location K-750
Date May 7, 1984

SALES HIGHLIGHTS - April, 1984

WOOD TREATING CHEMICALS

	April, 1984 ($000)	YTD 1984 ($000)	April, 1983 ($000)	YTD 1983 ($000)	Performanc YTD
NON-TRADEMARK CCA					
Distributor	0	0	159	1029	0
Others	207	713	115	641	.11
TOTAL NON-TRADEMARK	207	713	274	1670	(58)
PENTA					
Customers	27	48	0	22	118
Koppers Plants	181	366	172	542	(32)
TOTAL PENTA	208	414	172	564	(26)
ARSENIC ACID					
Filtered Tech	71	147	9	61	141
High Purity	72	251	130	166	52
TOTAL ARSENIC ACID	143	398	139	227	75
FORMULATED PRODUCTS					
Millwork Solutions	90	266	72	280	(05)
Sawn Lumber Chemicals**	87	217	110	263	(17)
Remedial Pole Treatments	6	26	3	75	(65)
MISCELLANEOUS	204	611	265	698	(12)
TOTAL FORMULATED PRODUCTS	387	1120	450	1316	(15)

**Sawn lumber chemicals ($) includes all sapstain and end sealer/lumber castings.

BZTO104(e)010722

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject April Monthly Report Date May 7, 1984

GENERAL BUSINESS CONDITIONS

Dollar sales for the first four months of 1984 of Non-trademark CCA (excluding distributor sales in 1983) are up significantly (11%) over last year. This is especially good in light of the reduced selling prices in 1984 versus 1983. Dollar sales of tech-grade arsenic acid have more than doubled this year compared to 1983 ($147M vs $61M). The same is true with the high purity grade ($166M to $251M in 1984). We are increasing our efforts to sell arsenic acid to the wood treating formulators by using distributors as well as selling direct. Formulated products dollars sales are still running 15% below 1983 ($1120M vs $1316M). Our goal is to increase business by concentrating on the millwork accounts and remedial pole treatment markets.

FORMULATED PRODUCTS

Woodbrite Chemical Co.

David Sorrell reports that he is very busy, yet cannot forecast when he will need the next load of chemicals. The test comparing T-1 and Noxtane LN-1 to competitive products was delayed. It will be rescheduled for mid-May, 1984.

Anderson Corporation

We are still waiting for a decision from Koppers' Engineering as to whether Tribucide P30A can be made at the St. Louis plant. The 66 railcars per year potential is the type of new business we need to increase our business in Wood Treating Chemicals (WTC) and further delays in arriving at this decision could put this potential in jeopardy.

Oscar Martin Chemical

Oscar has been doing a good job of increasing our WTC sales in a very short time. I plan to meet with him in May to look at a long range sales forecast and product review.

BZTO104(e)010723

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject April Monthly Report Date May 7, 1984

Pella

Account is running a new plant in Carroll, Iowa and uses a Woodtox Preprime type product at level of 10 railcars per year. This will be a target account.

Pricing

We are getting regular requests from the field to meet competitive prices being established by Paul Goydan, Roberts Chemical, Simonsen and others. To better handle these requests and keep records of action we take, I am reinstating the competitive activity report concept that has not been in use recently. I am developing a standard form that will be used pricing requests that will improve communication among Pittsburgh management with regard to pricing action.

For example, Roberts Consolidated lowered its price on top of line product for millwork from $2.03/gallon to $1.94/gallon to compete with Parks Penta at $1.85/gallon. Koppers is still at $1.94.

Remedial Pole Treatment Project

A market plan for increasing Koppers participation in this market is being developed. It will be based on increasing business with current products, streamlining of product line, development of new products required to be in business, updating and expanding product literature, increasing efforts by Tom Storey's group or obtaining utility and REA approvals of Koppers' products and increased sales effort by our sales force on the contractors.

Development Programs

I met with Hans Ward to reveiw current projects and guidelines on future action. This type of meeting will occur on a regular basis. Goal is to assure research costs being spent wisely.

Advertising Program

Developing advertising plan for WTC products. Some funds devoted to these products will be necessary for promotion to specific market areas such as millwork and remedial pole.

BZTO104(e)010724

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject April Monthly Report Date May 7, 1984

Time Oil

Still reviewing need for this arrangement in future. The $90M investment would not be wise if sales outlook declining.

ARSENIC ACID

Hoover

Although customer has not signed the contract, we have received a truckload order. Customer claims they will sign contract in near future.

Corning Glass/GTE

Sales continue to be strong. A visit to Corning corporate headquarters is scheduled for the week of 4/30/84 to maintain progress in light of personnel changes there.

Langdale

Two shipments of acid this month. Sales on target.

PB&S

First shipment of acid this month. A personal visit is planned for week of 4/30/84 to determine total sales potential.

Sentinel Wood

Expect first order in next 30 days.

Component Purchasers

Will promote sale of arsenic acid to formulate their new distributors PB&S in Kentuck and Traylor Chemical of Florida. Personal visits are set for week of April 30th.

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject April Monthly Report Date May 7, 1984

Participation at Trade Shows

It is important to participate in trade shows for industries using wood treating chemicals -- millwork, etc. We are setting up a program for this effort in the future, i.e., what meeetings will we attend, what literature, samples, etc. will we take, who will attend, etc. Literature is presently being updated (MSDS, product sheets, etc.).

Procedure for Bidding on WTC Business

We have tabulated our bidding on business in the last year and its results. Our bids have generally been accepted, but bids were at less than list price. We will establish a procedure for St. Louis to follow in bidding in the future.

West Coast Business

I am beginning an analysis of profitability of WTC business on the West Coast. This should give us direction on manufacturing, distributors, product line, etc. for future sales efforts.

NON-TRADEMARK CCA

Account Analysis Study

An account analysis for each account is underway. This will be a continuing project with information on each account updated at regular intervals. The result will be improved knowledge of market and sales potential.

Aljoma, Florida

Received first order of CCA-C. Regular sales effort will result in business here, but we will continue to work on establishing a contract until such time we are pulled of the account in order to license them.

McCraney Brothers

Business continues to be good here. The account has received the Asoma unit and is very appreciative.

BZTO104(e)010726

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject April Monthly Report Date May 7, 1984

Coastal Lumber, Walden, NC

We lost a truckload order here this month to Universal Specialists who offered CCA-C at $0.86/lb. delivered. This account is strictly buying on price.

Federal Paperboard (Phil Abernathy)

Has advised John Lind that they are using Mineral Research Oxcel program. Phil does not want to pay high cost of WOLMAN licensee system. With Mineral Research, he gets CCA-C at generic prices which includes a warranty program (no marketing). The customer pays for tags, stamp, etc. on an as needed basis. I will analyze what affect such an incentive to buy has on our CCA-C sales as a part of a future marketing plan.

Quality Forest Products (Enfield, NC)

Koppers has 50% of the business. Allen Bell is reviewing the contract letter recently sent by Joe Kusar. Should have a decision by next call.

Williams Brothers

Mineral Research has done a selling job here. Koppers would lower the price, this account would give Mineral Research the right of first refusal. We will increase our efforts with Jimmy Knight here to create a situation where he has greater desire to buy from Koppers at equivalent prices.

New Prospects

John Lind has visited two (2) prospects and reports little opportunity for new sales. General Timber is installing a cylinder purchased from Southern Wood Piedmont which is being installed under supervision of Don Graves. Fortress Wood Preservers is a month away from startup of a new plant and Chemical Specialists will get business because of lower delivered price. H. S. Nash Timber in Gladys, Virginia, however, looks more promising since our price is competitive. An order is expected in the next 30 days.

DWMay

Donald W. May

DWM:vbt

BZTO104(e)010727

bc: W. J. Baldwin
T. A. Marr
M. R. Urbassik
D. F. Marion

Koppers Company, Inc.
Environmental Resources Department
Pittsburgh, PA 15219, Telephone 412-227-2000

Chuck

EXPRESS MAIL

KOPPERS

= PORTLAND

April 3, 1984

Mr. ~~Neil~~ Wallace
Time Oil Company
12005 North Burgard
Portland, OR 97203

Subject: Samples of Tank #20002
Penta Tank Bottoms

Dear Mr. Wallace:

Per our telephone conversation on April 2, 1984, enclosed is the information required for the Penta Tank Bottom clean out project.

Please package and label two duplicate quart samples of the waste per the prescribed EPA procedures (copy enclosed for your reference) and complete the Certification of Representative Sample Document #NWP D39854 (blank enclosed) required by Chemical Security Systems/Chemical Waste Management, Inc.

The samples and documentation should be shipped together as soon as possible to:

Mr. George Mills, Chemist
Koppers Company, Inc.
Specialty Wood Chemicals Division
5137 Southwest Avenue
St. Louis, MO 63110
Phone: (314) 772-2200

Please note that UPS package #4 is required for shipping penta samples via UPS. Attached are the packaging specifications. A suggested supplier of this packaging is Labelmaster, Inc., Chicago, Illinois (800) 621-5808. The samples must be packaged so that they do not leak, spill, or vaporize from their packages.

In addition, please assure that the following information accompanies each of the samples:

Your Location

Time Oil Company
12005 North Burgard
Portland, OR 97203
Contact: Neil Wallace
Phone: (503) 286-1611

Writer's Direct Dial Number (412) 227-2767

Shipping Destination

Koppers Company, Inc.
Specialty Wood Chemicals Division
5137 Southwest Avenue
St. Louis, MO 63110
ATTN: George Mills, Chemist
Phone: (314) 772-2200

Sample Description

Sample of penta sludge from tank #20002
Quantity of sample: 1 quart

Collection Data

Sample Collector's Name: _____

Collection Date: _____ Time: _____

Date of Shipment: _____

If you have any questions regarding any of the above or attached information, please contact either Mr. John Palmer, Regional Manager at Koppers' St. Louis location, (314) 772-2200 or this office at your earliest convenience. Your cooperation in this matter is appreciated.

Sincerely,

Charles J. Vita
Environmental Specialist

CJV:cg
Enclosures: EPA-600/2-80-018 - Samplers and Sampling Procedures for Hazardous Waste Streams
(NWPD 39854) Chemical Waste Management Form WMI-51 (Rev. 8/83)
(Package #4) UPS Guide for Shipping Hazardous Materials

cc: J. D. Palmer - St. Louis
G. Mills - St. Louis
File Portland (Time Oil)

*OK per Joyce @ CSS 4/2/84

★ SALES	CODE
NHP	[redacted] 39854

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

_____

_____

_____

_____

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: _____
2. SOURCE FROM WHICH SAMPLE TAKEN: _____
   _____
   _____
3. EQUIPMENT AND SAMPLING METHOD USED: _____
   _____
   _____
   _____
4. AMOUNT OF SAMPLE OBTAINED: _____
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: _____
   _____
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:
WASTE NAME:
SAMPLE HOUR/DATE:
PROFILE SHEET CODE:
SAMPLER SIGNATURE:

WITNESS VERIFICATION: I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: _____

SIGNATURE: _____

TITLE: _____

EMPLOYER: _____

DATE: _____

SAMPLER NAME: _____

SIGNATURE: _____

TITLE: _____

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL.

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

☐ ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

☐ INADEQUATE FOR THE REASONS NOTED HEREON.

DATE: _____

FORM WASTE (Rev. 8/83)

BZTO104(e)010730

cc: W. Baldwin
G. Ringeling *
D. Marion
G. Mills *
T. Marr

*attachments

KOPPERS

Interoffice Correspondence

To John Palmer

Location St. Louis, MO

Subject Profile sheet for Time Oil
Penta sludge FPE Req. #3

From Chuck Vita

Location Pittsburgh

Date March 28, 1984

Attached is the completed profile sheet (NWP-D39854) for the tank bottoms clean out at Time Oil in Portland. Please note that Mr. John Denham (Time Oil) has given me Time Oil's Portland, Oregon USEPA I.D. # for use in the clean-up.

Please review all attached information, and if you do not see any problems, follow the Waste Management instruction sheet that is attached to the profile sheet.

In addition to providing the technical information on the profile sheet, Bill Baldwin has informed me that George Mills has in his possession a representative sample of the Time Oil tank bottoms at the St. Louis plant. Please have George (or yourself) review and complete the certification document that accompanies the profile sheet.

The sample and profile sheet should be shipped together along with a short cover letter ASAP to:

Mr. Mike Zabel, Site Chemist
Chem-Security Systems, Inc.
(A Chemical Waste Mg't. Company)
Star Route
Arlington, OR 97812

Please send a photocopy of the profile sheet to:

Mr. Bill Van Dyke, District Sales Mg'r.
Chem-Security Systems, Inc.
(A Chemical Waste Mg't. Company)
P.O. Box 1269
Portland, OR 97207-1269

Also note that in addition to the MSDS for Penta (already attached) MSDS' for the other applicable chemical components should be attached for the landfill's reference.

If you have any questions regarding the above, please contact me at your earliest convenience. Thanks for your help.

Chuck Vita

PS: UPS pkg. #4 is required for penta shipped via UPS. Attached are specs. Can be obtained from Labelmaster (800) 621-5808.

N-5 REV 2

Waste Management, Inc.

GENERATOR'S WASTE MATERIAL PROFILE SHEET

NWP TSDF D39854

A GENERAL INFORMATION

GENERATOR NAME: Koppers Company, Inc., c/o Time Oil Co
TRANSPORTER: Will Advise
FACILITY ADDRESS: 12005 North Burgard, Portland, OR 97203
TRANSPORTER PHONE: Will Advise
GENERATOR USEPA ID: OR D0 0 0 6 9 7 5 4 3
GENERATOR STATE ID: Same As Above
TECHNICAL CONTACT: George Mills TITLE: Chemist St. Louis Plt PHONE: (314) 772-2200
NAME OF WASTE: Time Oil Sludge Tank #20002/Penta Tank Bottoms
PROCESS GENERATING WASTE: Manufacturing of Wood Preservative Solution

B PHYSICAL CHARACTERISTICS OF WASTE

COLOR: Amber

ODOR: [ ] NONE [ ] MILD [X] STRONG DESCRIBE: Petroleum

PHYSICAL STATE @ 70°F: [ ] SOLID [ ] SEMI-SOLID [X] LIQUID [ ] POWDER

LAYERS: [ ] MULTILAYERED [X] BILAYERED [ ] SINGLE PHASED

FREE LIQUIDS: [X] YES [ ] NO VOLUME: 59 %

pH: [ ] < 2 [ ] 2 - 10 [X] N/A [ ] 2 - 4 [ ] 10.1 - 12.5 [ ] 4.1 - 6.9 [ ] > 12.5 [ ] 7 [ ] EXACT

SPECIFIC GRAVITY: [ ] < 8 [ ] 8.1 - 8.4 [X] 8.5 - 10 [ ] 10.1 - 11.2 [ ] > 11.2 [ ] EXACT

FLASH POINT: [ ] < 70°F [ ] > 200°F [X] CLOSED CUP [ ] 70°F - 100°F [ ] NO FLASH [ ] OPEN CUP [X] 101°F - 139°F [ ] EXACT [ ] 140°F - 200°F

C CHEMICAL COMPOSITION (TOTALS MUST ADD TO 100%)

Pentachlorophenol	6.03 %
Paraffin Wax	0.91 %
Monsanto Heavy Oxo Ends	18.09 %
Nalco Inhibitor	0.36 %
Mineral Spirits	33.92 %
Penta Insolubles	40.69 %
	%
	%
	%
	%

D METALS [ ] TOTAL (PPM) [ ] EPA EXTRACTION PROCEDURE (mg/L)

ARSENIC (As)		SELENIUM (Se)	
BARIUM (Ba)		SILVER (Ag)	
CADMIUM (Cd)		COPPER (Cu)	
CHROMIUM (Cr)		NICKEL (Ni)	
MERCURY (Hg)		ZINC (Zn)	
LEAD (Pb)		THALLIUM (Tl)	
CHROMIUM HEX (Cr + 6)			

E OTHER COMPONENTS TOTAL (PPM)

CYANIDES		PCB'S	
SULFIDES		PHENOLICS	156,000

F SHIPPING INFORMATION

DOT HAZARDOUS MATERIAL? [X] YES [ ] NO
PROPER SHIPPING NAME: RQ Waste Pentachlorophenol (sludge)
HAZARD CLASS: ORM-E ID NO: NA2020 RQ: (A) 10
METHOD OF SHIPMENT: [ ] BULK LIQUID or [ ] BULK SOLID [X] DRUM (TYPE/SIZE): 55 gallons
ANTICIPATED VOLUME: 700 to 1,700 (Not Guaranteed) GALS CUBIC YARDS OTHER
PER: [ ] ONE TIME [ ] WEEK [ ] MONTH [ ] QUARTER [X] YEAR [ ]

G HAZARDOUS CHARACTERISTICS

REACTIVITY: [X] NONE [ ] PYROPHORIC [ ] SHOCK SENSITIVE [ ] EXPLOSIVE [ ] WATER REACTIVE [ ] OTHER
OTHER HAZARDOUS CHARACTERISTICS: [ ] NONE [ ] RADIOACTIVE [ ] ETIOLOGICAL [X] PESTICIDE MANUFACTURING WASTE [ ] OTHER
USEPA HAZARDOUS WASTE? [X] YES [ ] NO
USEPA HAZARDOUS CODE(S): U242 D001
STATE HAZARDOUS WASTE? [X] YES [ ] NO
STATE CODE(S): U242, D001

H SPECIAL HANDLING INFORMATION

As published for pentachlorophenol. See also MSDS for pure materials attached.

[X] ADDITIONAL PAGES ATTACHED

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS COMPLETE AND ACCURATE AND THAT ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED.

AUTHORIZED SIGNATURE: William J Baldwin TITLE: Mgr. Customer + Technical Services DATE: 3-28-84

BZTO104(e)010732

Waste Management, Inc.

GENERATOR'S WASTE MATERIAL PROFILE SHEET

TSDR D40760

A GENERAL INFORMATION

GENERATOR NAME: KOPPERS COMPANY, INC % TIME OIL CO. TRANSPORTER: WILL ADVISE

FACILITY ADDRESS: 12005 North Burgard, Portland, OR 97203 TRANSPORTER PHONE: WILL ADVISE

GENERATOR USEPA I.D: ORD009597543

GENERATOR STATE I.D: SAME AS ABOVE

TECHNICAL CONTACT: GEORGE MILLS TITLE: CHEMIST, ST. LOUIS PLANT PHONE: (314)772-2200

NAME OF WASTE: Time Oil Sludge Tank #1 2000 / Penta Tank Bottoms

PROCESS GENERATING WASTE: Manufacturing of Wood Preservative Solution

B PHYSICAL CHARACTERISTICS OF WASTE

COLOR: Amber

ODOR: [ ] NONE [ ] MILD [X] STRONG DESCRIBE: Petroleum

PHYSICAL STATE @ 70°F: [ ] SOLID [ ] SEMI-SOLID [X] LIQUID [ ] POWDER

LAYERS: [ ] MULTILAYERED [X] BILAYERED [ ] SINGLE PHASED

FREE LIQUIDS: [X] YES [ ] NO VOLUME: 55 gal

pH: [ ] < 2 [ ] 7.1-10 [X] N/A [ ] 2-4 [ ] 10.1-12.5 [ ] 4.1-6.9 [ ] > 12.5 [ ] 7 [ ] EXACT

SPECIFIC GRAVITY: [ ] < .8 [ ] 1.3-1.4 [X] .8-1.0 [ ] 1.5-1.7 [ ] 1.1-1.2 [ ] > 1.7 [ ] EXACT

FLASH POINT: [ ] < 70°F [ ] > 200°F [X] CLOSED CUP [ ] 70°F-100°F [ ] NO FLASH [ ] OPEN CUP [X] 101°F-139°F [ ] EXACT [ ] 140°F-200°F

tentative

C CHEMICAL COMPOSITION (TOTALS MUST ADD TO 100%)

Pentachlorophenol	6.03 %
Paraffin Wax	0.91 %
Monsanto Heavy Oil Ends	18.09 %
Nalco Inhibitor	0.56 %
Mineral Spirits	33.92 %
Penta Insolubles	40.69 %
	%
	%
	%
	%

D METALS [ ] TOTAL (PPM) [ ] EPA EXTRACTION PROCEDURE (mg/L)

ARSENIC (As)		SELENIUM (Se)	
BARIUM (Ba)		SILVER (Ag)	
CADMIUM (Cd)		COPPER (Cu)	
CHROMIUM (Cr)		NICKEL (Ni)	
MERCURY (Hg)		ZINC (Zn)	
LEAD (Pb)		THALLIUM (Tl)	
CHROMIUM-HEX (Cr + 6)			

E OTHER COMPONENTS - TOTAL (PPM)

CYANIDES		PCB'S	
SULFIDES		PHENOLICS	156,000

F SHIPPING INFORMATION

D.O.T. HAZARDOUS MATERIAL? [X] YES [ ] NO

PROPER SHIPPING NAME: RQ Waste Pentachlorophenol (Sludge)

HAZARD CLASS: ORM-E I.D. NO.: NA2020 P.G.: (Waste)

METHOD OF SHIPMENT: [X] BULK LIQUID OR [ ] BULK SOLID

[X] DRUM (TYPE/SIZE): 55 gallon

ANTICIPATED VOLUME: 700 to 1,700 GALS. [ ] CUBIC YARDS (NOT GUARANTEED) [ ] OTHER

PER: [ ] ONE TIME [ ] WEEK [ ] MONTH [ ] QUARTER [X] YEAR [ ]

G HAZARDOUS CHARACTERISTICS

REACTIVITY: [X] NONE [ ] PYROPHORIC [ ] SHOCK SENSITIVE [ ] EXPLOSIVE [ ] WATER REACTIVE [ ] OTHER

OTHER HAZARDOUS CHARACTERISTICS: [ ] NONE [ ] RADIOACTIVE [ ] ETIOLOGICAL [X] PESTICIDE MANUFACTURING WASTE [ ] OTHER

USEPA HAZARDOUS WASTE? [X] YES [ ] NO

USEPA HAZARDOUS CODE(S): U242 D001

STATE HAZARDOUS WASTE? [X] YES [ ] NO

STATE CODE(S): U242, D001

H SPECIAL HANDLING INFORMATION

AS PUBLISHED FOR PENTACHLOROPHENOL. SEE ALSO MSDS' FOR PURE MATERIALS ATTACHED.

[X] ADDITIONAL PAGE(S) ATTACHED

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS COMPLETE AND ACCURATE, AND THAT ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED

AUTHORIZED SIGNATURE | TITLE | DATE: 3/28/89

BZTO104(e)010733

KOPPERS

Interoffice Correspondence

RECEIVED
MAR 14 1984
ENVIRONMENTAL RESOURCES

To Wm. Baldwin — From C. P. Brush

Location K-7 — Location K-12

Subject Time Oil Clean-Up — Date March 13, 1984

Enclosed is a first draft of a clean-up procedure for the Time Oil Site in Portland, Oregon. Please comment and advise to your plans and timetable so that a revised clean-up procedure can be prepared in greater detail.

Charles P. Brush

Charles P. Brush

CPB/s
encl.

cc: A. C. Middleton - w/att
J. K. Quagliotti - w/att -- Please comment
T. A. Marr - W/att

① To C.P.B
Few comments on
pg 1 otherwise fine.

② Pls return.

Tom
3/14/84.

K-5 REV. 2

BZTO104(e)010734

Time Oil Clean-Up -- Charles P. Brush, P.E.

INTRODUCTION

The Time Oil site in Portland, Oregon has been manufacturing a penta in oil and wax mixture for more than ten years. A site vitis by Koppers' Environmental Resources Department in December, 1983 documented past procedures that have created on-site conditions which are unacceptable environmentally. The enclosed photographs show how a single pump has been used (with hoses) to connect the several steps of production. The leakage from hose connection/disconnections is clearly seen in the photographs. The bottom of the diked area is soil that does not hold rain water. (See standing water in the plant yard outside of the dike and almost no water in the diked area). The conclusion I draw is penta going into the soil.

It is reasonable to assume that the soil below the pump location, and generally inside the diked area is contaminated with a significant amount of penta. Oil and other organic chemicals are not of particular concern to Koppers because of the nature of Time Oil's larger tank farm operation at this terminal. (This is a large ocean terminal handling liquid cargos of oils, chemicals and agricultural chemicals. Time Oil has no program of monitoring groundwater below this terminal and I believe it is reasonable to believe that the Terminal has impacted the local groundwater).

PROGRAM

Koppers has proposed at other sites that earth with less than 100 x the safe drinking water level of PCP is not a hazardous substance that requires excavation. It still seems reasonable to continue this position until such time as a better approach is developed to assess the health and environmental impact of contaminated soils at depth. The Terminal is located between two very large rivers at a point not far above their discharge to the Pacific Ocean. The site is served by municipal water and no groundwater users appear to be close-by (this point needs to be verified).

Tanks and the pumps are being cleaned and removed from the area under Koppers re-negotiation of the toll blending agreement. That phase of the clean-up is not considered in this paper.

The proposed clean-up strategy is rather straight forward:

1. Establish an acceptable background level of PCP for this particular location.

2. Excavate and remove contaminated soils in a step-wise fashion, sampling between steps, until the background is achieved.

3. Dispose of contaminated soils (in bulk) at a hazardous waste disposal site.

4. Back fill with clean fill.

5. Provide all appropriate documentation, shipping instructions and manifest as required.

SPECIFIC DETAILS

Background levels of Penta - Available data for pentachlorophenol indicate that acute and chronic toxicity to freshwater acquatic life occur at concentrations as low as 55 and 3.2 ug/l, and toxic to salt water acquatic life as low as 53 to 34 ug/l, respectively.

The human health derived criterion levels for pentachlorophenol is 1.01 mg/l. The organoleptic level for controlling taste and odor in ambient water is estimated to be 30 ug/l.

The size of the two adjacent rivers and their direct discharge into the Pacific Ocean (no bay) indicates dilution of any groundwater entering fresh water or salt water will eliminate both acute and chronic effects on aquatic life.

The proposed background level for PCP in soil below the site is therefore derived to be 100 x 1.01 mg/l or 100.1 mg/l.

Shipment of Waste - It appears that considerable soil (a hundred cubic yards or more) could be involved in the clean-up and we should consider bulk transportation rather than drums.

PCP Analysis - Before starting the project, a laboratory should be located nearby that could provide quick turn-around time for sampoling.

Sampling Plan - Inside the diked area, we should consider a 5' grid to establish the limits of the clean-up. Reference marks should be made on the dike walls, using survey or stakes and flags to mark the limits of excavation. Excavation to one foot should be made with a shovel so that the two samples, taken on the first sampling round (surface and one foot deep) can determine the first layer to be excavated.

After the first layer is removed - (one foot if test shows contamination that deep, or 6 inches if only surface contamination), resample on the sample 5' grid and excavate 6 inches unless it is clear a "hot" spot exists and deeper cuts are justified. Reduce or expand the grid as each depth is sampled.

Samples should be coded to match the grid and depth to avoid field confusion.

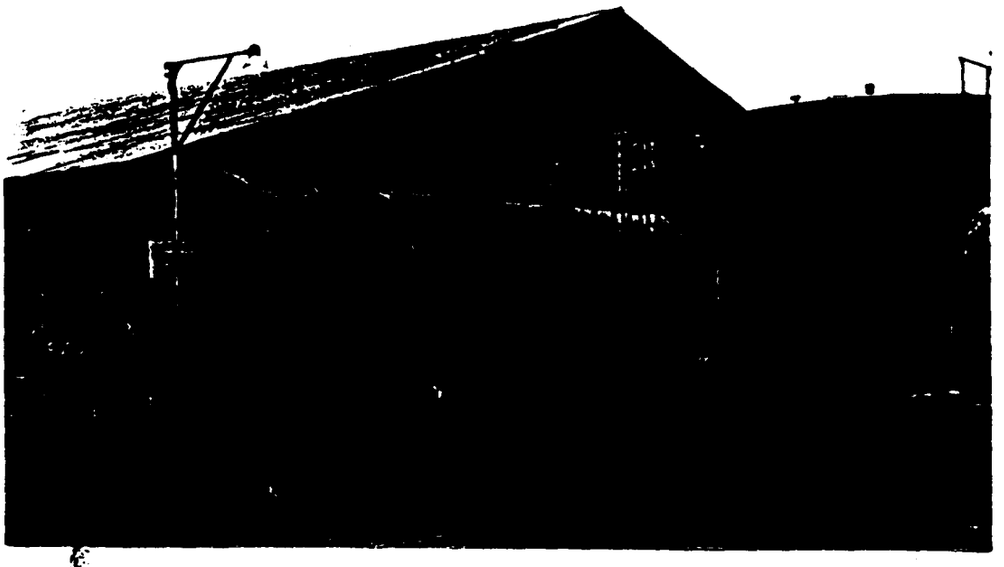
Grid lines should use letters A - B - C - D - E - F - in one direction and numbers 1 - 2 - 3 - 4 - 5 - in therother. Depths should be in decimal feet below grade.

A typical sample code would be (B-3-0.5) to represent a sample at grid lines B and 3, 6" deep.

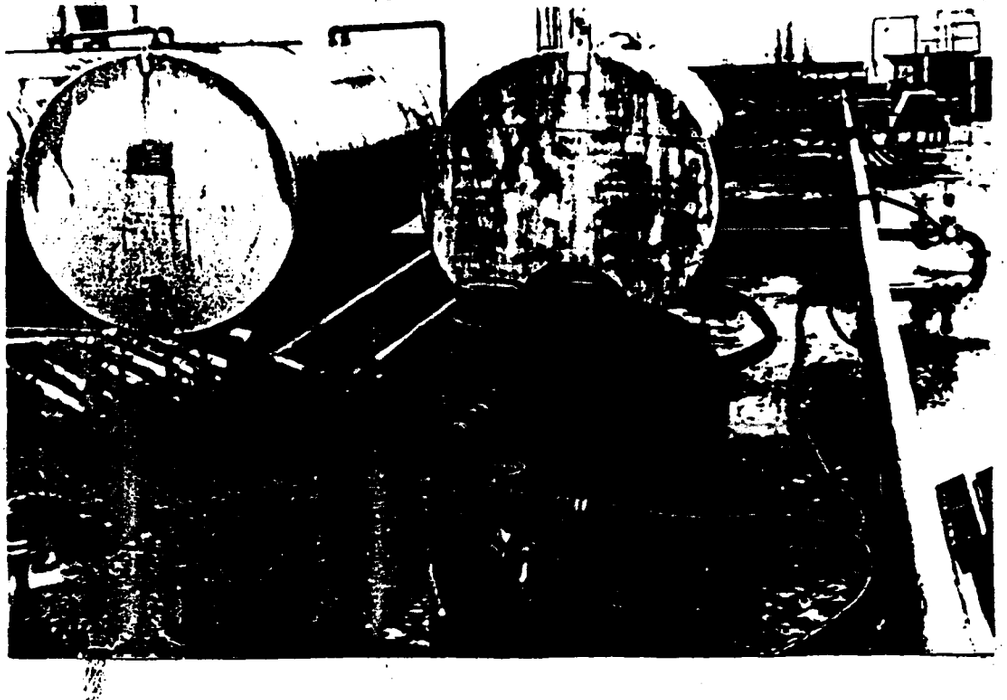
Preplanning - Detailed preplanning is needed to coordinate the contractor, disposal site acceptance, manifest, and on-site safety and decontamination of equipment.

C. P. Brush
3/12/84

BZTO104(e)010737



001



cc: B Stuart
K Adamson
G Brooks
H Hollis

KOPPERS
Interoffice Correspondence

To J. D. Hite

From D. F. Marion

Location K-724

Location K-724

Subject Monthly Report - February, 1984

Date March 9, 1984

Listed below are the major items covering the month of February, 1984.

1. During February, all three arsenic acid cars were utilized to the maximum. UTLX-85653 and GATX-74970 were shipped to Jones-Hamilton on 2/7 and 2/14, respectively. UTLX-78581 was shipped 2/14 and 2/27 to Valpo. The UTLX-85653 car has been unloaded at Jones-Hamilton and is enroute to Conley. It should arrive in Conley the week of 3/5/84 for loading. The other two cars are in transit and should arrive at Valpo and Jones-Hamilton the week of 3/5/84 for unloading.

2. During February, we again shipped 75% high purity arsenic acid to Corning's plants in Martinsburg, WV and Charleroi, PA. We also received orders for March from those two plants as well as the Corning plant in Danville, VA. Thus, thru March, excluding the small quantity of Strategic Inventory material shipped in January, we will have shipped Corning approx. 330,000 pounds of 75% high purity arsenic acid. Their 1984 blanket purchase order only estimated 500,000 pounds for the entire year and I'm confident we'll surpass that amount. I believe we are currently getting 100% of the business in Charleroi, PA, Martinsburg, WV and Danville, VA. In the near future, Hooker Horton and I plan on getting together to discuss the strategic inventory program for Conley. At that point, I will pursue other Corning locations for us to ship to.

Bill Baldwin is currently working with the people from the Corning plant at Charleroi on cleaning out one of their arsenic acid storage tanks.

In addition, Doug Myers called on the GTE plant in Central Falls, RI and he was advised that the 1984 blanket order for that plant was mailed to Koppers by Frank Lyons, the purchasing agent. Pam Armbruster called on the GTE plant in Versailles, KY and will visit the North American Phillips plant in Danville, KY. She also visited Salsbury Labs in Charles City, Iowa and is optimistic that we'll get an order from them in the near future.

Also, Pete Williams from Woolfolk Chemical called me and ordered a load of technical grade, filtered, arsenic acid for delivery on 3/1/84. This material will be sold at $.40/lb. FOB Conley.

Also, per Joe Kusar, contracts have been finalized with Langdale and Hoover and PB&S has been offered 500,000 pounds of technical grade, filtered, arsenic acid for distribution. PB&S material will be moved via Chem. Lehman or Kennan and PB&S will pay for the tanker clean out after each shipment. Conley is to advise costs to wash out tanker and

7355

K-5 REV 2

Pam Armbruster will advise Ray Pemberton of PB&S.

Bob Toth visited Pittsburgh on 2/29/84 to discuss arsenic acid purchases from Pennwalt during 1984. They would like to move one railcar per quarter to us on the West Coast at $.54/lb. FOB Bryan, TX.

3. During February, we received and nearly consumed ten full 65-ton railcars from Asarco. Due to the continuing high consumption rates in the arsenic acid plant, twelve (12) cars were released in March. That brings our total to 34 railcars released in the first three months of 1984 (2,210 tons).

On Feb. 15, F. Klasnick, K. Adamson, J. McGill & I met with Jerry Cohen of Asarco in Conley. We discussed a variety of subjects including the fact that Asarco has decided to build a pilot leach plant in July, 1984 and then a complete leach plant facility in 1985. Jerry indicated that construction would begin 1/1/85 and when completed, all As_2O_3 produced would be 99% or better. Apparently, the decision was made due to problems with the EPA on stack emissions.

Jerry also advised that there was talk about a new usage in Canada for 2,000-5,000 tons per year of arsenic trioxide. He has been unable to find out where the material will be used and for what purpose. We also discussed my letter of 11/3/83 requesting $47,081 to cover hydrogen peroxide usage, labor costs, maintenance costs and demurrage charges associated with the low grades of material utilized in Sept. and Oct. Jerry will attempt to get a decision on my request as soon as possible. I'm not optimistic on this claim at this point.

4. Currently, Trimac has eight empty trailers in Edmonton awaiting word from us on what we are going to do. Our two trailers are in Conley, one full and one empty. Trimac has asked us to advise what type of freight rate we could bear to move crude As_2O_3 from Yellowknife. They will then advise if this is feasible.

Tony DeSanti of Falconbridge is very anxious to hear from us relative to quantities for 1984. He is still proposing a price of 1-2¢ per pound FOB Yellowknife, NWT for the material. Pat Raleigh has also called about visiting the Conley plant. I have not advised either Tony or Pat about our stack emission problem to date. As soon as the results of our March tests are determined, I will probably arrange to meet with Tony in Pgh. or Toronto and then meet with the Trimac people to finalize our actual delivered costs for 1984. These costs will allow us to determine how much material we want to take in 1984.

In addition, samples of the residue were sent to Eastern Smelting for their analysis and ultimate discussions on handling the residues. In the near future, samples will also be sent to Caral Minor Metals and Dickenson Mines to determine if they can handle the residue. Also, a 55-gal. drum of residue will be sent to Yellowknife for their analysis.

BZTO104(e)010740

5. I will be talking with Bill Cunningham and John Stewart at Western Mining in Australia on 3/1/84 to discuss the problems in Conley, as well as the contract for their crude arsenic trioxide. At this point, no shipments are being made.

Caral Minor Metals advised that the Eldorado material roasted very well in their pilot plant roaster and indicated there would be no problem upgrading the material to 99% As_2O_3. They have started to build the furnace for their production plant, which will be constructed beginning 5/1/84 and completed 9/1/84. This is all in accordance with Canadian government financing. They have requested samples of our purification plant residue to determine if they can process it. They will be going into the roasting business first and then possibly the smelting business.

6. At the end of fiscal February, our closing chromic acid inventories were approx. 111,813 pounds ($84,126) and our black copper oxide inventories were approx. 57,874 pounds ($48,682). Our arsenic trioxide inventories were approx. 6,760,012 pounds ($1,814,325) and our arsenic acid inventories were approx. 2,699,980 pounds ($1,212,619). The amount of refined arsenic trioxide in the above number was 1,073,497 pounds ($578,325), consisting of Asarco, Boliden and Salsigne material. The balance of 5,686,515 pounds ($1,236,000) of material was in the form of Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were zero pounds of arsenic acid, zero pounds of chromic acid, 19,906 pounds of black copper oxide and 54,202 pounds of CCA-C. Our domestic total inventories including chrome ore, were approx. $4,616,138 at the end of fiscal February. This amounted to an increase of approx. $358,851 (8.4%) from the January levels. With the impact of stains to the St. Louis total, our FIFO inventories could approximate $7,000,000 at the end of Feb., while our LIFO inventories will approximate $6,500,000.

7. During Feb. we received 1,211,200 pounds of chromic acid from Diamond Shamrock and ended the month with 111,813 pounds in inventory. We are currently utilizing 16 sparger cars and shipping drummed material to the West Coast via U.S. Lines. Harry Turpack advised that he could not reduce his domestic price any lower, but on 2/2/84, he reduced the drummed price to Conley on 600 tons to $.65/lb. delivered. This material is to be used for export CCA-C paste.

Harry also offered to place 4 or 5 lined sodium bichromate cars at Conley to hold 60% chromic acid during our peak summer months. F. Klasnick and B. Stuart are reviewing the situation now and will advise of their decision by the week of 3/5. Diamond is also going to purchase a sparger truck that could be used during our peak periods in the summer. In addition, Jon Moon, Robert Running, & Robert Hollinger from the Castle Hayne, NC plant of Diamond Shamrock visited Conley on 2/24. They were favorably impressed by the people and facility in Conley. Vance Underwood of Diamond will visit Valpo the week of 3/5 to witness the unloading of a sparger car. Vance will review our entire system at Valpo and provide any recommendations.

BZTO104(e)010741

On Feb. 23, Glenn Knowles and Doug Steven of American Chrome visited Pittsburgh to discuss their new chromic acid plant in Corpus Christi, TX. The plant will be completely constructed by early March and start-up will begin immediately therafter. Per Doug Steven, American Chrome will move chromic acid into the domestic market at whatever price level it takes. They are extremely anxious to see our chromic acid unloading system and participate in our business. I believe we must address this situation very thoroughly.

8. Duty Drawback Claim #8 was liquidated in February and we received a check for $15,641.41. Thus, we have received checks covering all outstanding claims. To date, we have received checks totaling $214,916.66 for claims 1-10. Claim #11, for approx. $8,000 covering exports for the fourth quarter of 1983, will be filed with the U.S. Customs Service in early March. At that point, we will have covered all exports from mid-1979 thru 1983.

9. A proposal was received by John Palmer in St. Louis covering the dilution of Woodtox Preprime by Time Oil in Portland. A separate memo regarding the proposal from Time Oil has been issued. John Palmer will be visiting both Portland, Neil Wallis and Seattle, Bob Abendroth, during the week of 3/5/84 to try to wrap things up with Time. When we have finalized the Time Oil situation, we will again pursue the consignment agreement with Union Oil on mineral spirits.

10. On 2/22, I received the new pricing for liquid azide, liquid noxtane SS-1, and sapstain control chemical T-1 from Dan Gilbert of Jones-Hamilton. A separate sheet showing 1983 and 1984 costs was finalized 2/28/84 and circulated for review. The new Jones-Hamilton costs were actually lower and thus the 1984 product costs were lower as shown on the comparison sheet. These costs, along with the selling prices, will be reviewed with Mary Lou Beck, John Palmer and Joe Kusar to calculate gross margins and absorption rates for the WTC products produced at Jones-Hamilton in Newark, CA.

11. On 2/21 and 2/22, Jim Lamb, George Meanor, Dick Cook, Glenn Schultz, John Palmer, Steve Shields and I met in Valparaiso to discuss the Dricon expansion. The meeting was extremely productive and finalized several items. A process flow sheet with specifications, as well as completed drawings for pouring concrete floors and dykes, should be available by the end of February or early March. We should be able to start pouring concrete the week of 3/5/84. Equipment orders will also start to be placed. Currently, only the belt conveyor and heaters have been ordered. Also, the chiller has been received from Orrville, Ohio and a technical representative from Trane has been contacted to come out and inspect the unit to insure its adequacy for the new plant expansion.

12. During my visit to Valpo on 2/21-22, I also reviewed the two open AFE's on the Stock Beam Distribution Center. Both AFE's are nearly complete and probably will be closed in March. We are currently getting quotes for a fence to provide some security around the pole building. We are also looking at different options for security services for Valparaiso.

BZTO104(e)010742

13. We are in the process of getting updated proposals for the enclosure over the chromic acid unloading area, for the roof over the truck loading area, and for a truck scale at Valpo. The most important of these items would be the enclosure over the chromic acid unloading area due to the weather related problems incurred during this winter.

14. I am in the process of updating my study of deliveries of CCA-C to seven points in the NE from Valpo and Conley with 1984 standard costs for CCA-C and 1984 trucking costs from both locations. As soon as this is updated, I will review it with you and Joe Kusar.

15. During March, I will have samples provided to MPD of Diamond Shamrock's chromic acid. As soon as these samples are tested, we should be in a position to start shipping material to them.

16. I am still working on obtaining suppliers for a lumber wrap material for Dricon treated lumber and plywood. Meetings will be set up in March to discuss this program with several potential suppliers.

17. On 2/8, I met with Jim McFarland of Abbott Labs to discuss our requirements for Amical 48 during 1984, '85 & '86. After the meeting, I received a letter from Frank Becker of Abbott confirming the current prices for both milled and unmilled material and confirming the availability of material to cover our needs for 1984.

18. Both Mooney Chemicals, Inc. and Dussek Campbell, Ltd. provided potential private labellers (Darworth & Gibson-Homans respectively) for packaged preservatives. This information was passed along to Wayne Simkins for his review.

19. Dick Rising of Reichhold will be in Pgh. on 3/23 to finalize the 1984 Distributor Agreement for PCP and tetrachlorophenol and discuss our 1984 requirements for both items.

20. During Feb. all our 1984 blanket orders were virtually finalized. Upward pricing pressures still exist on dicyandiamide. Our price is firm through the first quarter at $.5600/lb. delivered but it may go up after 4/1/84. I'm working closely with Murray Bock at Philipp Brothers on the BOC pricing and with Jack Duckett of Canadian Cyanamid on their pricing. Also, I've been in contact with SKW through both American Hoescht and Thorson. I will keep you updated on proposed price increases for dicyandiamide.

21. On 2/16, Jim Dunson and I visited the Fruehauf plant in Uniontown, PA to discuss the status of the two new CCA tankers for Conley. Both units should be available in approximately 4-6 weeks. While visiting the plant, Jim made three small changes which will assist him in utilizing these new tankers. All the changes will be done at the Fruehauf plant prior to shipment of the trailers to Conley.

22. I am working closely with Bob Moran on 50% caustic soda pricing for Philipp Brothers and also on a surplus materials report for both ABPD and SWCD.

23. Also, I'm working with Craig McIntyre and Jack Kozak on obtaining formic acid free formaldehyde from Synthite Ltd. in England. While Jack Kozak is visiting England next week, he will try to follow up with Synthite through Jim Black.

24. On 3/1/84, Bud Carter, Dave Spindler and Chuck Monzo of Airco will be in Pittsburgh to meet with Joe Fleming and I on the oxygen plant requirements in Conley for the new arsenic acid plant.

Donald F. Marion

DFM/dkm

cc: W. J. Baldwin
F. E. Boge
K. E. Cogan
J. J. Kozak
J. Kusar
F. Klasnick
C. McIntyre
D. MacArthur
D. May
D. B. Myers
J. D. Palmer
G. Schultz
M. A. Schwartz
S. Shields
W. H. Simkins
R. Stefanski
S. Snyder

3/21/84 - Met together with people in purchasing to find who is handling and the status. Called Bud Baldwin

TO: Greg Ringeling FROM: Chuck Vita

Koppers Company, Inc.

KOPPERS

REQUISITION

DIVISION OR DEPARTMENT Environmental Resources Dept.

1 2 3 4 5

DATE 1/26/84 INQUIRY No.

APPVD.	Suggested BIDDERS	PRICE	F.O.B.	DELY.	WEIGHT PRICE/LB.
	WESCOMP				
	CHEMSEC (CWM)				
	ESI (Idaho Site)				

BUDGET	ESCALATED - YES ☐ NO ☐	REQUIRED DELIVERY ASAP	ESTIMATED WEIGHT Bulk

SHIP VIA	PLANT	USE	CLOSING DATE
Truck	SWCD (Time Oil)	Tank Cleanout	2/24/84

W.L. NO. OR REQUISITION NO.	KEY NO.	ACCOUNT NO.	ORDER NO.
Forest Products Environmental 3			

QUANTITY	DESCRIPTION	PRICE
Bulk	HAZARDOUS WASTE REMOVAL AND/OR DISPOSAL Tank Cleanout of Woodtox Preprime Residue Tank. EPA Waste Code U242 Pentachlorophenol Plant Contact: John Palmer @ St.Louis Plt. (314) 772-2200 Profile Sheets: Bill Baldwin/C.Vita Chemist: George Mills @ St.Louis Plt. (314) 772-2200 cc: T. Marr J. Palmer G. Mills B. Baldwin C. Vita 3/22/84 - Met with Greg Ringling to review situation. He will pull out information and probably turn over to George McGinley for action. Follow up W/O 3/26/84 with Greg.	

EXTRA COPIES TO
ENG'R.
INS.
TRAFF.
TAX
INC. STAMP

TOTAL ESTIMATED WEIGHT TOTAL AMOUNT INVOLVED	ORDERED BY	APPROVED BY

PRICE	PURCHASED FROM
F.O.B.	
DELIVERY 61	
TERMS	DATE

PO-2 REV. 1

KOPPERS

Interoffice Correspondence

To A. C. Middleton
T. A. Marr
C. P. Brush

From C. P. Brush

Location

Location K-12

Subject Time Oil, Inc., Photos

Date February 2, 1984

The enclosed photographs illustrate the current condition at Time Oil, Inc., at Portland, Oregon.

The single pump and piping manifold represents the means used to mix and move penta/oil mixtures for the past 14 years. Note the oil inside the dike. The bottom of the diked area is not sealed (sandy soil).

Charles Brush

Charles Brush

CPB/s
enclosures

1984

K-5 REV. 2

BZTO104(e)010746

KOPPERS

Interoffice Correspondence

To J. D. Palmer

Location St. Louis

Subject Time Oil, Portland

From J. D. Hite

Location Pittsburgh

Date January 26, 1984

I reviewed Baldwin's letter of Jan. 20 to Charlie Brush relative to the potential exposure we have at Time Oil regarding tank clean-out and possible additional exposure relative to general site environmental clean-up. I have been told by Bill Baldwin that our cost exposure for the removal of sludge from our tanks at Time Oil should be minimal, however, if we are in fact on the hook for any larger general site environmental clean-up, the costs associated with this could be quite substantial. I frankly fail to see where we in fact do have such a responsibility but I expect to be kept fully abreast of developments relative to this responsibility and wish to have from you at the earliest possible date an estimate of anticipated costs for not only the tank clean-up but for general site environmental clean-up costs should we be held responsible.

I would also like to obtain from you an update on our status relative to a new contract for toll production at Time Oil. It is my understanding that Time Oil is currently not producing anything for us and therefore I have to ask the question how are we currently supplying our northwest U.S. market and at what cost penalty? If we are going to get back in business with Time Oil let's get moving on it but in doing so we must make absolutely certain that continuing environment responsibility under a new contract is fully clarified contractually.

John D. Hite

JDH/dkm

cc: W. J. Baldwin [redacted]

61

K43-REV. 5 100M 10-81

BZTO104(e)010747

f

KOPPERS

Interoffice Correspondence

To C. P. Brush — From Wm. J. Baldwin

Location K-1201 — Location K-750

Subject Time Oil - Portland, OR — Date January 20, 1984

I have several comments with regard to your December 12, 1983 correspondence, same subject. Firstly, it should be noted that Monsanto utilized Time Oil Company as a toll producer during the period 1967 through 1971. Koppers purchased the Wood Treating Chemicals Department from Monsanto in December of 1971 and continued to utilize Time Oil as a toll producer.

John Palmer and myself did have discussions with Mr. John Denham concerning clean-up of the area. We did commit ourselves to removing existing stock from the tanks as well as tank cleanout and removal from the site. When Mr. Denham brought up the subject of soil sampling, I mentioned that we have utilized the ASTM extraction method for determining the extent of soil contamination, i.e., see the closure plan for Richmond, VA plant. We did not commit ourselves to any degree of soil clean-up but noted that we would work with Time Oil in this regard. We also noted that our attorneys have reviewed the original agreement and have determined that Koppers Company has limited liability. We also discussed the fish bio-assay testing and I'm attaching a copy of the report for your review.

Please note that the "U.S. EPA Annual Products Reports" for Time Oil have been filed by our St. Louis office. By copy of this letter to John Palmer I request that Pittsburgh be copied on all such reporting in the future.

As noted above our plans for clean-up include sale of existing inventory, tank cleanout and removal. John Palmer will be contacting Chuck Vita with regard to locating a suitable tank cleanout company in the Portland area and a method of disposing of the cleaned tanks. I believe we all agree that some soil clean-up in the area will have to be performed; however, as noted previously the extent of our involvement has not been determined. As such, I request that you prepare a plan for site clean-up

BZTO104(e)010748

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

which could be used in our negotiations with Time Oil. At this time, it has not been determined whether or not we will continue to utilize this location as a toll producer; however, if both parties agree to do so, I will also be asking you to coordinate the legal review of a modified blending agreement.

Bill

W. J. Baldwin

WJB:jr
Attachment
cc: John Hite - w/Attach.
John Palmer
T. F. McGuire
Steve Tomko
A. C. Middleton
M. S. Marino
T. A. Marr
Chuck Vita

1/24/84 - C. Vita will contact G. Mills + get ball rolling on tank cleanout firm

1/31/84 - CB looking @
2/14/84 - will be few wks - clean up visual/analyze removal
? level

K-6 REV. 2

TIME OIL CO.
Correspondence - 1982

BZTO104(e)010750

Penalty top sheet
to Frank Boge
Conley Co.

Koppers Company, Inc., Forest Products Group
Pittsburgh, PA 15219, Telephone 412-227-2441

Specialty Wood Chemicals Division

KOPPERS

November 19, 1982

Mr. Neil Wallis
Time Oil Company
12005 N. Burgard
P. O. Box 03117, St. Johns Station
Portland, Oregon 97203

Dear Neil,

We have been in touch with Bob Abendroth in regard to your November 4, 1982 letter and we have made our initial proposal. Bob indicated he would be back to us within the week so at this point we feel that we should be completed with negotiations prior to November 30, 1982.

We have arranged for Frank Boge, Manager of Engineering Department, to visit your plant during the week of November 29, 1982. He will be out on the West Coast that week and will call and set up an appointment to visit your facility probably Wednesday or Thursday of that week.

We would like him to review the modifications that you plan and make any suggestions that he could to improve the facility in a cost-effective manner.

Enclosed is a copy of a Dustless Debagger that could be used to provide safe addition of Pentachlorophenol to your Mix Tank. This is a self-contained unit that traps penta dust in bags that are subsequently shaken so that the dust is returned to the product. It cost less than $2,000 and should totally eliminate penta dust from the mixing operation.

I look forward to seeing you the next time I am out on the West Coast.

61

Yours truly,

Ken

Kenneth E. Cogan
Operations Manager
Specialty Wood Chemicals Division

KEC:erk

Enclosure

CC: Frank Boge - Conley
Donald Marion

The Dustless Debagger

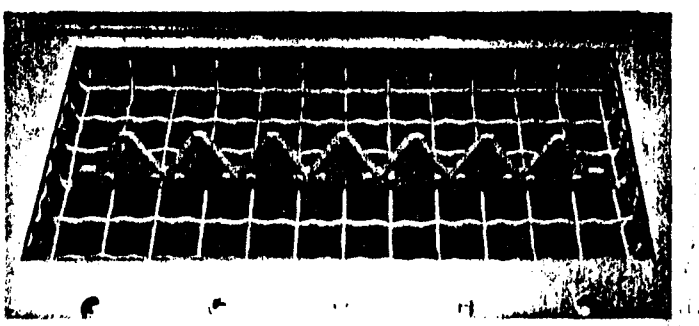
An Innovative Debagging Station To Save Time and Money for Users of Powders and Bulk Solids

If you use powders or bulk solids in your operation, Griffin Environmental's new Dustless Debagger can save you time and money while keeping your air clean. This self-contained unit is both a fast, efficient debagging station plus a complete dust control system. Designed by our experienced engineers and backed by Griffin's 28 years of know-how in the air pollution field, it is ruggedly built for years of service.

When dropped on the recessed grating, the bag is split in half by the knives. There is no strain or reaching by the operator and, as there is no overhead obstruction, a hard hat need not be worn. The material falls into the hopper and the lighter, airborne particles are drawn upwards and collected on the inside of the cotton sateen bags. Clean air is discharged through the blower exhaust.

The Dustless Debagger is of 12 gauge continuously welded construction. Small and compact in size, it is 99% plus efficient. The manual shaker mechanism eliminates the need for a shaker motor or control panel.

Bags and shaker mechanism are accessible from grade level. Bag replacement is fast and easy through the bag door opening. Blower fan can be side mounted (standard) or top mounted and operates on 115V or 230/460V. Because of its small size and relatively light weight, the debagger can be made portable. It is shipped completely assembled with bags installed.



Close-up of recessed grating and knives. When bag is dropped on opening, it splits open dropping material into hopper. Dust is drawn into the collector and deposited on the filter bags.

View from back with door opened shows manual shaker mechanism and cotton sateen dust collector bags.

Model Number	No. of Bags	Bag Length	Bag Diam.	Cloth Area	Shaker	Blower CFM at 2" W.G.	Blower H.P.	Bag Grating Opening	Bag Door Opening	Dimensions		Total Weight
										Width	Height	

Designed, Engineered and Manufactured by

Griffin Environmental Co., Inc.
One Ecology Park, P.O. Box 86
Baldwinsville, NY 13027
Phone: 315/635-9971
Telex No. 937415

SCHEEL & CO., INC.
520 E. SMITH
P.O. BOX 512
MEDINA, OHIO 44256
MEDINA (216) 725-4505
CLEVELAND (216) 225-881

61

PHONE 286-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

NOV 10 1982

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION, PORTLAND, OREGON 97203

November 4, 1982

Kenneth E. Cogan
Forest Products Group
Koppers Company, Inc.
Pittsburgh, Pa. 15219

Dear Ken:

Do to the inadequacies of the facility utilized for the handling of Koppers wood preservatives and the potential hazard to our employees, it is most important to conclude our negotiations. Therefore an agreement deadline has been chosen, November 30, 1982. If an agreement cannot be reached by the November 30 date, than Time Oil elects to discontinue its services on December 31, 1982. If you have any questions regarding the above please call.

Very truly yours,

Neil Wallis

Neil Wallis
Terminal Manager
Time Oil Company

NW/ka

11/12 - 11:45 EST NEIL WALLIS & SUGGESTS TALKING TO → ROBERT ABENDROTH 206-285-2400 } R. A met in 11/12/82

Reimbursement of cost on invoice

61

Bob Visit 12/1

11/19 - Bob will call with proposal 11/22

BZTO104(e)010753

KOPPERS

Interoffice Correspondence

To J. D. Hite

From Ken E. Cogan

Location K-1001

Location K-1001

Subject Time Oil Company

Date October 21, 1982

Attached is a comparison recap of the six options available to us at Time Oil. Paul Goydan and I took the four major items produced at Time Oil which constitute approximately 90% of the total sales volume and determined the profit generated under the following options:

MAY HAVE TAX PROBLEMS - Bob WILL COME BACK TO US

1. Current Time Oil Contract
2. Time Oil's August 18, 1982 Proposal
3. Koppers invests $25,000
4. Koppers mixes at St. Louis and ships to Time Oil for blending
5. Norris Paint
6. Union Chemical Blending
7. Jack McClary Blending

Norris Paint has undergone a change in management and is not interested in doing any toll blending for us at this time.

Jack McClary does have blending facilities; however, he is not equipped to handle any pentachlorophenol and, if we wish to have him do any blending, it would be necessary for us to provide training and capital money for the required equipment.

As you can see by reviewing the comparison recap, our most profitable option is to have Koppers Company invest approximately $25,000 for improvements at Time Oil and continue to have them blend our products for us. The August 18, 1982, proposal from Time Oil with the reduction from their original proposal did indicate a softening of their position. They are, however, adamant on improvements required around their facility to reduce environmental affects in handling our products. The difference in profit potential between Time Oil's August 18, 1982, proposal and that same proposal if Koppers invested $25,000 for five (5) years is approximately $19,000 a year and would result in a 2.3 year payback of that investment. Attached is a ADS-230 detailing these calculations.

K-5 REV. 2

For comparisons, I have also included September 1981 and September 1982 year-to-date sales figures for Time Oil. If we are going to stay in the business on the West Coast, we should seriously consider investing the $25,000 for five (5) years, allowing us to increase our profits by $19,000 and, although not taken into account on the ADS-230, would result in an approximate $13,000 inventory reduction, since we would not have to have an inventory of Woodtox PrePrime Concentrate that had been pre-mixed at St. Louis.

Ken E. Cogan

KEC:erk

Attachments

CC: Paul A. Goydan
Donald F. Marion

61

KOPPERS COMPANY, INC.

APPROPRIATION REQUEST SUPPORTING DATA

(IN THOUSANDS OF DOLLARS)

ADDITIONAL PROFIT AT TIME OIL WITH KOPPERS COMPANY INVESTMENT OF $25,000 FOR FIVE (5) YEARS.

DIVISION: APPROPRIATION NO.:

EARNINGS ESTIMATE

TITLE	1ST. YEAR	2ND. YEAR	3RD. YEAR	4TH. YEAR	5TH. YEAR	AVE. FOR 5 YEARS
1. NET~~XXXXX~~ PROFIT	19	19	19	19	19	19
2. NET RAW MATERIAL COST						
3. CONTROLLABLE OPERATING COSTS						
4. DEPRECIATION AND APPLICABLE DEPLETION	5	5	5	5	5	5
5. OTHER NONCONTROLLABLES						
6. TOTAL PLANT PRODUCTION COST						
7. PLANT PROFIT ON PRODUCTS SOLD	14	14	14	14	14	14
LESS: OVERHEAD:						
GEN. & ADM. EXPENSE (% OF 1)						
CENTRAL STAFF EXPENSE (% OF 1)						
SELLING EXPENSE (% OF 1)						
DIV. & CENT. R&D EXP. (% OF 1)						
8. DIVISIONAL OPERATING PROFIT						
8A. LESS: CORPORATION OVHD (% OF 1)						
9. INCOME BEFORE INTEREST AND TAXES	14	14	14	14	14	* 14
10. PROVISION FOR INTEREST (14 % OF 1/3 OF L. 23)	1	1	1	1	1	1
11. INCOME BEFORE TAXES	13	13	13	13	13	13
12. PROVISION FOR INC. TAX (50 % OF 11)	7	7	7	7	7	7
13. NET INCOME	6	6	6	6	6	* 6
% RETURNS ON AVG. NET INVEST.						
14. DIV. OPER. PROFIT (8 ÷ 23)	61	78	108	175	467	178
15. INCOME BEFORE INT. AND TAX (9 ÷ 23)	61	78	108	175	467	* 178
16. ADJ. NET INCOME ÷ AVG. NET INVEST. (13 + 50% L. 10 ÷ 23)	26	33	46	75	200	* 76
17. % RETN. ON SALES (13 ÷ 1)						

ESTIMATE OF INVESTMENT

	AT START	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	AVE. FOR 5 YEARS
18. GROSS PLANT, PROP. & EQUIP.	25	25	25	25	25	25	25
19. LESS: DEPREC. RESERVES	0	5	10	15	20	25	13
20. NET PLANT, PROP. & EQUIP. YR. END	25	20	15	10	5	0	13
21. AVG. NET PROPERTY FOR PERIOD	XX	23	18	13	8	3	13
22. AVG. WORKING CAPITAL FOR PER.	XX	–	–	–	–	–	* –
23. AVG. NET INVESTMENT (21 + 22)	XX	23	18	13	8	3	13

CASH FLOW AND PAYOUT

	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS
24. NET INCOME (LINE 13)	6	6	6	6	6
25. DEPRECIATION & DEPLETION (LINE 4)	5	5	5	5	5
26. ANNUAL CASH FLOW (24 + 25)	11	11	11	11	11
27. ACCUMULATED CASH FLOW	11	22	33	44	55
28. PAYOUT YEARS (WHEN 27 EQUALS 18)		2.3 Years Payback			

**TO ADS 112 AS INDICATED THEREON*

NOTE: ITEM 6 SHOULD BE SUPPORTED BY DETAILS APPLYING TO THE SPECIFIC CASE.

ADS-230 Rev. 5. 61

COMPARISON RECAP

	% of Sept 82 YTD Sales	TIME OIL Current	8/18/82 Proposal	Koppers Invest.	St.Louis Blending		Norris Paint.		Union Chemical		Jack McClary		
Mixing Location		$ TIME	$ ST.LOUIS	$ TIME	$ ST.LOUIS		$ ST.LOUIS		$ ST.LOUIS		ST.LOUIS		
Woodtox PrePrime RTU	57.5	31,906	24,682	28,495	21,320				27,060				
WR 340 Concentrate	3.7	4,772	2,354	4,567	2,390								
Timbertox 40 Conc.	12.2	10,009	7,047	8,179	7,094								
Woodtox 140T	16.0	26,744	13,333	25,160	13,334								
TOTAL	89.4												
Profit $ Total		73,432	47,416	66,401	44,138				49,878				
Inventory		50,750	64,393	51,350	65,229		CHANGE IN MANAGEMENT DID NOT WANT TO BLEND		52,328		WE WOULD HAVE TO PURCHASE ALL PENTA BLENDING EQUIPMENT.		
K.Co.Investment/Year		0	0	5,000	0				12,000				
TOTAL CAPITAL INVESTMENT		0	0	25,000	0				60,000				

ADS-238

BZTO104(e)010757

TIME OIL PROPOSALS

	OLD CONTRACT	FIRST PROPOSAL	8/18/82 PROPOSAL
FACILITY RENTAL ($/MO.)	$ 615.00	$ 1,144.00	$ 650 + $.02/GAL. Over 5000 GAL.
IMPROVEMENTS	0	1,180.00	0 (IF KOPPERS PAYS FOR IMPROVEMENTS)
RTU BLENDING ($/GAL.)	.0134	.1036	.052*
CONC. BLENDING ($/GAL.)	.0402	.1476	.1476
DRUM FILLING ($/GAL.)	.0671	.1332	.064
MINIMUM MONTHLY FEE	0	800.00	
DRUM HANDLING FROM ST. LOUIS			.75/DRUM

* DILUTION OF CONCENTRATE TO RTU

KOPPERS

Interoffice Correspondence

OCT 14 1982

To D. F. Marion

From J. D. Hite

Location

Location

Subject Time Oil Toll Contract

Date October 14, 1982

Please appraise me of the status of this renegotiated Time Oil toll contract. I gather from reading John Palmer's October 11 report that time is running out on us at Time Oil.

JDH/jw

JDH:jw

John D. Hite

cc: K. E. Cogan
J. D. Palmer

10/14/82 - Reviewed situation with John Palmer, Paul Boyden, Ken Cogan, John Hite regarding this Time Oil Contract.

10/18/82 - Discussed with Ken Cogan and he said that there was memo on this tape for J.D. Hite to review.

11/15/82 - Reviewed with Ken and he had talked to Robert Arendroth and proposal to be put together. Objective per Neil Wallis letter is to have everything finalized by 11/30/82.

61

K43-REV. 5 100M 9-80

LINEHAN – KEN LOGAN – W/O 3/29/82.

Monday – 3/29/82 call & cancel

P.M. – Reichhold Chemicals, Inc
2340 Taylor Way
Tacoma, Wash. 98401
Jim Bretheim – 206-572-5000

~~Tuesday – 3/30/82~~ MONDAY 3/29/82

9:30 AM – Tune Oil Co.
2737 W. Commodore Way
Seattle, Wash. 98199
Robert D. Abendroth – 206-285-2400

Tues
~~Wednesday~~ – 3/30/82

8:30

AM – Tune Oil Co.
12005 N. Burgard St.
Portland, Oregon 97203
Neil Wallis – 503-286-1611
Neil Gallagher

½ day Columbia Blvd to N. Burgard

Thursday – 4/1/82 ?

AM – Norris Paint Co., Inc. (100 mi)
1675 Commercial, NE.
~~Salem~~ ~~Portland~~, Oregon
(100 miles from Portland)
Bob Yates – 503-364-2277

JACK MATHER ZKE
PAUL PAIN LAB

Friday – Change to Wed.

AM – Jones-Hamilton Co.
2400 Enterprise Drive
Newark, CA. 94560
Ken Hamilton – 415-797-2471

AM – Matson Navigation Co.
S.F., CA.
415-271-9717 BILL

61

BZTO104(e)010760

KOPPERS

Interoffice Correspondence

To J. D. Hite

From Ken E. Cogan

Location K-1001

Location K-1001

Subject Time Oil Company

Date October 21, 1982

Attached is a comparison recap of the six options available to us at Time Oil. Paul Goydan and I took the four major items produced at Time Oil which constitute approximately 90% of the total sales volume and determined the profit generated under the following options:

MAY HAVE TAX PROBLEMS - Bob
WILL COME BACK TO US.

1. Current Time Oil Contract
2. Time Oil's August 18, 1982 Proposal
3. Koppers invests $25,000
4. Koppers mixes at St. Louis and ships to Time Oil for blending
5. Norris Paint
6. Union Chemical Blending
7. Jack McClary Blending

Norris Paint has undergone a change in management and is not interested in doing any toll blending for us at this time.

Jack McClary does have blending facilities; however, he is not equipped to handle any pentachlorophenol and, if we wish to have him do any blending, it would be necessary for us to provide training and capital money for the required equipment.

As you can see by reviewing the comparison recap, our most profitable option is to have Koppers Company invest approximately $25,000 for improvements at Time Oil and continue to have them blend our products for us. The August 18, 1982, proposal from Time Oil with the reduction from their original proposal did indicate a softening of their position. They are, however, adamant on improvements required around their facility to reduce environmental affects in handling our products. The difference in profit potential between Time Oil's August 18, 1982, proposal and that same proposal if Koppers invested $25,000 for five (5) years is approximately $19,000 a year and would result in a 2.3 year payback of that investment. Attached is a ADS-230 detailing these calculations.

61

K-5 REV. 2

For comparisons, I have also included September 1981 and September 1982 year-to-date sales figures for Time Oil. If we are going to stay in the business on the West Coast, we should seriously consider investing the $25,000 for five (5) years, allowing us to increase our profits by $19,000 and, although not taken into account on the ADS-230, would result in an approximate $13,000 inventory reduction, since we would not have to have an inventory of Woodtox PrePrime Concentrate that had been pre-mixed at St. Louis.

Ken E. Cogan

KEC:erk

Attachments

CC: Paul A. Goydan
Donald F. Marion

61

KOPPERS COMPANY, INC.

APPROPRIATION REQUEST SUPPORTING DATA

(IN THOUSANDS OF DOLLARS)

ADDITIONAL PROFIT AT TIME OIL WITH KOPPERS COMPANY INVESTMENT OF $25,000 FOR FIVE (5) YEARS.

DIVISION: APPROPRIATION NO.:

EARNINGS ESTIMATE							
TITLE	1ST. YEAR	2ND. YEAR	3RD. YEAR	4TH. YEAR	5TH. YEAR	AVE. FOR 5 YEARS
1. NET~~XXXX~~ PROFIT	19	19	19	19	19	19
2. NET RAW MATERIAL COST						
3. CONTROLLABLE OPERATING COSTS						
4. DEPRECIATION AND APPLICABLE DEPLETION	5	5	5	5	5	5
5. OTHER NONCONTROLLABLES						
6. TOTAL PLANT PRODUCTION COST						
7. PLANT PROFIT ON PRODUCTS SOLD	14	14	14	14	14	14
LESS: OVERHEAD:						
GEN. & ADM. EXPENSE (% OF 1)						
CENTRAL STAFF EXPENSE (% OF 1)						
SELLING EXPENSE (% OF 1)						
DIV. & CENT. R&D EXP. (% OF 1)						
8. DIVISIONAL OPERATING PROFIT						
8A. LESS: CORPORATION OVHD (% OF 1)						
9. INCOME BEFORE INTEREST AND TAXES	14	14	14	14	14	* 14
10. PROVISION FOR INTEREST (14 % OF 1/3 OF L. 23)	1	1	1	1	1	1
11. INCOME BEFORE TAXES	13	13	13	13	13	13
12. PROVISION FOR INC. TAX (50 % OF 11)	7	7	7	7	7	7
13. NET INCOME	6	6	6	6	6	* 6
% RETURNS ON AVG. NET INVEST.						
14. DIV. OPER. PROFIT (8 ÷ 23)	61	78	108	175	467	178
15. INCOME BEFORE INT. AND TAX (9 ÷ 23)	61	78	108	175	467	* 178
16. ADJ. NET INCOME ÷ AVG. NET INVEST. (13 + 50% L. 10 ÷ 23)	26	33	46	75	200	* 76
17. % RETN. ON SALES (13 ÷ 1)						

ESTIMATE OF INVESTMENT							
	AT START	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	AVE. FOR 5 YEARS
18. GROSS PLANT, PROP. & EQUIP.	25	25	25	25	25	25	25
19. LESS: DEPREC. RESERVES	0	5	10	15	20	25	13
20. NET PLANT, PROP. & EQUIP. YR. END	25	20	15	10	5	0	13
21. AVG. NET PROPERTY FOR PERIOD	XX	23	18	13	8	3	13
22. AVG. WORKING CAPITAL FOR PER.	XX	–	–	–	–	–	* –
23. AVG. NET INVESTMENT (21 + 22)	XX	23	18	13	8	3	13

CASH FLOW AND PAYOUT						
24. NET INCOME (LINE 13)	6	6	6	6	6	
25. DEPRECIATION & DEPLETION (LINE 4)	5	5	5	5	5	
26. ANNUAL CASH FLOW (24 + 25)	11	11	11	11	11	
27. ACCUMULATED CASH FLOW	11	22	33	44	55	
28. PAYOUT YEARS (WHEN 27 EQUALS 18)		2.3 Years Payback				

TO ADS 112 AS INDICATED THEREON

NOTE: ITEM 6 SHOULD BE SUPPORTED BY DETAILS APPLYING TO THE SPECIFIC CASE.

BZTO104(e)010763

PROFIT COMPARISON RECAP

	% of Sept 82 YTD Sales	TIME OIL Current	TIME OIL 8/18/82 Proposal	Koppers Invest.	St. Louis Blending	ORIGINAL TIME PROPOSAL NO INVEST	Norris Paint.		Union Chemical		Jack McClary	
		$	$	$	$		$		$			
Mixing Location		TIME	ST. LOUIS	TIME	ST. LOUIS	TIME	ST. LOUIS		ST. LOUIS		ST. LOUIS	
Woodtox PrePrime RTU	57.5	31,906	24,682	28,495	21,320	20500			27,060			
WR 340 Concentrate	3.7	4,772	2,354	4,567	2,390	4567						
Timbertox 40 Conc.	12.2	10,009	7,047	8,179	7,094	8179						
Woodtox 140T	16.0	26,744	13,333	25,160	13,334	21498						
TOTAL	89.4											
Profit $ Total		73,432	47,416	66,401	44,138	54744	CHANGE IN MANAGEMENT DID NOT WANT TO BLEND		49,878		WE WOULD HAVE TO PURCHASE ALL PENTA BLENDING EQUIPMENT.	
Inventory		50,750	64,393	51,350	65,229	52814			52,328			
K.Co. Investment/Year		0	0	5,000	0	0			12,000			
TOTAL CAPITAL INVESTMENT		0	0	25,000	0	0			60,000			

61

ADS-238

BZTO104(e)010764

TIME OIL PROPOSALS

	OLD CONTRACT	FIRST PROPOSAL	8/18/82 PROPOSAL
FACILITY RENTAL ($/MO.)	$ 615.00	$ 1,144.00	$ 650 + $.02/GAL. Over 5000 GAL
IMPROVEMENTS	0	1,180.00	0 (IF KOPPERS PAYS FOR IMPROVEMENTS)
RTU BLENDING ($/GAL.)	.0134	.1036	.052* FROM ST. LOUIS
CONC. BLENDING ($/GAL.)	.0402	.1476	.1476
DRUM FILLING ($/GAL.)	.0671	.1332	.064
MINIMUM MONTHLY FEE	0	800.00	
DRUM HANDLING FROM ST. LOUIS			.75/DRUM

* DILUTION OF CONCENTRATE TO RTU

BZTO104(e)010765

ST. LOUIS / ~~NORRIS PAINT~~

PRODUCTION COST 8/10/82

(1981) 82,000 GAL.

		WOOD TOX PREPRIME CONC	WOOD TOX PREPRIME RTU DRUM	TIMBER TOX 40 DRUM	WR 340 DRUM	WK 60 DRUM		WOOD TOX S	WOOD TOX S DRUMS		TIME OIL CURRENT COSTS.	WANT TIME $ ~~2,600/MO.~~ 2324	
		GAL		GAL	#	GAL		GAL	GAL				
DENSITY #/GAL		8.138		9.33	7.26	7.30		8.305	8.305				
mix fee (RTU)											.1036		
FACILITY RENTAL ELSO											.0523		
RAW MATL		2.2662		2.66	.1465	1.07							
LABOR		.03		.0669	.0080	.05		.031	.071				
OVHD		.06		.1340	.0160	.10		.062	.142				
DRUM		- 0 -		.333	.0490	.33		0	.33		.1322	.1322	
SUB TOTAL		2.3562		3.1920	.2195	1.55							
FRT TO WEST COAS		.77		.72	.0992	.72		.77	.72				
TOTAL		3.1262		3.9120	.3187	2.27							
											650/mo.	Facility Rental.	
Dilution 4:1 w/minerals spirits	1.46	5.84									.1058	BLEND RTU (.1498 Con gal)	
		8.97											.1322 DRUM
West coast cost.	÷5	1.79											
SELLING PRICE		2.20	3.60	5.10/433	.39	2.48		3.25 $					

DISTRIBUTER LESS 15%. $ FOR ST LOUIS

ADS-238

BZTO104(e)010766

Aug. 17, 1982

Timbertox 40 Conc. (Drums)

* 57,252 1981 Sales
13.4% of 1981 Sales

13,310 GALS (1981)

	TIME Proposed		TIME Current Tempany		ST. LOUIS BLEND DELIV. Rel.		UNION CHEM		NEW TIME PROPOSAL		MC CLEARY ST. LOUIS BLEND		
Raw Mat'ls	2.8397		2.8397		2.587		2.587		2.587				
Container	.4028		.4028		.330		.330		.330				
Labor, blend	.1498		.1498		.070		.070		.070				
Labor, drum	.1332		.1332										
					2.987		2.987		2.987				
Freight (on gal)	—		—		.72		.72		.72				
			3.5255		3.7070		3.7070		3.7070		3.7070		
Warehouse *	.19		.0523		.09		.09		.0662				
Drum handle									.0273		.0364		
TOT. COST.	3.7155		3.5778		3.7970		3.7970		3.8005		3.7434		
S.P. margin @ 4.33	.6145		.752		.533				.5295		.5866		
S.P. gross Profit (%)	14.2%		17.4%		12.3%				12.2		13.55		

* assumed Warehouse @ TIME SPREAD OVER ENTIRE unity of Products.

16

ADS-238

BZTO104(e)010767

Aug 17, 1982

WOODTOX "S" Substitution for WOODTOX 140T, Cons. Bulk

#105,569 1981 Sat.
24.6% Bottle & Sales.
38097 GALS

	TIME Current Temporary "140T"		ST. LOUIS BLEND SHIP DIRECT "S"		TIME PROPOSED	TIME WITH K.CO INVEST.
RAW MAT'L	2.1959		2.220		2.1959	2.1959
LABOR	.1498		.031		.1498	.1498
Freight (RR TANK)	—		.77			
Warehouse	.0523				.1900	.0939
Cost	2.398		3.02		2.5357	2.4396
DILUTION	1:4		1:5			1:4
MINERAL SPIRITS 1.46	5.84		7.30		5.84	5.84
RTU UNIT COST	1.6476		1.72		1.6751	1.6559
SELLING PRICE	3.10		3.44		3.10	3.10
CUSTOMERS RTU COST	1.7880		1.79		1.7880	
S.P. MARGIN	.7020		.42		.5643	.6604
SP % PROFIT	22.7		13.9%		18.2	21.3

ADS-238

BZTO104(e)010768

Aug. 17, 1982

WOODTOX PREPRIME, RTU

$176,079 - 1981 Sales
41 % of 1981 SALES
PORTLAND BLENDER
82,000 GAL.

	TIME CURRENT	TIME PROPOSED	TIME PROP. KOPPERS INVEST.	TIME BLENDING ST. LOUIS CONC.	NORRIS PAINT ST. LOUIS CONC.	UNION CHEMICAL ST. LOU'S CONC.		TIME OLDEN DAYS		TIME NEW PROPOSAL 6/18/82		MCCLARY	
mix fee RTU	.1036	.1036	.1036	≈ .07	.11	.01		.0137		.052		.0763	
mix fee CONC.													
FACILITY DEPRECIATION**						.08						.0228	
FACILITY RENTAL @ 50	.0523			≈ .09				.0523		.0658		.0409	
" @ 2324		.1900	0										
@ 1148			.0939										
Raw Mat'L	1.655	1.655	1.655	1.78 *	1.78*	1.78		1.655		1.78		1.78*	
Cost	1.8109	1.95	1.8525	1.94	~~1.84~~	1.87		1.72		1.899		1.92	
S.P. margin	.3891	.25	.3475	26	~~.36~~	33		.48		.3010		.28	
S.P. % Profit ($2.20/GAL)	17.7	11.0	15.8	11.8	~~16.0~~	15.0		22.0		13.7		12.7	
TIME 0.6 TX. CLEANING					~~($5,000)~~	(10,000)							
CAPITAL INVESTMENT						(50,000)							
ROI CALC						($11,143) ***							

4* assume prod. Mix of 12,231 gal/mo for facility fee

* MINERAL SPIRITS @ 1.46/GAL. DILUTION 1:4 RR TANKCARS .77/GAL

** 5YR DEPRECIATION $60,000 ÷ 149,000 GALS/YR. including drums.

*** IF WE DON'T CARRY MIN. Spirit INVENTORY, DESIRE 40% ROI, WE CARRY $27,856 AVG. MIN. Spirit Investment which IS WORTH $11,143.

ADS-238

BZTO104(e)010769

August 1982

Comparison

		Time Current		Time Proposed		Time St Louis Blend		Union Chemical St Louis Blend		Norris Paint St Louis Blend		New Time Proposal 8/18/82	Time Proposal Koppers Investment
Woodtox PP, RTU													
Profit ($)												24682	
@ .25/gal				20,500									28495
@ .389/gal		31,906											
@ .31/gal						21,320							
@ .38/gal								27060					
@ .36/gal										29520			
WE340 Conc.												2354	
@ .1206		4,772		4567									4567
@ .1154													
@ .0604						2,390							
Timbertox 40 Conc												7047	
@ .752		10,009											
@ .6145				8,179									8179
@ .533						7094							
Woodtox 140T													
@ .7020		26,744											
@ .5643				21,498									
@						13,334						13333	25160
PROFIT ($)		$73,432		$54,744		$44138		$49878				47,416	16401
INVENTORY	#	$	#	$	#	$	#	$	#	$	#	$	$
Woodtox PP Conc.	0	0	0	0	9000	27630	9000	27630	9000		9000	27630	0
Woodtox PP RTU	7000	12670	7000	13,650	7000	13230	7000	12,740	7000		7000	12390	12968
Mineral Spirits	8500	12410	8500	12,410	8500	12,410	0	0	8500		8500	12410	12410
Timbertox 40 drums	2800	10024	2800	10416	2800	10,640	2800	2800	2800		2800	10641	10416
Woodtox 140T on(S)	6000	14388	6000	15,240	—	—	—	—	—	—	—	—	14630
WR 340 (LBS)	4000	1077	4000	1098	4000	1,318	4000	1,318	4000		4000	1322	1098
INVENTORY-30 DAYS IN		$50,750		$52,814		$65,279		52328				64393	51530
CAPITAL INVESTMENT/MORE SYSTEMS		0		0		0		12,000		3000		0	5000
TOTAL INVESTMENT		$50,750		$52,814		$65,279		$64328	#			64393	56530

$60,000

ADS-238 ROI

BZTO104(e)010770

Aug 17, 1982

WR340 CONCENTRATE, DRUMS (only SOLD DRUMS)

$ 14,147 - 1981 Sales
3.3 % 1981 Sales Portion
39,576 Lbs - 1981

	TIME BLEND Proposed		TIME BLEND Current		ST LOUIS BLEND DELIV. Rail		NORRIS PAINT		NEW TIME PROPOSAL 8/17/82		MC CLEAN ST. LOUIS BLEND		
RAW. MATL	.1979		.1979		.1654				.1654		.1654		
CONTAINER	.0543		.0543		.045				.045		.045		
LABOR	*.0100		.0100		.008				.008		.008		
	.2622		.2622		.2184		.2184		.2184		.2184		
FREIGHT /LB	—		—		.0992		.0992		.0992		.0992		
MANUFACTURING COST	.2622		.2622		.3176		.3176		.3176				
WAREHOUSE	.0124		.0072		= .0124*				.0091				
DRUM HANDLING									.0038*		.0050		
TOT. COST	.2746		.2694		.3296				.3305		.3226		
S.P. MARGIN @ 39	.1154		.1206		.0604				.0595		.0674		
% PROFIT	29.6%		30.9%		15.5%				15.3%		17.3		

19

* ASSUME TIME WANTS .09/GAL ÷ 7.26 LBS/GALS = $.012/LB.

* 1.50/DRUM HANDLING = .0273/GAL

ADS-238

BZTO104(e)010771

JUL 12 1982

Ken C.

KOPPERS

Interoffice Correspondence

To J.D. Palmer

Location St. Louis

From G.B. Mills

Location St. Louis

Subject Woodtox Pre-prime Conc. "T"
---- Low Temperature Properties

Date July 8, 1982

If allowed to stand undisturbed in the deep freeze, the product gels completely at 50 ^{0}F to a non-pourable soft gel. At this temperature, stirring softens the gel to a pourable consistency. The soft gel condition holds down to 30 ^{0}F so that stirring produces a pourable product. Below 30 ^{0}F the gel becomes harder and more difficult to thin out by stirring.

Storage Recommendations:

If storage tanks are not equipped with heat, incorporation of mixing facility (mechanical or air) can be advantageous in reducing gel to pumpable consistency at temperatures above 30 ^{0}F.

For conditions below 30 ^{0}F sufficient heat will be necessary to raise temperature above this point.

Combination of mixing and heating equipment would probably be best.

GBM

G. B. Mills

K-5 REV. 2

BZTO104(e)010772

KOPPERS

MAY 6 1982

Interoffice Correspondence

To K. Cogan

From G.B. Mills

Location Pittsburgh K-1001

Location St. Louis

Subject Time Oil Production of Lot WC-014
Woodtox Pre-prime RTU

Date May 4, 1982

Subject product was manufactured 4/19/82 and the sample received at St. Louis on 4/22/82 was analyzed and found to contain 17.17% penta (RTU should contain 5% penta).

Called Neil Gallagher 4/22/82 and he said he would check and call me back. He later called and said that all components had been added, but that possibly insufficient mixing had been performed. A resample was submitted (rec'd 4/26/8 and this was found to contain 4.82% penta. Notified Gallagher and he said that he would mix for a longer time and send another sample. This was received 4/28/82 and was found to contain 5.09% penta. I then released as OK.

G.B. Mills

cc: J.D. Palmer

6 2

REV. 2

John Palmer

Neil,

3-5-82

Here are revised formulas for all the products that you produce. Please note that most have changes in them. If you have any questions please call me or George Mills.

Thanks

John

[redacted]

[redacted]

[redacted]

[redacted]

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox Pre-Prime RTU - T Lab. Book No. _____ Date Feb. 20, 1982

Made for Portland, Oregon (Time Oil) Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.20	.335	Penta	15.54			
0.75	.100	Paraffin Wax	7.5			
15.00	2.069	Oxo Bottoms	7.25			
0.50	.063	Nalco 6SJ 743 (6RJ 947)	7.9			
78.55	12.216	Mineral Spirits (Quick Dry)	6.43			
100.0	14.783		6.765			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

1. Charge Blender with oxo bottoms Nalco and 1/3 of the mineral spirits.
2. Heat to 170°F and agitate while adding wax and penta
3. Continue mixing until dissolved but heat and add remaining mineral spirits and mix unhomogenous.
4. Mail sample to St. Louis.

1000 gallon batch

#	gallon	
360		Penta
51		Wax
1015	140	Oxo
34	4.3	Nalco
5314	826 1/2	Mineral Spirits

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox Preprime Conc. T Lab. Book No. _____ Date Feb. 20, 1982

Made for Time - Portland, Oregon Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.50	1.448	Penta	15.54			
3.25	.433	125 mp Paraffin Wax	7.5			
64.95	8.959	Oxo Bottoms	7.25			
4.00	.545	KB-3	7.34			
2.00	.253	Nalco 6SJ 743	7.9			
3.30	.513	Mineral Spirits (Quick Dry)	6.43			
100.0	12.151		8.230			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

Blending Procedures

1. Meter in oxo bottoms, KB-3, and mineral spirits and Nalco
2. Heat to 180°F and circulate
3. Add wax and penta and continue circulation until completely dissolved.
4. Sample and sent to St. Louis.

1000 gallon batch

#	gallon	
1852		Penta
267		Wax
5345	737	Oxo Bottoms
329	45	KB-3
164.5	20.8	Nalco
272	42.3	Mineral Spirits

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox 140 Concentrate - T Lab. Book No. _____ Date. Feb. 20, 1982

Made for Portland, Oregon Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.00	1.416	Penta	15.54			
2.54	.339	125 mp Paraffin	7.5			
50.77	6.917	KB-3	7.34			
12.69	1.750	Oxobottoms	7.25			
12.00	1.866	Mineral Spirits	6.43			
100.0	12.288		8.138			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

Blending Procedures

1. Meter in KB-3, Oxo Bottoms and Mineral Spirits
2. Heat to 180°F
3. Circulate and add wax and penta continuing to circulate until completely dissolved.
4. Sample and mail to St. Louis

1000 gallons batch

#'s.		Gallons
1791	Penta	-------
207	Wax	-------
4132	KB-3	563
1033	Oxo	142 1/2
977	mineral spirits	152
8140		1000 gallons

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox 140 RTU - T Lab. Book No. _____ Date Feb. 20, 1982

Made for Time Oil Company - Portland, Oregon Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.20	.335	Penta	15.54			
.60	.080	128-130 mp Paraffin	7.5			
12.00	1.635	KB-3	7.34			
3.00	.413	Oxo Bottoms	7.25			
79.20	12.317	Mineral Spirits	6.43			
100.0	14.78		6.766			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Blend Procedures

1. Charge blender with KB-3, Oxobottoms, and 1/3 of mineral spirits
2. Heat to 170°F and agitate while adding wax and penta
3. Continue mixing until dissolved, cut heat, and add remaining mineral spirits and mix until homogenous
4. Sample and mail to St. Louis

1 1000 gallon batch

#'s	Gallons
(375) 352	------Penta
41	------Wax
812	111 KB-3
203	28 Oxo
5359	833 1/2 Mineral Spirits

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

BZTO104(e)010778

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Timbertox 40 Concentrate Lab. Book No. _____ Date Feb. 20, 1982

Made for Portland, Oregon (Time Oil Co.) Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
40.5	2.606	Penta	15.54			
59.5	8.106	KB-3	7.34			
100.0	10.712		9.335			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Blending Information

1. Meter in KB-3 & WTL, Heating to 170°F Max.
2. Circulate, add Penta
3. Continue circulation until dissolved
4. Cut Heat and sample and [illegible] Louis

1000 gal. Batch

	#	Gallon
Penta	3781	243
KB-3	5554	757
	9335	1000

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

BZTO104(e)010779

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product WR 340 Concentrate Lab. Book No. _____ Date Feb. 20, 1982

Made for Time - Portland Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.66	.755	Paraffin Wax (125-130)	7.5			
94.34	12.853	Eastman KB-3	7.34			
100.0	13.608		7.349			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Blending Procedure for 1000 gallon batch

1. Meter 944 1/2 gallon KB-3 into mixer
2. Heat and circulate until 160°F
3. Add 416 lbs. Wax and circulate until dissolved.
4. Do not allow temperature to drop below 110°F until packaging completed.

Cost (Per ...

Package 408 lbs. net per 55 gal. drum _____

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

BZTO104(e)010780

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product LST Co-Solvent II Lab. Book No. _____ Date February 20, 1982

Made for Portland, Oregon Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
30.0	4.138	Heavy Oxo Bottoms	7.25			
70.0	9.537	KB-3	7.34			
100.0	13,675		7.313			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Packed in 55 gal. tight head drums (395 #/dr.) 20 drum minimum order requirement.

Costs: Per lb [illegible] drum

	1100 gal. batch lbs.	Gal.	
I	2413	333	oxo
(	5631	767	KB
I		1100	
I	8044		
(			

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

BZTO104(e)010781

Paul Goydan K/1001
Joe Kusar K/1001
Rosemarie Stefanski K/1001
Eric Yeadon K/1001
Jack Kozak
PamArmbruster
Jonette Wharton K/1001

KOPPERS

Interoffice Correspondence

To Ken Cogan

Location Conley, GA - K/1001

Subject Monthly Report - December

From J. D. Palmer

Location St. Louis, Missouri

Date January 5, 1982

1. ST. LOUIS INVOICING - December Accounting Month $

	% Profit	1981	1980	1979
FPG Penta	15.0	168036	268798	171611
Customer Penta	15.0	46110	109967	96975
WTC	25.5	127325	213929	158125
CCA-C	19.8	169363	204381	108590
CCA-B	-----	------	20140	50707
		510834	817215	586008

II. WTC Inventory

November Closing Inventory		559572
December Purchasing		40733
December Raw Materials	40392	
Containers	341	
Penta 1408	60323	
Penta 1414	84482	
December Material Converted to Product	121773	
Cost of Product Sold		70429
DECEMBER CLOSING INVENTORY		529876

Inventory is Down-$26586 from November report - BUT ---- at December closing our Inventory Pick-up of $45,000 was ADDED to final totals, therefore inventory was actually down $71 586 from the November report.

III. RAW MATERIALS

Eastman is offering a TVA of $0.02/lb. We are taking advantage of this by moving it into TIME and St. Louis.

We will be purchasing several raw materials for both St. Louis and Portland as our inventories are at a very low point.

KOPPERS 100M 2-80

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

The Pittsburgh Purchasing Department is assisting us with Blanket Purchase Orders for 1982. This will enable us to obtain better pricing on many raw materials and establish a procedure acceptable to Pittsburgh Auditing Department, where we have price quotations prior to purchasing.

IV. St. Louis and other Plants

The electric eye in our Fuel Oil burner for the boiler went out Saturday Night December 19. This required constant round the clock monitoring by Ed Floretta and myself. We kept the boiler going manually until Monday morning when it was repaired by an outside engineering consultant. This necessitated several hours of overtime.

We limited damage to one broken pipe and valve, due to the temperature in the building dropping to freezing. We are in the process of obtaining quotes on renovating one of the other boilers for back-up.

The move of the lab is almost complete. The exhaust hood has been installed and all gas lines, water lines and electricity is finished.

The move of the lab has reduced our janitorial cost by 25%, along with lowering theneed for electricity, heating (air conditioning in summer), water etc. to the upstairs. The entire office area upstairs now is available for renovating, or?

I have renegotiated our trash hauling contract and reduced this cost by 50% by having pick-up twice a week instead of every-other day. If we have an excess amount of trash there is a $20 charge for an extra pick-up, which is nothing to what we are now paying.

We have eliminated one telephone and added (moved) George Mills' phone to his new lab. More phone changes next month, to lower operating costs.

TIME OIL has not furnished any proposal for a contract. Don Marion will be suggesting a six to nine month extension, so that we are not placed in a bind, when contract expires - March 31, 1982.

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject _____ Date _____

Harold is continuing to update our labels and resolve any problems we have with exporting our products.

V. Newark, CCA-CCA Production

Newark, CA Plant	Produced	Shipped
Oxide lbs.	64857	71780
Production Schedule for January		
Oxide lbs.	142000	
Production Schedule of February	90000	
Production Schedule for March	90000	

Because of delays in ICD Chrome Don Marion and I have decided to purchase two loads of chrome from Jones-Hamilton. This is needed because we have orders on the books and need production to meet requirements.

John Palmer

/pa

— TIME OIL CO.
Correspondence - 1981

KOPPERS

Interoffice Correspondence

To D. F. Marion

Location K/801

Subject TIME OIL COMPANY

From John D. Palmer

Location St. Louis, Missouri

Date October 29, 1981

The cost of servicing our West Coast Customers from St. Louis is as follows:

Truck loads of drums can be shipped from St. Louis to Portland, Oregon for a cost of approximately $37.00/drum which equates to $0.67/gallon.

The freight on bulk shipments of Woodtox Preprime by tankcar to Portland would add $0.47/gallon to the product. Using St. Louis manufacturing costs for Woodtox Preprime - T, and adding the freight the cost would be $2.11/gallon. (Present selling price at 21% margin on the west coast is $2.20/gallon).

If we manufactured Woodtox Preprime - T Concentrate and shipped it to a bulk location to be blended with mineral spirits, the final cost of Woodtox Preprime T Ready-to-Use would be $1.851/gallon excluding a blend fee. Assuming a blend and storage fee of $0.10/gallon the cost would still be cheaper than shipping direct to a customer.

John D. Palmer

JDP/pa

cc: Mr. Ken Cogan
Mr. J. D. Hite K/1001
Mr. Paul Goydan K/1001

KOPPERS

Interoffice Correspondence

To D. F. Marion

Location K/801

Subject Time Oil Company

From J. D. Hite

Location K/1001

Date October 16, 1981

I believe it is extremely important that we not procrastinate in making decisions relative to our direction in serving our West Coast millwork business. Along with your evaluations of the Time Oil proposals, we must weigh the cost of servicing that business from St. Louis. The St. Louis production evaluation should include direct tank car or bulk truck delivery to customers from St. Louis as well as production of St. Louis and transportation to a bulk terminal on the West Coast for subsequent transport to customers. We should also look at drum production in St. Louis railing the product to the West Coast for inventory in a warehouse for final distribution to accounts from a contract warehouse.

Obviously, I hope that we are also looking for alternate production locations on the West Coast.

JDH:jw

John D. Hite
Ext. 2445

cc: K. E. Cogan
P. A. Goydan
J. D. Palmer

K43-REV. 5 100M 9-80

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110
Telephone 314-772-2200

KOPPERS

October 28, 1981

Mr. Neil Gallagher
TIME Oil Company
P. O. Box03117
St. John's Station
Portland, Oregon 97203

Dear Neil:

We are sending to you via surface UPS 100 each truck placards with the number 1993 printed on them.

New D. O. T. regulations have been issued requiring the use of number placards and WAS to be effective November 1, 1981. The effective date, however, has been put off until January 1, 1982.

All of the products you formulate for us fall into the "COMBUSTIBLE" catagory - - flash point over 100 degrees F.

When shipping containers of COMBUSTIBLE products containing less than 110 gallons, such as 55-gallon drums, it is not necessary to placard the truck.

A tanktruck, of course, is over 110 gallons so they must all be placarded. We are supplying the placards since it is the shipper's responsibility to supply appropriate placards to the trucker.

Use of the new placard is authorized now, but you can continue to use the old un-numbered style until December 31, 1981. Then the use of the number placard is mandatory.

Sometimes trucks are equipped with the "flip-type" metal placard but I doubt if many presently have the new numbered type. Placards should be offered/given to the truck driver in all cases and a notation made on the bill of lading: "Four Combustible Placards Tendered."

Neil, thanks for your cooperation in this transition, and if there are any questions whatsoever, please call.

Yours very truly,

Harold P. Struessel

HPS/me
cc: Ken Luse - - Pam Armbruster - - J. D. Palmer

BZTO104(e)010788

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110
Telephone 314-772-2200

KOPPERS

October 27, 1981

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117
St. John's Station
Portland, Oregon 97203

Dear Neil:

We are sending to you today via surface UPS a quantity of each of the following NEW labels:

WOODTOX PRE-PRIME-T Ready To Use
WOODTOX PRE-PRIME-T Concentrate
WOODTOX 140-T Ready To Use
WOODTOX 140-T Concentrate
TIMBERTOX 40 Concentrate

Please return to us ALL of your existing stocks of these 5 labels.

The emesis statement under "First Aid" has been changed deleting the recommendation to induce vomiting with salty water. This is another Federal EPA mandate.

Any of these 5 products shipped after November 30, 1981 must bear the new revised label or we will be misbranding.

This was an emergency printing so we are not sending large quantities of these labels. If you feel you need more right away, please advise.

If there are any questions whatsoever about the use of these new labels, please call. THANKS.

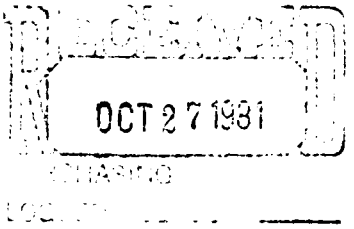
Yours very truly,

Harold P. Struessel

HPS/me

cc: Ken Luse
J. D. Palmer
P. Armbruster

cc: Don Marion K/800
Paul Goydan K/1001



KOPPERS

Interoffice Correspondence

To Ken Cogan
Location Conley, GA
Subject Your 10-12-81 Memo on TIME OIL

From John Palmer
Location St. Louis
Date October 23, 1981

1. In regards to your first question, we are not aware of any item blended that was not specifically covered in the agreement or in the amended schedule.

2. George Mills is reviewing the written instructions as they regard to manufacturing. I have reviewed with Andy Anderson the instructions as to the safe handling of the materials. He said to use our safety pages from the ACCIDENT PREVENTION PROGRAM GUIDEBOOK. Those pertinent parts are copied for your approval. (Attached)

3. TIME OIL does not have any hazardous waste at the present time. They do have some tanks that haven't been cleaned out in years and they do need to be cleaned.

4. As discussed with you earlier, Neil Gallagher of TIME informed me that the complaints occur after taking the mask off.

The masks used are WILSON FULL FACE masks with R-21 filters and R-10 dust filters. These were recommended to Neil by Bob Simmons.

5. I am still reviewing the JONES-HAMILTON instructions - some of which (CCA) are attached. These were written in 1976-77.

John D. Palmer

JDP/pa

61

REV. 5 100M 9-80

EXHIBIT A

PROCEDURE FOR MIXING A WOLMAN CCA - TYPE C SOLUTION CONCENTRATE (WOLMANAC)

The concentrate to be mixed is of the composition described in AWPA Standard P-5, Paragraph 5.1. The active ingredients shall have the following composition:

			Min.	Max.
Hexavalent chromium,	as CrO_3	47.5%	44.5%	50.5%
Copper,	as CuO	18.5%	17.0	21.0
Arsenic,	as AS_2O_5	34.0%	30.0	38.0

In actual practice, a concentrate containing the equivalent of 0.50 pounds Wolman CCA - Type C per pound will be mixed. This is referred to as a 50 percent solution.

HANDLING PRECAUTIONS:

Wolman CCA - Type C concentrate solution is an oxidizing type acid. Contact with the skin, eyes, and normal clothing must be avoided.

Anyone handling the concentrate solution, or the two acid ingredients, should wear rubber apron, rubber gloves, rubber boots, goggles, and respirator.

In case of skin contact, flush area thoroughly with water.

In case of eye contact, flush eyes with water for 15 minutes. Get medical attention.

MIXING WOLMAN CCA - TYPE C CONCENTRATE:

Wolman CCA - Type C concentrate is prepared as a 64.6 percent solution based on quantity of actual ingredients used. This is equivalent to

61

BZTO104(e)010791

a 50 percent solution, based on the salts used in the normal formulation. This solution strength is such that 100 pounds of the concentrate, having a volume of approximately 7.50 gallons at 85° F, is equivalent to 50 pounds of 100 percent Wolman CCA - Type C salts.

The formulation of the 64.6 percent concentrate is as follows:

28.0 percent - 75% arsenic acid (H_3AsO_4)
23.7 percent - Chromic acid (CrO_3)
12.9 percent - Basic Copper Carbonate ($CuCO_3 \cdot Cu(OH)_2$)
35.4 percent - water
100.0 percent

Copper oxide per attached specification can be used in place of the Copper Carbonate. In this case, the formulation is as follows:

28.0% - 75% arsenic acid (H_3AsO_4)
23.7% - Chromic Acid (CrO_3)
9.5% - Copper Oxide (CuO)
38.8% - Water
100.0%

The arsenic acid percentage and the water percentage must be changed if the arsenic acid purchased is other than 75 percent H_3AsO_4 (actual concentration shows on supplier's delivery slip). The formula is adjusted as follows:

$$\text{Percent arsenic acid} = 28.0 \times \frac{75}{\text{concentration of acid received}}$$

Percent water = 100 - total percentage of other ingredients after correcting arsenic acid percentage

To manufacture Wolman CCA - Type C concentrate, determine first how many pounds of 50 percent Wolman CCA - Type C salts is desired.

Calculate the pounds of each ingredient required by multiplying the total pounds of actual concentrate desired by the percentages listed above.

BZTO104(e)010792

Convert pounds of water required to gallons by dividing by 8.328 and add 75-80% of this quantity of water to the mix tank. Add calculated amount of Arsenic Acid with agitation.

Dissolve the required pounds of chromic acid (see attached specification) in the arsenic acid. The temperature will rise during addition of the chromic acid. Note the maximum temperature reached and do not add copper carbonate until temperature drops 10 to 15 degrees. When all of the chromic acid is dissolved, as indicated by the temperature drop, add the required amount of copper carbonate slowly. The temperature of the solution will again rise and carbon dioxide gas will be given off causing some foaming. Thus, it is necessary that the copper carbonate be added slowly. Copper oxide will not give off carbon dioxide but it too should be added slowly.

Stir until all chemicals are dissolved. This will require 6 to 12 hours. Copper oxide dissolves slowly so a minimum of 12 hours' stirring should be used.

ANALYSIS AND ADJUSTMENT:

When all the salt is dissolved, sample the solution for analysis.

The desired composition and allowable tolerances of Wolman CCA - Type C concentrate are shown below:

Chemical	Desired Concentration %	Limitations Not less than %	Limitations Not more than - %
Chromium, calculated as CrO_3	23.7	22.3	25.2
Copper, calculated as CuO	9.3	8.5	10.5
Arsenic, calculated as As_2O_5	17.5	15.0	19.0
Total	50.5	50.0	51.0

61

If any of the ingredients (including water) are outside the limits specified above, the solution must be adjusted according to the following procedure:

1. Calculate the total pounds of solution in the tank by multiplying the gallons by 8.328, and the product obtained by the specific gravity at the solution temperature prevailing at the time the tank is measured. (Take hydrometer and jar to the tank and determine specific gravity on the spot.)

2. Calculate the pounds of each ingredient present (including water) by multiplying the total pounds of solution by the percentage of each ingredient as shown by the analysis.

3. Note which ingredient has a concentration by analysis which exceeds the desired concentration by the greatest amount.

4. Divide the total pounds of this ingredient which is present by the desired concentration (percentage) for this ingredient. This gives a new total pounds of solution which must result in order to get the solution to proper concentration and balance.

5. Multiply the new total pounds of solution by the desired percentage of each ingredient to find the total pounds of each ingredient which must be in the adjusted solution. Subtract from these amounts the pounds of each ingredient already present (as calculated in No. 2 above) to find how many more pounds of each ingredient must be added.

6. Multiply the pounds of each ingredient to be added by the percentage of the material added to make the 64.6 percent concentrate (Page 1).

BZTO104(e)010794

and divide by the desired concentration of the ingredient (Page 2), i.e., 1 lb. A_2O_5 x .28/.175 = 1.6 lb. 75% H_3AsO_4 to be added.

Example: Solution analyzes 25.3% CrO_3, 9.6% CuO, 19.8% As_2O_5 and (by difference) 45.3% water.

Tank contains 3,000 gallons and specific gravity is 1.95 at the temperature of solution when tank was measured.

How many pounds of each ingredient must be added to bring solution to proper concentration and balance?

1. Calculate total pounds solution in tank:

   3,000 x 1.95 x 8.328 = 48,720 pounds.

2. Calculate pounds of each ingredient percent:

CrO_3	=	.253 x 48,720 = 12,326 pounds
CuO	=	.096 x 48,720 = 4,677 pounds
As_2O_5	=	.198 x 48,720 = 9,646 pounds
Water	=	.453 x 48,720 = 22,070 pounds

3. Determine which ingredient exceeds desired concentration by greatest amount:

Chemical	Desired Concentration Percent	Concentration by analysis Percent	Difference Percent
CrO_3	23.7	25.3	+ 1.6
CuO	9.3	9.6	0.3
As_2O_5	17.5	19.8	+ 2.3 *

4. * Based on this ingredient -- arsenic acid -- calculate total pounds of solution required:

   9.646/.175 = 55,120 lbs.

61

BZTO104(e)010795

5. Calculate total pounds of each ingredient required, and amounts which must be added to that which is already in the solution:

Chemical	Desired Concentration	Pounds Required	Pounds in Solution	Pounds to be added
CrO_3	.237 x 55,120 =	13,063	- 12,326 =	737
CuO	.093 x 55,120 =	5,126	- 4,677 =	449
As_2O_5	.175 x 55,120 =	9,646	- 9,646 =	0
Water (by difference)		27,285	22,072	5,213

6.

737 lbs. CrO_3 to be added x .237/.237 = 737 lbs. CrO_3
449 lbs. CuO^3 to be added x .129/.093 = 622 lbs. Copper Carbonate
0 lbs. As_2O_5 to be added x .28/.175 = 0 lbs. 75% H_3AsO_4

IDENTIFICATION, SAMPLES AND RECORDS:

Each mix of Wolman CCA - Type C concentrate shall be identified by a lot number starting with lot No. 1. It shall be referred to in all correspondence regarding a given lot, including shipping notices and invoices.

Two 4-ounce samples of each lot shipped shall be taken. Each sample shall be clearly identified as to the lot number, the analyses determined at the plant, and the date on which the lot was manufactured. The first sample shall be reserved at the plant as a file sample. The second sample shall be forwarded to the Product Development Department, Koppers Company, Inc., P. O. Box 107, Orrville, Ohio 44667. File samples shall be held for a period of one year.

A complete record form shall be maintained for each lot. This form shall include the calculations made for the mixing of the lot, the inventory of chemicals on hand before and after mixing, the analysis of

BZTO104(e)010796

the lot, the pounds of concentrate actually mixed as determined by volume and specific gravity measurements, the pounds of active ingredients in the concentrate as determined from the above and the analyses, and the purchasers to whom the lot was shipped.

Factors: % Copper Carbonate x .7196 = % copper oxide.
% 75% H_3AsO_4 x .6072 = % As_2O_5.

BZTO104(e)010797

HANDLING OF CHEMICALS

GENERAL

1. Only employees that have been thoroughly trained shall be allowed to handle and mix dry powder preservatives and chemicals.

2. Adequate personal protective equipment shall be worn to prevent inhalation and contact with the skin.

3. All precautions issued by the chemical manufacturer or supplier shall be posted near the point of use and shall be strictly followed.

4. All spills shall be promptly cleaned up.

5. The containers shall be properly disposed of in an approved manner.

6. The employee shall wash thoroughly before he eats, smokes or uses the rest room.

7. The supervisor shall encourage the employees to exercise a great degree of personal hygiene up to and including a shower at the end of the shift or job.

SPECIFIC CHEMICAL HANDLING

Safety Data Sheets

Each location shall have in a file, the Safety Data Sheets of all chemicals that are used. The Safety Data Sheet should be requested from the source of the chemicals. The file will be of aid in an emergency as it is not possible to list all chemicals used by all locations in this manual.

Oil-Penta

1. **Fire Hazards:** This solution will burn if exposed to an open flame. Tanks or lines must be thoroughly cleaned before burning or welding may take place. Clean up spills promptly and observe good housekeeping practices.

   The location and operation of fire fighting equipment should be known to all employees. Definite procedures to be followed in case of a fire should be prepared and posted.

2. **Personnel Hazards:** Oil Penta will cause skin irritation on contact. Oil-Penta solutions are more hazardous than penta alone.

3. **Protective Equipment:** Wear rubber gloves and goggles when handling Oil-Penta solutions. Rubber overshoes should be worn when foot contamination is possible.

4. **First Aid:** Eye Contact: Flush the eye with water and see a physician immediately.

   Skin Contact: Wash the affected area with soap and water. Launder clothing before re-use. Discard contaminated shoes.

   See Pentachlorophenol.

BZTO104(e)010798

Pentachlorophenol (Penta)

1. **Fire Hazards:** None

2. **Personnel Hazards:**
   A. *Do not swallow.* Penta should not be taken internally. If it is accidentally swallowed, either as a solid or in solution, vomiting should be induced by administration of mustard and water, or other emetic, and a physician should be called.
   B. *Protect eyes, nose, throat.* Penta dust is irritating to the mucous membranes of the eyes, nose and throat. It may provide violent sneezing and coughing when inhaled. For prolonged exposure to the dust, a respirator or a folded gauze should be worn over the nose and mouth. The eyes should be protected by goggles. Indoors a forced-draft ventilating system is highly desirable. The worker should be taught to wash his face and hands promptly of any penta dust since this might later find its way into sensitive regions such as the eyes, or be absorbed by the skin.
   C. *Do not inhale vapors.* Penta formulations should not be breathed or allowed to contact mucous membranes of the eyes, nose, throat or skin. Where formulations are being used in weed control work, for example, the worker's respiratory system should be fully protected from inhalation of the spray and his body protected with suitable clothing.
   D. *Avoid skin contact.* Both the solid penta and its solutions are irritating to the skin of most individuals. They may be absorbed if contact is prolonged beyond five to ten minutes, or if repeated contacts occur for shorter periods.

3. **Protective Equipment:** Wear gloves whenever handling penta, penta solutions or penta treated wood. Wear goggles whenever there is the possibility of penta or penta solutions coming in contact with the eye. Wear a face mask when handling dry penta to prevent inhalation of the dust.

   Wear protective garments and accessories. Clothing which becomes wet with penta preparations should be promptly changed for clean items since skin absorption can take place even from diluted solutions.

   Finally, washing with soap and water should be routine practice before eating, drinking or smoking and at the close of the working period. The secret of safe handling of penta preparations is simply to avoid direct physical contact.

4. **First Aid:** For external exposure, wash affected area with soap and water. For internal exposure, induce vomiting if conscious. Contact a physician at once.

BZTO104(e)010799

KOPPERS

Interoffice Correspondence

OCT 14 1981
CHASING

To John D. Palmer

Location St. Louis, MO

Subject TIME OIL COMPANY

From K. E. Cogan

Location Conley, GA

Date October 12, 1981

I have reviewed the Time Oil Company contract that was attached to Don Marion's memo of October 5, 1981 to you, and I have several questions concerning provisions of that contract.

In the original agreement on Page 7, paragraph 12, it was indicated that the customer would be responsible for any damages resulting from the storage and/or handling of injurious materials above and beyond those specified in the agreement. Over the years, have we had them blend any item not specifically covered in the agreement or in the amended schedule? In case we decide not to use Time Oil in the future, we do not want to be liable for clean-up of their equipment.

In the agreement it states they will blend our products according to our written instructions. Have we reviewed these written instructions lately? I think it would be worthwhile to update our written instructions including references to safe-handling of these materials. Lee Allison should review the written instructions to assure that the safety aspects are covered and Legal should review and comment on the instructions, also.

In the amended schedule on page 3, second to the last paragraph, it states that disposal of waste will be at the customer's account but subject to the customer's prior approval. Does Time Oil have hazardous waste that must be disposed of? If so, do we know what our liability is and is that material being handled properly?

In a Time Oil inter-office memo dated January 22, 1981, a paragraph indicates they are wearing full-face masks, respirator, gloves and boots when making mixes and drumming our chemical; however, the last paragraph states that even with masks on, penta causes nose and eyes to run. Also, that the solvents have a very obnoxious odor and some employees complain of nausea and stomach upsets. Please contact Time Oil and determ the exact make and model of safety gear that they are wearing when making our mixes. A full-face respirator or even a half respirator of the proper design should not cause noses to run. It may be that Time Oil is not using the appropriate safety gear for blending.

61

K-5 REV 2

As part of this exercise, it would be worthwhile to review the written instructions that we have given to Jones Hamilton not only in blending our products but also in making CCA mixes.

Please let me have your comments by October 26, 1981.

K. E. Cogan

KEC:dr
cc: Don Marion
Paul Goydan

61

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110
Telephone 314-772-2200

KOPPERS

October 9, 1981

Mr. Neil Gallagher
Time Oil Co.
Portland, Oregon

Dear Neil:

Attached is the American Forest Products Co. - Prineville, Oregon order as discussed with Kathy this date. Please ship - Federal Express if not already done so, a sample of the corrected Woodtox Preprime solution for testing to St. Louis. Do not ship until we have released.

Again, thank you for your assistance.

Sincerely yours,

John Palmer
Operations Manager

JDP/pa

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110
Telephone 314-772-2200

KOPPERS

October 7, 1981

Mr. Neil Gallagher
TIME OIL COMPANY
P. O. Box 3117
12005 N. Burgard
St. Johns Station
Portland, Oregon 97203

Dear Neil:

Attached are the formulation changes for:

WOODTOX PRE-PRIME - T READY-TO-USE
WOODTOX PRE-PRIME - T CONCENTRATE

Please replace in your formulation book and destroy the present formula.

Please acknowledge the bottom of this letter and return to my attention when this has been completed.

Again, if you have any questions, please let me know.

Sincerely yours,

John

John D. Palmer
Production Manager

/pa

Attachments

cc: Mr. Ken Cogan - Conley, GA

Received 10-13-81
Neil Gallagher

BZTO104(e)010803

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110
Telephone 314-772-2200

KOPPERS

October 7, 1981

Mr. Neil Gallagher
TIME OIL COMPANY
P.O. Box 3117
12005 N. Burgard
St. Johns Station
Portland, Oregon 97203

Dear Neil:

Attached are the formulation changes for:

WOODTOX PRE-PRIME - T READY-TO-USE
WOODTOX PRE-PRIME - T CONCENTRATE

Please replace in your formulation book and destroy the present formula.

Please acknowledge the bottom of this letter and return to my attention when this has been completed.

Agai n, if you have any questions, please let me know.

Sincerely yours,

John D. Palmer
Production Manager

/pa

Attachments

cc: Mr. Ken Cogan - Conley, GA

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox Pre-Prime RTU - T Lab. Book No. _____ Date September 20, 1981

Made for Portland, Oregon (Time Oil) Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.20	.335	Penta	15.54			
0.75	.100	Paraffin Wax	7.5			
15.00	2.098	Oxo Bottoms	7.15			
0.50	.063	Nalco 6SJ 743 (6RJ 947)	7.9			
78.55	12.048	Mineral Spirits (Quick Dry)	6.52			
100.0	14.644		6.829			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

1. Charge Blender with oxo bottoms Nalco and 1/3 of the mineral spirits.
2. Heat to 170°F and agitate while adding wax and penta
3. Continue mixing until dissolved but heat and add remaining mineral spirits and mix unhomogenous.
4. Mail sample to St. Louis.

1000 gallon batch

#	gallon	
360		Penta
52		Wax
1024	143	Oxo
34	4.3	Nalco
5364	823	Mineral Spirits

DISTRIBUTION: Sales Dept. . . . . Tech. Svc. . . . . Plant Mgr. . . . . Plant . . . . . Office Mgr. . . . . Purch. . . . . Safe File . . . . . Lab Group . . . . . Other . . . . .

BZTO104(e)010805

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox Preprime Conc. T Lab. Book No. _____ Date September 20, 1981

Made for Time - Portland, Oregon Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.50	1.448	Penta	15.54			
3.25	.433	125 mp Paraffin Wax	7.5			
64.95	9.122	Oxo Bottoms	7.15			
4.00	.545	KB-3	7.34			
2.00	.253	Nalco 6SJ 743	7.9			
3.30	.506	Mineral Spirits (Quick Dry)	6.52			
100.0	12.307		8.13			

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Blending Procedures.

1. Meter in oxo bottoms, KB-3, and mineral spirits and Nalco
2. Heat to 180°F and circulate
3. Add wax and penta and continue circulation until completely dissolved.
4. Sample and sent to St. Louis.

1000 gallon batch

#	gallon	
1829		Penta
264		Wax
5280	728.5	Oxo Bottoms
325	45	KB-3
162.6	20.5	Nalco
268	41	Mineral Spirits

DISTRIBUTION: Sales Dept. . . . . Tech. Svc. . . . . Plant Mgr. . . . . Plant . . . . . Office Mgr. . . . . Purch. . . . . Safe File . . . . . Lab Group . . . . . Other . . . . .

BZTO104(e)010806

October 5, 1981

Time Oil Company
P. O. Box 03117
12005 N. Burgard St.
Portland, OR 97203

Attention: Mr. Neil Gallagher

Dear Neil:

I would like to take this opportunity on behalf of myself and Koppers Company, Inc. to thank you for the blending facility tour and discussions regarding the blending of wood treating chemicals for our St. Louis operation. The discussions were extremely informative and very enjoyable. I look forward to hearing from your people in the near future. In the meantime, if there is anything you need or would like to discuss further, please call.

Again, my sincere thanks for making my visit so enjoyable and informative. I look forward to a long business relationship between our two fine companies.

Sincerely yours,

Donald F. Marion
Manager, Raw Materials
Specialty Wood Chemicals Division

DFM/hls

61

K. E. Cogan
Conley, GA

KOPPERS

Interoffice Correspondence

To John D. Palmer

Location St. Louis, MO

Subject Time Oil Company
Visit - September 28, 1981 and
September 30, 1981

From Donald F. Marion

Location K-801

Date October 5, 1981

On Monday, September 28, 1981, I visited with Mr. Robert Abendroth and Mr. Neil Wallis of Time Oil Company in Seattle, Washington and on Wednesday, September 30, 1981, visited with Mr. Wallis and Mr. Neil Gallagher at the Time Oil Company blending facility in Portland, Oregon. During my visit to Seattle, we thoroughly reviewed the 1967 contract which has been renewed for five (5) year increments thru March 31, 1982. Mr. Abendroth indicated that they still would be interested in pursuing a new agreement, but due to the current average labor cost of $16.04 per hour and the environmental impact, they would have to review their entire economic basis for a new agreement. Attached for your review are two (2) memorandums that were given to me by Mr. Abendroth. These detail the concerns of Mr. Neil Gallagher and Mr. John Denham and are an indication of the needed upgrading prior to pursuing a new agreement.

In order to maintain your files up to date, I have also enclosed a copy of the amended and original agreement and a copy of plot plan 1356.

I am confident that Mr. Abendroth and Mr. Wallis will be able to put together an agreement for 1982. However, I am concerned about how expensive this new contract will be. I believe that we should seriously consider obtaining one or two additional proposals in light of our March 31, 1982 deadline. We would then be in a position to evaluate the entire situation well in advance of this deadline. After you have had an opportunity to review the attached information, let's discuss our approach for the next few months.

Donald F. Marion

DFM/hls

cc: J. D. Hite
K. E. Cogan
P. A. Goydan

Q3
- Do we instruct how to mix?
- Do we recommend safety gear?
- Who is responsible for medical inspection?
- How are hazardous wastes handled?

63

K43-REV. 5 100M 9-80

BZTO104(e)010808

From the desk of

PAUL A. GOYDAN

J. Hite
K. Cogan

These deficiencies @ Time will cost us a bundle of $.
I believe we will be better off trying to sell the TANKS & equipment to Time & seek another blender who will Toll for us with their EQuipment & Maintain the Environmental & Health aspects.
We can't Monitor our Investment setting in Pittsburgh or St Louis or Be Responsible for Maintance PAG

RECEIVED OCT 18 1991

M E M O R A N D U M

August 27,1981

TO: R.D. Abendroth Seattle

FROM: John Denham Seattle

SUBJECT: WOOD TREATING (KOPPERS COMPANY)

Reference last sentence of my August 17,1981 memo, copy attached.

My August 21,1981 inspection of this operation revealed the following deficiencies:

A. TANK FARM OUTSIDE WAREHOUSE

1. Tanks 20001 and 13001 are too close to warehouse. (relocation needed to distance at least five feet from building)

2. Tanks are rusted in many places. (cleaning and painting white needed)

3. No stairways, railings or walkways exist on horizontal tanks 3010, 6008, 8005, 8006 and 8007. (installation needed)

4. No ladder cages exist on tanks 20002, 20003, and 38009. Walkways and railings are damaged, missing or improper. (installation needed)

5. Several heating coils in 1400 gallon heating tank under platform do not work. (replacement needed)

6. Deck atop 1400 gallon heating tank is damaged, unsafe to walk on and permits vapors from this volatile mixture to readily escape into working area. (new metal deck needed)

7. No suction pipelines or manifold exist at rail car siding for unloading purposes. (installation needed)

8. No manifold system exists on incoming product lines for receipt, blending or storage purposes. (manifold needed)

9. Valves on tanks and lines are not maintained at all. (repair and testing or replacement needed)

63

10. Valves, lines, pumps, hoses and tanks (in some places) are thickly covered with product. (steam cleaning badly needed)

11. Several valves in system are not chained and locked. (installation needed)

12. Valve at end of isolated line to tank 38009 is leaking product onto ground. (replacement valve needed)

13. Pipeline supports are improper and inadequate. (replacement needed)

14. Pipelines are not painted or identified as to product content. (maintenance needed)

15. Product identification is not on all tanks. (signs needed)

16. Ground area at end of pipelines is saturated with product about four inches deep. (dirt removal and replacement needed)

17. Pump journal cover is not secured to pump. (four sheetmetal screws needed)

18. Cargo hoses are not marked or recorded to show condition, manufacturer, dates inspected or pressure tested. Some are damaged. (repair and recording needed)

19. Weeds are prevalent in quantity within diked compound. Good fire hazard. (weed removal needed)

20. Rail car siding wheel bumpers are not fastened to track. (repair needed)

21. Fire extinguisher on platform by 1400 gallon heating tank is not tagged, has not been inspected for operational capability and is fixed so it can not work, even if needed. (replacement system needed)

22. No spill control system exists at rail car rack or within diked area. One was recommended in 1975, copy attached, but apparently not approved by management. (installation needed)

B. INSIDE WAREHOUSE

1. Operation is not isolated. Fumes generated during process can readily enter lube oil warehousing area and overcome any individual not wearing appropriate respiratory equipment. (wall needed in warehouse to isolate operation)

BZTO104(e)010811

2. Ventilation inadequate even with doors open. (installation of three - four foot sucker fans needed - one in south wall, one in east wall and one over 1400 gallon heating tank)

3. No spill control system exists in building. Now liquid can run all over area and out of doors at will. (floor sloping and drain installation needed)

4. Four ceiling joists are damaged severely from fork lift operation. (repair and/or replacement beams needed)

5. No clearance signs exist on beams to alert fork lift operators. (signs needed)

6. Lighting is inadequate for the work. Several bulbs are out but even with all lights on, only one candle power was recorded during middle of the day bright daylight. (additional lighting to a minimum of five foot candles needed. An assist to this would be to paint ceiling white)

7. Work area is caked with product and very very dirty. (steam cleaning needed badly)

8. Small floor fan thickly covered with product. Fire hazard. (cleaning needed)

9. No emergency deluge shower exists. Material handled can be injurious. (shower would help. Eyewash should be included on such a permanent hookup)

Nearly all of these deficiencies have been reported previously.

JPD/mm

Attachments

WOOD TREATING

Modifications needed per Neil Wallis and Neil Gallagher 8/18/81.

a. Outside

✓1. Install fixed manifold system.

✓2. (Repair) or replace existing valves.

✓3. Install spill control system. (within warehouse)

✓4. Install ladders and walkways on horizontal tanks 3010, 6008, 8005, 8006 and 8007.

this-20Ft ✓5. Install cages on tanks 20002, 20003, and 38009.
NO COST. YET.

ELECTRICAL (6). Replace 2 or 3 heating coils in heating tanks.

✓7. Install pipe suction lines (in lieu of hoses) at rail car siding.

b. Inside Warehouse

✓1. Install shower and fixed water system eyewash.

NO ELECTRICAL (2). Improve lighting.

✓3. corrected Repair 2 ceiling joists and replace 2 ceiling joists.

✓4. Install spill collection system.

✓5. Install ventilation.

Est Cost - $25,000 / 36 = $695 - basic
plus interest cost

61

TANKS

1 mineral Spirits tank	40 M
1 core tank	15 M
1 Finished Prod	10 M
1 Meter	
1 mix pump	
1 loading pump	

BZTO104(e)010814

Time Oil tank Cleanout

Crosby & Overton 503-283-1150
Bob Olsen

will visit 5/26 & call thurs or Friday

BZTO104(e)010815

POWER MASTER 503-257-8801

Geo. DODSON = they have Vacuum Eqpt

They will check with D Wallace @ Time oil

Can't load on Time & Material basis
(have cleaned Shell Crude Oil tanks)

$145/hr for big truck extra man $16.50/HR
Truck + helper

~~16 yd~~

9 yd truck $109/HR

Ken Davies will have Geo call back
Wed

A. J. Zinda Co. 503-226-7341

Gina Tenney

M E M O R A N D U M

August 27,1981

TO: R.D. Abendroth Seattle

FROM: John Denham Time Safety Man Seattle

SUBJECT: WOOD TREATING (KOPPERS COMPANY)

Reference last sentence of my August 17,1981 memo, copy attached.

My August 21,1981 inspection of this operation revealed the following deficiencies:

A. TANK FARM OUTSIDE WAREHOUSE

1. Tanks 20001 and 13001 are too close to warehouse. (relocation needed to distance at least five feet from building)

2. Tanks are rusted in many places. (cleaning and painting white needed)

3. No stairways, railings or walkways exist on horizontal tanks 3010, 6008, 8005, 8006 and 8007. (installation needed)

4. No ladder cages exist on tanks 20002, 20003, and 38009. Walkways and railings are damaged, missing or improper. (installation needed)

5. Several heating coils in 1400 gallon heating tank under platform do not work. (replacement needed)

6. Deck atop 1400 gallon heating tank is damaged, unsafe to walk on and permits vapors from this volatile mixture to readily escape into working area. (new metal deck needed)

7. No suction pipelines or manifold exist at rail car siding for unloading purposes. (installation needed)

8. No manifold system exists on incoming product lines for receipt, blending or storage purposes. (manifold needed)

9. Valves on tanks and lines are not maintained at all. (repair and testing or replacement needed)

10. Valves, lines, pumps, hoses and tanks (in some places) are thickly covered with product. (steam cleaning badly needed)

11. Several valves in system are not chained and locked. (installation needed)

12. Valve at end of isolated line to tank 38009 is leaking product onto ground. (replacement valve needed)

13. Pipeline supports are improper and inadequate. (replacement needed)

14. Pipelines are not painted or identified as to product content. (maintenance needed)

15. Product identification is not on all tanks. (signs needed)

16. Ground area at end of pipelines is saturated with product about four inches deep. (dirt removal and replacement needed)

17. Pump journal cover is not secured to pump. (four sheetmetal screws needed)

18. Cargo hoses are not marked or recorded to show condition, manufacturer, dates inspected or pressure tested. Some are damaged. (repair and recording needed)

19. Weeds are prevalent in quantity within diked compound. Good fire hazard. (weed removal needed)

20. Rail car siding wheel bumpers are not fastened to track. (repair needed)

21. Fire extinguisher on platform by 1400 gallon heating tank is not tagged, has not been inspected for operational capability and is fixed so it can not work, even if needed. (replacement system needed)

22. No spill control system exists at rail car rack or within diked area. One was recommended in 1975, copy attached, but apparently not approved by management. (installation needed)

B. INSIDE WAREHOUSE

1. Operation is not isolated. Fumes generated during process can readily enter lube oil warehousing area and overcome any individual not wearing appropriate respiratory equipment. (wall needed in warehouse to isolate operation)

BZTO104(e)010819

2. Ventilation inadequate even with doors open. (installation of three - four foot sucker fans needed - one in south wall, one in east wall and one over 1400 gallon heating tank)

3. No spill control system exists in building. Now liquid can run all over area and out of doors at will. (floor sloping and drain installation needed)

4. Four ceiling joists are damaged severely from fork lift operation. (repair and/or replacement beams needed)

5. No clearance signs exist on beams to alert fork lift operators. (signs needed)

6. Lighting is inadequate for the work. Several bulbs are out but even with all lights on, only one candle power was recorded during middle of the day bright daylight. (additional lighting to a minimum of five foot candles needed. An assist to this would be to paint ceiling white)

7. Work area is caked with product and very very dirty. (steam cleaning needed badly)

8. Small floor fan thickly covered with product. Fire hazard. (cleaning needed)

9. No emergency deluge shower exists. Material handled can be injurious. (shower would help. Eyewash should be included on such a permanent hookup)

Nearly all of these deficiencies have been reported previously.

JPD/mm

Attachments

KOPPERS

Interoffice Correspondence

To SEE BELOW

From W. J. Baldwin

Location --

Location K-700

Subject WOODTOX 140T RTU

Date April 27, 1981

TO: R. D. Arsenault
P. A. Goydan
~~R. F. Simmons~~
P. Armbruster
J. D. Palmer
J. S. Sebbens
C. W. Flickinger
M. S. Marino
W. H. Lederer

Due to a recent request for a Material Safety Data Sheet on subject product and the length of time since its last review, the literature has been revised.

Please destroy the sheets dated September, 1975 and May, 1977--replace with the attached.

Bill B.

W. J. Baldwin

WJB:dsg
Attachment

Mr. Neil Gallagher
Time Oil Company
P. O. Box 03117
Portland, Oregon 97203

Attached is a copy of our new APRIL 1981 MSDS on WOODTOX 140 T Ready-to-Use - made at your Portland Blending facility. Please replace this copy in your files and discard sheets as dated above.

FILE

John D. Palmer
Plant Manager
St. Louis, Missouri -
Koppers Company, Inc.

April 29, 1981

KOPPERS

Interoffice Correspondence

To R. F. Simmons

Location FPG-St. Louis, MO

Subject Operating agreement and lease of tanks - Portland, Oregon

From Real Estate Section

Location Pittsburgh

Date February 3, 1981

The attached letter dated January 30, 1981 covers the captioned subject. We presume that your office will negotiate the new agreement.

Mac

T. F. McGuire

TFM/smk
Attachment

K-5 REV 2

BZTO104(e)010822

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PHONE 285-2400
CABLE ADDRESS: TIMOIL

~~PWE~~ ~~TEB~~ TFM MAP

FEB 3 1981

BAK SAF FILE

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

Mac
Is Simmons to negotiate with Time?
B.

January 30, 1981

T. F. McGuire
Koppers Company
Room 2900, Koppers Building
Pittsburg, PA 15219

Dear Mr. McGuire:

Enclosed is a copy of a letter to your Mr. Simmons date January 28, 1981 advising of our election to terminate the agreement of March 1st, 1967 under which we have been storing, blending and sipping certain products of yours at our Portland, Oregon terminal.

Should you desire to discuss a new agreement with us I suggest you contact Robt. Ab endroth at this office.

Your very truly,

TIME OIL CO.

A. A. Schneider
Vice-President

BZTO104(e)010823

Don Marion FEB 05 1981
Don I thought this might be of value as Background. I've held it in my files.
Paul Gordon

KOPPERS

Interoffice Correspondence

To J. D. Hite PMB

Location K-1001

Subject Portland Blender Contract

From R. F. Simmons

Location St. Louis, MO.

Date February 2, 1981

Please review copy of the attached blending contract with Time Oil Company and note that the contract would automatically renew at the end of February 1982 for another five years term unless either We or Time Oil advised the other party a year in advance desire to discontinue the agreement. Mac McQuire from Real Estate called to remind us of this two weeks ago, then last week Al Schneider of Time called to advise he was writing the letter attached, citing their increased costs which they can't cover under terms of the contract and their increasing environmental concern.

For some time, Time's Portland manager Neil Gallagher has been telling me that he is having problems keeping employees to work on our production because of continuing bad publicity that penta is receiving in the area.

While we never will have such low blender costs again as we have enjoyed with Time, I have asked Mac McQuire to explore in writing with Time how they might reconsider blending for us although I believe Time will reply that they want to discontinue our blending permanently Feb. 28, 1982.

We do have three thoughts for blender replacement if needed but would like your direction and comment. Several times in the past few years, Preistly Oil, a local Portland petroleum product distributor inquired about blending. Hank Tobey of Zehrung has also indicated an inclination for closer relationship. And, our third possibility possibly could be our present mineral spirits source, Lilyblad Petroleum of Tacoma. With declining volume experienced at Portland in the last few years, prospects for double, triple or quadruple blending costs, and costs associated with moving, we must consider our alternatives carefully.

Bob Simmons

R. F. Simmons

61

RFS/pds
Attachments

RECEIVED
JUL 1 1981
Purchasing 801

K43-REV. 5 100M 8-79

BZTO104(e)010824

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

January 28, 1981

Wood Treating Chemicals Dept.
Koppers Company
5137 Southwest Ave.
St. Louis, Missouri 63110

Attention: Mr. Robt. F. Simmons

Gentlemen:

Under date of March 1st, 1967 we entered into an Agreement with you to provide certain labor and services to receive, store, handle, blend and redeliver certain products of yours at our Portland, Oregon terminal.

The term of said agreement ran from April 1, 1967 to March 31, 1972 and automatically renewed for two additonal terms of five years each, the present term expiring March 31, 1982.

As discussed with you on the phone this date, we are hereby giving you notice of our election to terminate said Agreement effective March 31, 1982.

Very truly yours,

TIME OIL CO.

A. A. Schneider
Vice-President

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

BZTO104(e)010825

PHONE 286-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION, PORTLAND, OREGON 97203

January 20, 1981

Mr. R. F. Simmons
Koppers Company, Inc.
Wood Treating Chemicals Dept.
5137 Southwest Avenue
St. Louis, Mo. 63110

Dear Bob:

The blending and drum filling charges on your invoices starting January 1, 1981 will be increased by 10.31%. This is due to the fact that our average wage rates have increased since the last increase was put into effect December 1. 1978.

Our average wage rate is now $9.17 per hour.

Paragraph 9c reads, "If Average Wage rates exceeds $3.875 per hour the handling and transfer charges shall be increased by a percentage equal to 25% of that percent of $3.875 which the excess of the average wage rate constitutes."

25% of $\frac{9.17 - 3.875}{3.875}$ equals 34.15%

We made an increase of 23.84% since the beginning of the contract, this percentage deducted from 34.15% give the present incfease of 10.31%.

Yours very truly,

Newton P Lesh

Newton P. Lesh

NPL/s

(2626)

MAC McQUIRE CALLED 1/21 TO ADVISE AGREEMENT EXP 2/28/82

AL SCHNEIDER CALLED 1/28. (FROM SEATTLE) TO SAY TIME WANTS TO CANCEL AT EXP. BASICALLY DUE TO PRICING.

McQUIRE ADVISED I TO WRITE LTR REQUESTING CONSIDERATION NEW CONTRACT.

BZTO104(e)010826

M E M O R A N D U M

TO: R. D. Abendroth - Seattle v-p. operations
N. P. Leah (info)- Portland

DATE: January 22, 1981

FROM: Neil Gallagher of Time - Portland Production

Neil Wallis - Plant Mgr. Port.
John Denham - Safety Mgr. Seattl
Fred Kelly

SUBJECT: Woodtreating Chemicals (Koppers Company)

Woodtreating has leased since 1967 the Southwest half of what was formerly the TBA Tire Warehouse. Time Oil leases the facility to them and bills them for Handling Charge. The facilities consist of Warehouse space, one 38,000 tank, three 20,000 gallon tanks, one 13,000 tank, one 7,000 gallon tank, one 1,400 gallon heating tank, one 5 HP Motor and 2-1/2 x 3" Gilbarco positive suction pump. In addition, Woodtreating purchased and we installed three 8,000 gallon tanks, one 6,000 gallon and one 3,000 gallon. The tanks are used for raw materials, such as three different solvents, and finished products for shipping. All the tanks are manifolded to a central location and hoses are used for transferring and moving all the products. The heating tank is equipped with four 480V - 115 15W x 12' heating coils. Woodtreating sends in by tank car and by truck, all the raw materials. All products going out go in either bulk truck and trailer or in 55 gallon drums. Formulas are furnished to Time Oil Company by Woodtreating from their main office in St. Louis, Missouri. The finished products are in two different categories. LST Type, that is the lighter product, and Concentrates that are heavier and are usually put in drums.

To mix the raw materials a formulated amount (see attached formula sheet) is charged to the heating tank. The heating coils can be turned on manually or by a timed control switch. Normally the timer is set to come on at 1:00 A.M. or 2:00 A.M. in the morning and the products are hot enough to mix at 7:00 A.M., and if needed the tank is charged again and the heat turned on manually. This way two batches can be made up in one eight hour day. To mix a 30" x 4' a 80 mesh screen is placed in the top opening of the heating tank and the hot material is rotated from the bottom of the heating tank and goes back down in thru the screen.

Wax that comes in 71b. slabs is broken up and melted down in the screen first. Then Penta that comes in 50 lb. bags is then poured into the screen and also dissolved. If the product is LST Type the heating tank is then pumped to one of the other tanks and more solvents are added and the product is then circulated in the tank from top to bottom for approxiamately four hours. Concentrates are either pumped into drums or pumped to a storage tank, for later shipment or drumming. It normally takes from one to two hours to add the wax and Penta, depending on consisting of the solvents and heat.

Penta is a very hazardous material and must be handled with many safety precautions. Full face masks and respirators must be worn, gloves, boots and rain gear must also be worn. It takes approxiamately two minutes to fill a 55 gallon drum and two men usually handle this operation. After filling bungs must be tightened, labels and stencils applied, and drums moved from filling area. For 10 drums the elapsed time will be close to one hour for two men. When product goes by truck and trailer, one hour is usually allowed for 7,000 gallons. The wax and Penta come into the warehouse on pallets, therefore a forklift is also an additional piece of equipment along with a floor jack and barrel trucks.

The billing consists of $615.00 per month for Facility Rental, $.0124 per gallon for LST Type of product, $.03715 per gallon for Concentrates and $.619 per gallon for filling drums, (see attached copy of billing). The average billing for the period of July 1, 1980 to December 31, 1980 has been $1,514.57, a total of 82,243 net gallons of LST Type, 45,016 gallons of Concentrates and 41,910 gallons drummed for the same period; a charge also of $.75 per drum of additive that is brought in and shipped is charged. This has been very nil for the last six months. During this same period we have received 83,482 gallons of Solvents, 1,960 bags of Penta, 10,010 lbs of wax, and 720 empty drums. All this material has to be unloaded and stored, but there is no charge for receipts.

Woodtreating is given an inventory at the end of each month (see attached copy). Due to the many different raw materials and finished product, this takes constant supervision on my part.

One pint of each batch of product mixed is mailed to St. Louis. As of January 1, 1981, a new Handling Charge will be applied (see attached copy).

All employees complain of working in this warehouse. Even with masks on, Penta causes your nose and eyes to run. The solvents have a very obnoxious odor and some employees this causes nauseau, and stomach upset.

— TIME OIL CO. —
Correspondence - 1983

BZTO104(e)010829

KOPPERS

Interoffice Correspondence

To John Palmer — From C. P. Brush

Location FPG - St.Louis — Location K-12

Subject Time Oil - Portland, Oregon Visit of December 7, 1983 — Date December 12, 1983

BACKGROUND

On December 7, 1983 I visited the above site for purposes of an environmental review of the toll production facility of Time Oil Company which has been used since 1967 to produce a Penta/oil wood preservative for Koppers. At this facility a mineral spirit (oil) arrives by tank car and is mixed with prill penta and wax to make the finished product. The penta prill comes in paper bags which are hand cut and dropped into the manhole of the mix tank. After mixing, the wood preservative is held in several small tanks for drumming or bulk shipments to Koppers' customers.

All pumping, drumming and bulk shipment of the product is handled by one pump located inside the diked area. Rubber hoses are used to connect the mix tank, storage tanks, drumming and bulk shipments with the one pump. As a consequence, each time an activity is changed, a hose is connected/disconnected from the pump and a penta/oil mixture can spills onto the ground. The bulk shipments are made by pumping to a tank truck outside the dike wall while drums are filled by bringing a hose into the building through the door. The floor of the diked area is not paved. The soil is reported to be sandy. All rainwater, spills and/or leaks have been allowed to soak into the ground or evaporate. The dike floor is at the same elevation of the surrounding yard. (37 inches of rain per year is the local rainfall).

The adjacent warehouse/production building is of metal construction with an elevated concrete floor about 5 feet above grade. Penta, wax, drums, labels and finished products are handled inside the building. Controls for the pump are also inside this building.

The morning of December 7, 1983 was about 38 degrees F and raining quite heavily at times. No odor of penta was detected, but the site Manager, Mr. Neil Wallis, indicated the odor of penta is almost always present in the blending area, and on the clothes of people who worked in the area. The site is occasionally inspected by the Oregon Department of Agriculture and Labor. The only fine to date has been for a cover on an eye wash fountain. However, the inspections (per Wallis) are generally very limited in nature.

The Time Oil site handles fuel oils, oils, alcohols, fertilizers and other bulk, liquid commodities. The site covers many acres and is about 800 yards from the Willamette River and 4000 yards from the Columbia River. The attached

BZTO104(e)010830

road map suggests that no residential areas are located near by. A USGS Topo Map will be obtained for more detail. The site is in a very large industrial complex characterized by tank farms, and large storage yards for industrial goods. The site does not have an industrial sewer. A "mechanical API separator" is used on oil spills to capture oil before the water is placed in a storm sewer. Oil recovered in this manner is sold at discount for a number of uses (i.e., not burned or used as fuel). The site has public water and a sanitary sewer which serves the office. About 20 passenger cars were inside the gate.

According to Mr. Wallis, this site has blended for Koppers since ~~1967~~ 1971. Production appears to have stopped, but a few drums of product are still in the production area. No bagged penta was in stock and tanks are empty except for a small amount of sludge. Mr. Wallis has not been at this location a long time, but he does not know of any prior tank clean-up (i.e., sludge since 1967). Empty penta bags have been disposed of in the municipal land fill along with other trash generated on site.

DISCUSSION

It appears that Bill Baldwin has had discussions with Mr. John Denham (Time Oil Safety & Environmental man - 206-285-2400) who operates out of the Seattle office of Time Oil) concerning tank clean-up, tank removal and soil sampling and possible clean-up. Mr. Wallis observed, but was not party to the clean-up discussions. He is concerned, however, about penta at the site and in the ground. Mr. Wallis did have one soil sample tested from one foot below grade inside the dike. It seemed to have been a fish bioassay and Wallis was not sure if it was the oil or penta that killed the fish. I did not get the results. At the time of inspection water and oil could be seen inside the diked area on the ground and I don't mean an oil sheen.

CONCLUSIONS

Penta and oil have been spilled and leaked onto the ground at this site for about 16 years without any apparent effort to contain or capture. With the large amount of rainfall and mild temperatures present at this location it seems reasonable at this time to be concerned with the amount of soil which may contain an unacceptable amount of penta. (The floor of the production building and the tanks represent a clean-up need that should not be difficult to handle).

The potential for a problem larger than any caused by the penta is generated by the absence of any detection system in place to monitor for general leakage in the terminal complex. It appears that many of the general tanks have been in place many years and that they are built at grade - on soil. We should also expect Oregon to require monitor wells in this terminal within the foreseeable future. I would anticipate that any investigation of the groundwater at this terminal will discover a considerable amount of hydrocarbons, alcohols and other substances handled in the past.

RECOMMENDATIONS

We are requesting Mr. Baldwin, by copy of this letter, to share with us for our review his plans for soil clean-up, tank and building clean-up procedures, and any plans for future penta blending at this site. It appears clear to me that in addition to the tanks and building clean-up, the soil within the diked area and perhaps outside the wall, contains a significant amount of penta that requires removal and proper disposal.

I also suggest that you assure yourself that the US EPA Annual Product Reports are being filed for all production at this facility. Koppers' corporate staff records do not show production records for the Portland site.

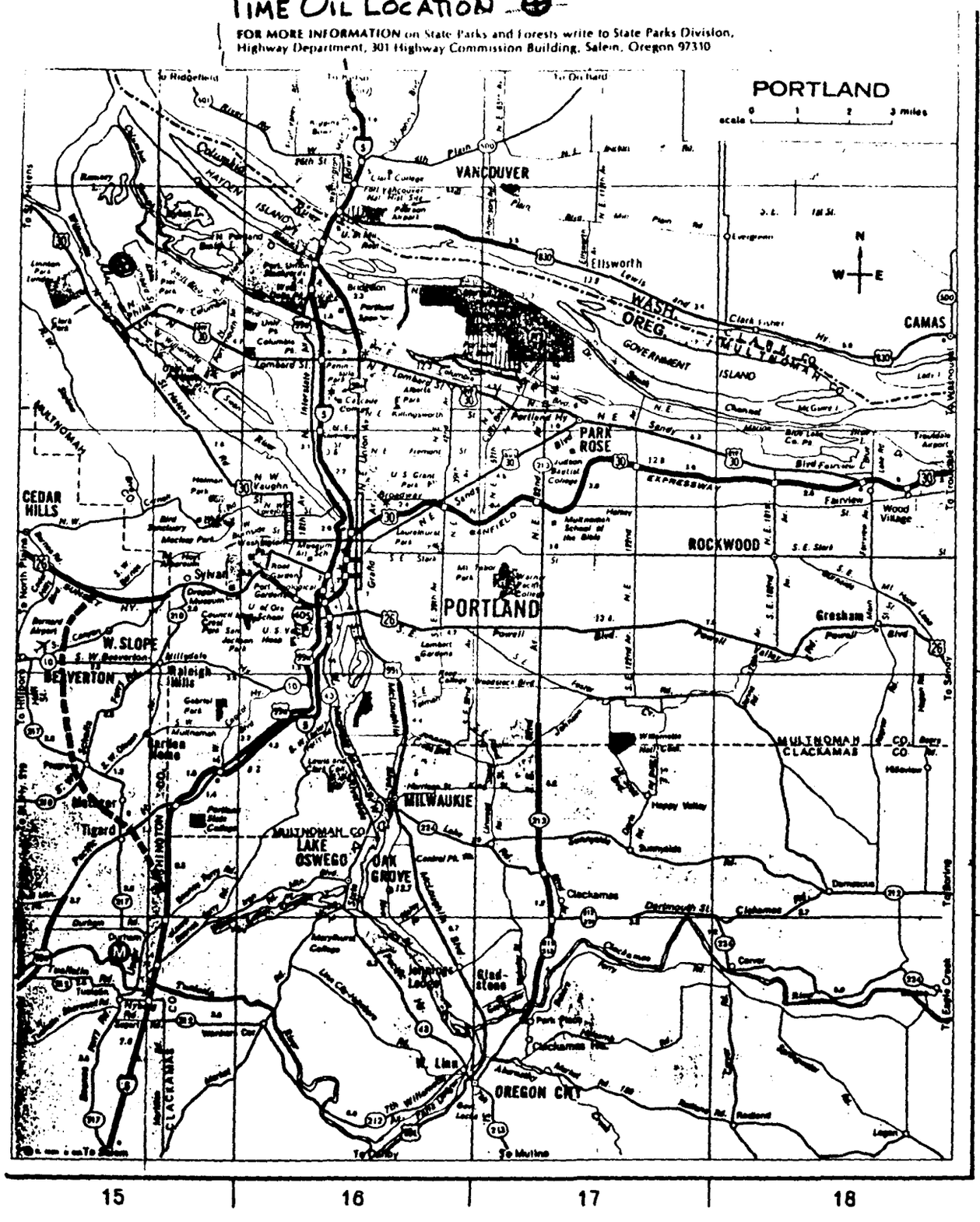
Charles P. Brush

CPB/s

cc: Wm. Baldwin
T. A. Marr
A. C. Middleton
M. S. Marino
T. F. McGuire
Steve Tomko

TIME OIL LOCATION ⊕

FOR MORE INFORMATION on State Parks and Forests write to State Parks Division, Highway Department, 301 Highway Commission Building, Salem, Oregon 97310



M E M O R A N D U M

December 27, 1983

TO: File — Seattle
Neil Wallis (info) — Portland

FROM: John Denham — Seattle

SUBJECT: EPA FORM 3540-16 PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS

About the last week of December each year, subject report is forwarded to Time Oil Co., from the EPA office in Washington, D.C., for completion and submission to the EPA Region X office in Seattle. Report pertains to woodtreating activities for Koppers Co. which were performed by Time Oil Co. in Portland during the previous year. Report comes by certified mail - return receipt requested. At year end 1983, the report was inadvertently sent to me so I attempted to find out what should be done with it. Should report ever show up again, the following will suffice to get the job done.

RECIPIENT OF REPORT

a. Make copy of blank form and its accompanying instructions. Send both to Neil Wallis in Portland.

b. Send original of blank form and its accompanying instructions to: Harold P. Struessel, Manager
Order - Billing Department
Koppers Company Inc.
Woodtreating Chemicals Department
5137 S.W. Avenue
St. Louis, MO 63110
(314-772-2200)

KOPPERS CO. (Harold P. Struessel)

a. Fill out "Pesticide Production Information" on report.

b. Send report to Neil Wallis in Portland for signature.

TIME OIL CO. (Neil E. Wallis)

a. Complete blocks 13, 14, 15 and 16.

b. Submit to:
Environmental Protection Agency
Region X, Pesticides Office
1200 6th Avenue
Seattle, WA 98101

JPD/ch

United States
Environmental Protection
Agency

Compliance Monitoring Staff
Office of Pesticides and Toxic Substances
Washington, DC 20460

Instructions for Completing:

PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS
[EPA Form 3540-16 Revised 10-81]

Requirement: Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to file a report to the Environmental Protection Agency within 30-days of initial registration and by February 1st each year thereafter. Each Establishment must report the types and amounts of Pesticides and Devices being produced, and those having been produced and sold or distributed in the past year. To comply with this requirement, each registered pesticide-producing establishment shall complete EPA Form 3540-16 and submit the original and first copy of the form to the appropriate EPA Regional Office listed on page four of this Instruction Sheet.

Warning to Producing Establishments: Failure to file the initial or annual pesticide production report is an unlawful act and will result in the termination of registration of the establishment and in possible penalties as provided for in the Statute. It is unlawful to knowingly falsify all or part of any pesticide production information reported on EPA Form 3540-16. [Section 12(a)(2)(M), 7 USC 136j]

THE PESTICIDE REPORT WILL BE TREATED AS CONFIDENTIAL

Items to be completed:

A REPORT MUST BE FILED EVEN IF THERE HAS BEEN NO PRODUCTION.
If the Establishment has no production amounts to enter in Items 24, 25, or 26, enter "NO PRODUCTION" in Item 19 for Product "A".

1-5. ESTABLISHMENT NAME AND MAILING ADDRESS: Enter the establishment name and the actual mailing address of the establishment. If preprinted, correct any errors.

6. ESTABLISHMENT DUNS NUMBER: Enter the Dun and Bradstreet Identification [DUNS] Number, if any, assigned to the establishment. If preprinted, correct any errors.

7. EPA ESTABLISHMENT NUMBER: Enter the establishment registration number assigned to the establishment. If preprinted, correct any errors.

8. ESTABLISHMENT SIC CODES: Enter 4-digit Standard Industrial Classification [SIC] Codes which describe the primary industrial functions of the establishment. If preprinted, correct any errors. [Obtain SIC codes from the Standard Industrial Classification Manual]

9-12. ESTABLISHMENT SITE ADDRESS: Enter the actual physical location address of the establishment, if it is different from the mailing address. If preprinted, correct any errors. Do not use a Post Office Box Number for the ESTABLISHMENT SITE ADDRESS.

13-14. SIGNATURE, TITLE OF ESTABLISHMENT OFFICER: Include printed name and title and the signature of the Officer or the person completing and/or approving the report.

15-16. DATE, TELEPHONE: Enter the date [mm|dd|yy] the report is signed and the complete telephone number of the Officer or the person completing and/or approving the report.

BZTO104(e)010835

ITEMS 17 THROUGH 27: Must be completed for each pesticide product, or device, produced by the establishment. Include all EPA- and State-Registered pesticides, Technical Materials or Active Ingredients, pesticides produced while Registration is pending, pesticides produced under Experimental Use Permits, and pesticides produced for Export Only. If the establishment produces products registered by other companies, the reporting establishment must include those products in its report. [A pesticide distributed under several distributor labels should be reported only as a single product rather than reported separately for each label.]

17-18. PRODUCT CODE AND PRODUCT NUMBER:

|1| If the product is registered with EPA [has a Product Registration Number] enter "1" in Item 17 and the Product Registration Number in Item 18.

|2| If the product has an EPA registration pending, enter "2" in Item 17 and the EPA File Symbol Number in Item 18.

|3| If the product has an EPA Experimental Use Permit, enter "3" in Item 17 and the EPA Experimental Use Permit Number in Item 18.

|4| If the product does not have one of the above EPA numbers, enter "4" in Item 17 and leave Item 18 blank.

For all code "4" products, attach [1] a list of the Chemical Names for each ingredient, both active and inert, used in the product and [2] the percentage, by weight, of each ingredient. [Must Total 100%]
THE CHEMICAL INGREDIENT INFORMATION WILL BE TREATED AS CONFIDENTIAL

19. PRODUCT NAME: Enter the product name exactly as it appears on the product label.

20. PRODUCT CLASSIFICATION: Enter the ONE code which best describes the product.

01 Insecticide	07 Plant Regulator
21 Insecticide - Fungicide	08 Defoliant, Dessicant
02 Fungicide	09 Disinfectant, Germicide, Sanitizer
03 Rodenticide	10 Antifouling Paint
04 Herbicide	11 Animal Repellent
44 Herbicide - Fungicide	12 Other Pesticide
05 Algaecide	13 Device
06 Nematocide	14 Water Purifier - Point of Use
	15 Water Purifier - Small System

21. PRODUCT TYPE: Enter the ONE code which describes the type of product.

|1| Enter "1" if the product is a TECHNICAL MATERIAL or ACTIVE INGREDIENT For Manufacturing Use Only. [This product is not suitable, nor is it labeled suitably, for end use applications.]

|2| Enter "2" if the product is being FORMULATED or BLENDED. [This product is suitable, and is labeled suitably, for end use applications.]

|3| Enter "3" if the product is being REPACKAGED or RELABELED. [This activity does not include any change in formula or blending.]

|4| Enter "4" if the product is a DEVICE.

BZTO104(e)010836

22. MARKET PRODUCED FOR: Enter the ONE code which best describes the market for which the pesticide is produced.

[1] Enter "1" if all of the product is marketed in the United States.

[2] Enter "2" if the product is marketed both in the United States and Exported out of the United States.

[3] Enter "3" if all of the product is Exported out of the United States.

23. USE CLASSIFICATION: Enter the code which describes the use classification of the product.

[1] Enter "1" if the product's label states that the product is for RESTRICTED USE ONLY and is to be used or applied only by a Certified Applicator.

[2] Enter "2" for all other products.

24. AMOUNT PRODUCED PAST YEAR: Enter the amount of the product, produced at the Establishment, during the immediately preceding calendar year.

If this is the initial report, due 30-days following registration of the Establishment, report the amount produced during the calendar year preceding the year the Establisnment is registered. If this is an annual report, due February 1st each year, report the amount produced during the calendar year shown in Item 32.

25. AMOUNT PRODUCED CURRENT YEAR: Enter an estimate of the amount of the product, to be produced at the Establishment, during the current calendar year.

If this is the initial report, due 30-days following registration of the Establishment, report an estimate of the amount to be produced during the same calendar year the Establishment is registered. If this is an annual report, due February 1st each year, report an estimate of the amount to be produced during the calendar year immediately following the year shown in Item 32.

26. AMOUNT SOLD/DISTRIBUTED PAST YEAR: Enter the amount of the product, produced by the Establishment, which was actually sold or distributed during the immediately preceding calendar year, regardless of when the product was produced. Report separately the amount sold/distributed in the United States and the amount sold/distributed for export out of the United States.

If this is the initial report, due 30-days following registration of the Establishment, report the amount of the product which was sold/distributed in the United States [U.S.:] or Exported out of the United States [FOREIGN:] during the calendar year preceding the year the Establishment is registered. If this is an annual report, due February 1st each year, report the amount sold/distributed in the United States [U.S.:] or Exported out of the United States [FOREIGN:] during the calendar year shown in Item 32.

BZTO104(e)010837

27. UNIT OF MEASURE: Enter the ONE unit of measure which best describes the amounts of the product shown in Items 24, 25 and 26.

[G]	= GALLONS	[Liquid Chemical Product]
[P]	= POUNDS	[Dry or Solid Chemical Product]
[L]	= LITERS	[Liquid Chemical Product]
[K]	= KILOGRAMS	[Dry or Solid Chemical Product]
[T]	= TONS	[Short Ton = 2000 Pounds or 907.2 Kilograms] [Dry or Solid Chemical Product]
[U]	= UNITS	[Items such as Devices or Pesticdes which the product's label does not declare as Gallons, Pounds, [Ounces], Liters, Kilograms, [Grams] or Tons]

Each Form 3540-16 has space for five products in Blocks "A" through "E". If a continuation sheet is required, check the CONTINUED ON ATTACHED SHEET Block and reproduce the form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page of Pages.

EPA Regional Offices	States	EPA Regional Offices	States
Environmental Protection Agency Region I, Pesticides Office John F. Kennedy Federal Bldg. Boston, MA 02203	CT, MA ME, NH RI, VT	Environmental Protection Agency Region VI, Pesticides Office First International Building 1201 Elm Street Dallas, TX 75270	AR, LA NM, OK TX
Environmental Protection Agency Region II, Pesticides Office Raritan Depot Woodbridge Ave., Building 209 Edison, NJ 08837	NJ, NY PR, VI	Environmental Protection Agency Region VII, Pesticides Office 324 East 11th Street Kansas City, MO 64106	IA, KS MO, NB
Environmental Protection Agency Region III, Pesticides Office Curtis Bldg., 6th & Walnuts Sts. Philadelphia, PA 19106	DC, DE MD, PA VA, WV	Environmental Protection Agency Region VIII, Pesticides Office 1860 Lincoln Street Denver, CO 80295	CO, MT ND, SD UT, WY
Environmental Protection Agency Region IV, Pesticides Office 345 Courtland Street N. E. Atlanta, GA 30365	AL, FL GA, KY MS, NC SC TN	Environmental Protection Agency Region IX, Pesticides Office 215 Fremont Street San Francisco, CA 94105	AZ, AS CA, GU HI, NV PI, WK
Environmenal Protection Agency Region V, Pesticides Office 230 Dearborn Street Chicago, IL 60604	IL, IN OH, MI MN, WI	Environmental Protection Agency Region X, Pesticides Office 1200 6th Avenue Seattle, WA 98101	AK, ID OR, WA

BZTO104(e)010838

U.S. ENVIRONMENTAL PROTECTION AGENCY

PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 86 Stat. 973-999)

NOTE: Read all instructions before completing. Information reported on this form is treated as CONFIDENTIAL.

Form Approved. OMB No. 2000-0029
Approval expires 8-31-84

DOCUMENT NUMBER (EPA USE ONLY)

D. TRANS TYPE (EPA USE ONLY)

ESTABLISHMENT NAME AND MAILING ADDRESS

1. NAME	6. ESTABLISHMENT DUNS NUMBER
TIME OIL CO	00-959-7543
2. STREET	**7. EPA ESTABLISHMENT NUMBER**
12005 NORTH BURGARD ST	33760-OR-01

3. CITY	4. STATE	5. ZIP CODE	8. ESTABLISHMENT SIC CODES
PORTLAND	OR	97203	5172

ESTABLISHMENT SITE ADDRESS

9. STREET	10. CITY	11. STATE	12. ZIP CODE
12005 NORTH BURGARD ST	PORTLAND	OR	97203

13. SIGNATURE OF ESTABLISHMENT OFFICER	14. TITLE	15. DATE (mo./day/yr.)	16. TELEPHONE

PESTICIDE PRODUCTION INFORMATION

A

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME *(use 2 lines if necessary)*

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION

24. AMT. PRODUCED PAST YEAR:		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
25. AMT. PRODUCED CURRENT YEAR:		
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	▲FOREIGN:	

B

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME *(use 2 lines if necessary)*

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION

24. AMT. PRODUCED PAST YEAR:		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
25. AMT. PRODUCED CURRENT YEAR:		
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	▲FOREIGN:	

C

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME *(use 2 lines if necessary)*

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION

24. AMT. PRODUCED PAST YEAR:		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
25. AMT. PRODUCED CURRENT YEAR:		
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	▲FOREIGN:	

D

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME *(use 2 lines if necessary)*

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION

24. AMT. PRODUCED PAST YEAR:		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
25. AMT. PRODUCED CURRENT YEAR:		
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	▲FOREIGN:	

E

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME *(use 2 lines if necessary)*

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION

24. AMT. PRODUCED PAST YEAR:		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
25. AMT. PRODUCED CURRENT YEAR:		
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	▲FOREIGN:	

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR
		1983

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

BZTO104(e)010839

PS Form 3811, Dec. 1980

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☐ Show to whom and date delivered ..... ¢
   - ☒ Show to whom, date, and address of delivery.. ¢
2. ☐ RESTRICTED DELIVERY ¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO: Harold P. Struessel
Order-Billing Dept. Koppers Co. Inc
Woodtreating Chemicals Department
5137 S.W. Avenue, St.Louis, MO 63110

4. TYPE OF SERVICE:
- ☐ REGISTERED ☐ INSURED
- ☒ CERTIFIED ☐ COD
- ☐ EXPRESS MAIL

ARTICLE NUMBER: 232-035

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☑ Addressee ☐ Authorized agent

John D. Palmer

5. DATE OF DELIVERY: DEC 30 1983

POSTMARK

6. ADDRESSEE'S ADDRESS *(Only if requested)*

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

chh 12/27

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

U.S. MAIL

RETURN TO

TIME OIL CO.
P. O. BOX 24447
TERMINAL ANNEX
SEATTLE, WA. 98124

(Name of Sender)

(Street or P.O. Box)

(City, State, and ZIP Code)

'83 DEC 31 AM 10:01

BZTO104(e)010841

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

December 27, 1983

Harold P. Struessel, Manager
Order - Billing Department
Koppers Company, Inc.
Woodtreating Chemicals Department
5137 S.W. Avenue
St. Louis, MO 63110

Dear Mr. Struessel,

Enclosed, per our telecon today, is EPA Form 3540-16, titled Pesticides Report for Pesticide-Producing Establishments. Please complete the "Pesticide Production Information" and forward report for signature to:

Neil E. Wallis
Time Oil Co.
P.O. Box 03117
St. John Station
Portland, OR 97203

Sincerely,

John P. Denham

John P. Denham
Hazard Control Manager

Attachment a/s

JPD/ch

M E M O R A N D U M

November 1, 1983

TO:	Robert Abendroth	Seattle
	Neil Gallagher	Portland
	Terry Henderson	Seattle
	Jock Streidl	Seattle
	Neil Wallis (info)	Portland
FROM:	John Denham	Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

This is an update on efforts to clean up subject operation as per telecon report from Neil Wallis this date. It is a follow up of our meeting with John Palmer and Bill Baldwin from Koppers on October 3, copy attached.

The Arlington site has changed hands and activities are now under "Chemical Waste Management" control. Change may delay hazardous waste movement a bit - until the new management gets its feet on the ground.

At mid-October, Bill Baldwin sent product samples and profile data sheets to "Chemical Waste Management" to obtain their approval for shipment of specified hazardous wastes to their facility. This is an essential step, prior to drumming waste from tank cleaning or digging up ground, as it will preclude Time Oil Co. from becoming a "storer". We have no "storer" permit and do not want to become a "storer" under any conditions. Baldwin has had no response yet.

John Palmer believes he has found a home for the pentachlorophenol operation. He will be out this way again next week to meet with prospect so we should know results by November 15. If it materializes favorably, John will remove all raw materials from Northwest terminal, as opposed to Time Oil Co. working off those materials on hand.

JPD/ch

Attachment a/s

M E M O R A N D U M

October 5, 1983

TO:	Robert Abendroth	Seattle
	Neil Gallagher (info)	Portland
	Terry Henderson	Seattle
	Jock Streidl	Seattle
	Neil Wallis (info)	Portland
FROM:	John Denham	Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

Neil Gallagher, Neil Wallis and I met with the following from Koppers Company at Northwest Terminal on Monday, October 3, 1983.

John D. Palmer
Manager
St. Louis Production Region

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, MO 63110, 314-772-2200

William J. Baldwin
Manager, Customer & Technical Services

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
Pittsburgh, PA 15219, 412-227-2457

We walked the woodtreating site thoroughly, then met to discuss site condition and planned remedies. The following is my understanding of verbal agreements reached.

Bulk pentachlorophenol operations ceased, effective immediately, until clean-up is completed and a new contract (if there is to be one) is consummated.

The only chemical product input allowable is that necessary to permit "blending off" and/or "shipping out" of remaining inventory. Both Koppers and TOC jointly agreed on inventory quantities. Planned "empty" date is November 15, 1983. Koppers felt date could be met but TOC agreed to slide it if needed to allow Koppers time to locate customers for on-hand inventory.

Koppers is to clean both Koppers owned and TOC owned tanks, dispose of any waste accumulated and pay costs of both actions. Koppers is to use TOC I.D. number on waste manifest since they have no I.D. number in Oregon. Most tanks are ready for cleaning now. Cleaning is to start as soon as Koppers can schedule it - estimated one week.

After cleaning, Koppers will physically remove the following Koppers owned tanks from TOC property.

Quantity	Capacity (gal)
1	3,000
1	6,000
1	7,000
3	8,000
1	10,000

TOC will remove its tanks, except 38009, all piping from area and pay these costs.

TOC will remove and dispose of ground to below test depth showing contamination, then replace ground and correctly grade to sump. Cost of this action is to be shared by Koppers and TOC based on an agreement to be reached between attorneys from both companies. Name of Koppers attorney for contact to be furnished within a week by Bill Baldwin.

TOC is to install impervious liner, spill control sump, pump and tank.

TOC will replace tanks, install complete new manifold system from tank car rack to drumming rack, painting and identifying both tanks and lines correctly.

TOC is to steam clean warehouse as soon as Koppers products are removed. Warehouse and/or tank farm refurbishment is to be in consonance with new contract requirements as negotiated between Koppers and TOC in the future. TOC will continue warehouse handling of pre-drummed penta based materials if desired.

NOTE: Robert Abendroth received telecon briefing of this meeting on October 4, 1983.

JPD/ch

KOPPERS COMPANY, INC. K.I. 150M 3-78

MEMO ROUTING SLIP

TO	LOCATION	DATE RECEIVED	INITIAL
[redacted]			
T. F. McGuire	K-2900		
D. F Marion	K-724		
Stephen T. Tomko	K-1450		

☐ NOTE & FORWARD ☐ PREPARE REPLY FOR MY SIGNATURE

☐ NOTE & RETURN ☐ COMMENT & RETURN

☐ NOTE & FILE ☐ TAKE APPROPRIATE ACTION

REMARKS:

Attached are copies of the signed amended agreement dated Aug. 1, 1970

FROM J Palmer St Louis PHONE DATE 10/25/83

BZTO104(e)010846

OCT 14 1983

REICHHOLD®

CORPORATE HEADQUARTERS: 525 NORTH BROADWAY, WHITE PLAINS, NEW YORK 10603
TELEPHONE: (914) 682-5700 TWX: 7105681373 CABLE: BECKACITE WHITE PLAINS

REPLY TO
2340 TAYLOR WAY
P.O. BOX 1482
TACOMA, WASHINGTON 98401

Timo Oil

October 11, 1983

Bill Baldwin
Koppers Company, Inc.
700 Koppers Building
Pittsburgh, PA 15219

Dear Bill:

Enclosed is a copy of the Washington State fish bioassay test which we talked about last Wednesday, October 5, 1983.

Sincerely,

REICHHOLD CHEMICALS, INC.

John E. Wilkinson
Technical Director
Wood Treating Products
Specialty Chemicals Division

JEW:sk

Enclosure

BZTO104(e)010847

BIOLOGICAL [illegible]

Laboratory which does test:

AT am test Inc.
4900 9th Ave. NW
Seattle, WA. 98107
phone - 206/783-4700

REVISED JULY 1991

State of Washington
John Spellman
Governor

[illegible]

Department of [illegible]
Director

BZTO104(e)010848

BIOLOGICAL TESTING METHODS

Part A — Static Acute Fish Toxicity Test

Part B — Acute Oral Rat Toxicity Test

Prepared by

Hazardous Waste Section
Washington State
Department of Ecology

Revised July 1981

DOE 80-12

BZTO104(e)010849

TABLE OF CONTENTS

		Page
PART A.	STATIC ACUTE FISH TOXICITY TEST	
I.	INTRODUCTION	1
II.	METHODS AND MATERIALS	1
1.	Apparatus	1
2.	Cleaning	2
3.	Dilution Water	3
III.	TEST ORGANISMS	3
1.	Care and Handling	5
2.	Holding	7
3.	Quality	7
IV.	TEST PROCEDURE	7
1.	Test Temperature	8
2.	Beginning of Test	8
3.	Loading	8
4.	Dissolving Toxicant	9
5.	Feeding	9
6.	Duration	9
7.	Biological Data	9
8.	Chemical and Physical Data for Test Tanks	10
V.	CALCULATION OF RESULTS	10
1.	Examples	11
2.	Precision	13
3.	Reporting	13
PART B.	ACUTE ORAL RAT TOXICITY TEST	
I.	INTRODUCTION	17
II.	STANDARDS	17
III.	REPRESENTATIVE SAMPLING	17
IV.	SAMPLE PREPARATION	17
V.	TEST ORGANISMS	18
VI.	DOSING	18
VII.	TEST DURATION	18
VIII.	TEST PROCEDURE	18
IX.	DATA REPORTING	18

BZTO104(e)010850

PART A

STATIC ACUTE FISH TOXICITY TEST*

*Adapted from ASTM, "Standard Practice for Conducting Acute Toxicity Tests for Fishes, Macroinvertebrates, and Amphibians", E729-80. American Society of Testing and Materials, 1916 Race St., Philadelphia, Pennsylvania 19103.

I. INTRODUCTION

The purpose of the state acute fish toxicity test is to provide a simple, reliable, low-cost method for testing the toxicity of a material against the requirements of the Washington State Hazardous Waste Regulation. This test method is strictly a range-finding test and does not result in defining the actual median lethal concentration (LC_{50}). The median lethal concentration being defined as the concentration of material that kills 50 percent of the population (fish) within 96 hours.

If the toxicity of a waste material is not known, the waste must be tested at two concentrations, at 100 mg/l and 1000 mg/l. Wastes that are highly toxic; i.e., kill fish at 100 mg/l, would be considered to be an extremely hazardous waste. Similarly, wastes that kill fish at 1000 mg/l would be considered a dangerous waste. Material so designated would be regulated and handled as specified in the regulation. The section "Calculation of Results" goes into greater detail on data interpretation.

Special care must be taken to avoid contact with all suspected toxicants and test solutions. In most cases, the test material is a "witches' brew" and little is known about the waste. Information on toxicity to humans and recommended handling procedure should be studied before tests are initiated with any suspected hazardous waste material.

II. METHODS AND MATERIALS

The methods and materials used in this procedure were taken from the American Society for Testing and Materials E 729-80, Standard Practice for Conducting Acute Toxicity Tests with Fishes, Macroinvertebrates, and Amphibians." This method is an attempt to balance scientific considerations against practical considerations in producing reliable results. Although more stringent test procedures may be used (i.e., using more organisms, longer acclimation times, etc.) the requirements presented will usually be sufficient. The purpose for establishing a standard laboratory method is to ensure that results obtained from different testing laboratories are comparable.

1. Apparatus

The facilities should include tanks for holding and acclimating test organisms, and a constant-temperature room or recirculating water bath for the test chambers. Holding tanks must be operated on a flow-through basis. Holding, acclimation, and dilution-water tanks and headboxes should be equipped for temperature control and aeration. Air used for aeration must be free of oil and fumes; filters to remove oil and water are desirable. During holding, acclimation, and testing, test organisms must be shielded from disturbances. The test facility must be well ventilated and free of fumes. A 16-hour light and 8-hour dark photoperiod should be provided, with a 15- to 30-minute transition period between light and dark.

BZTO104(e)010852

Construction materials and commercially purchased equipment that may contact stock solutions or test solutions, or any water into which test organisms are placed, should not contain any substance that can be leached or dissolved by aqueous solutions. In addition, materials and equipment that contact stock solutions or test solutions should be chosen to minimize sorption of toxicants from water. Glass, type 316 stainless steel, and fluoroplastics must be used whenever possible to minimize leaching, dissolution, and sorption. Concrete and rigid (unplasticized) plastics may be used for holding and acclimation tanks and in the water supply system. Cast iron pipe may be used in freshwater supply systems, but colloidal iron will be added to the dilution water and strainers will be needed to remove rust particles. Natural rubber, copper, brass, galvanized metal, and lead must not come in contact with dilution water, stock solutions, or test solutions before or during exposure of test organisms.

Test chambers can be made by welding, not soldering, stainless steel or by gluing double-strength, or stronger, window glass with clear silicone adhesive. Silicone adhesive absorbs some organochlorine and organophosphorus pesticides which are then difficult to remove. Therefore, as little of the adhesive as possible should be in contact with water; extra beads of adhesive should be on the outside of chambers rather than on the inside. The smallest horizontal dimension of the test chamber must be at least 1.5 times the largest horizontal dimension of the test organisms. The depth of the test solution should be at least 1.5 times the height of the test organisms. The test solution should be at least 15 cm deep for organisms over 0.5 g each, and at least five cm deep for smaller organisms. Chambers filled to within 15 cm of the top need to be covered to prevent the test organisms from jumping out.

2. Cleaning

Test chambers must be cleaned before use. New ones must be washed with detergent and rinsed with water, pesticide-free acetone, acid (such as 5 percent concentrated nitric acid), and twice with tap or other clean water. At the end of every test, the chambers must be (1) emptied, (2) immediately rinsed with water, (3) cleaned by a procedure appropriate for removing the toxicant tested (e.g., acid to remove metals and bases; detergent, organic solvent, or activated carbon to remove organic compounds), and (4) rinsed twice with water. Acid is useful for removing mineral deposits, and 200 mg hypochlorite/liter is useful for removing organic matter and for disinfection. (A solution containing 200 mg hypochlorite/liter is conveniently made by adding 6 ml of liquid household chlorine bleach to 1 liter of water.) However, acid and hypochlorite must not be used together because hazardous fumes may be produced. Test chambers must be rinsed with dilution water just before use. Tanks should be scraped or brushed as needed.

BZTO104(e)010853

3. Dilution Water

An adequate supply of a dilution water that is acceptable to the test organisms and the purpose of the test must be available. The minimal criterion for an acceptable dilution water for acute toxicity tests is that healthy test organisms will survive in it for the duration of acclimation and testing without showing signs of stress, such as discoloration or unusual behavior. A better criterion for an acceptable freshwater dilution water is that test organisms will survive, grow, and reproduce satisfactorily in it. Freshwater dilution water is considered to be of constant quality if the monthly ranges of the hardness, alkalinity, and specific conductance are less than 10 percent of their respective averages and if the monthly range of pH is less than 0.8 unit.

Chlorinated water should never be used because residual chlorine is quite toxic to aquatic organisms. Dechlorinated water should only be used as a last resort, because removal of residual chlorine is often incomplete. If the dilution water is prepared from a dechlorinated water, it must be shown that in fresh samples of the dilution water taken at the beginning of the test that the concentration of residual chlorine is less than three ug/liter. In addition, municipal water supplies often contain unacceptably high concentrations of copper, lead, zinc, and fluoride. When necessary, metals can usually be removed with chelating resins. Sodium bisulfite should be better for dichlorinating water than sodium sulfite, and both are more reliable than carbon filter, especially for removing chloramines.

The dilution water should be intensively aerated by such means as air stones, surface aerators, or screen tubes before introduction of the toxicant. Adequate aeration will bring the pH and concentration of dissolved oxygen and other gases into equilibrium with air and minimize oxygen demand and the concentration of volatiles. The concentration of dissolved oxygen in the dilution water should be between 90 and 100 percent saturation.

III. TEST ORGANISMS

The following table lists the test organisms that can be used in the static fish bioassay analysis.

BZTO104(e)010854

Table 1. Species and Test Temperatures

Species[a]	Test Temperature (C)
Freshwater	
Vertebrates	
Coho salmon, Oncorhynchus kisutch	12
Rainbow trout, Salmo gairdneri	12
Brook trout, Salvelinus fontinalis	12
Fathead minnow, Pimephales promelas	17,22
Bluegill, Lepomis macrochirus	17,22

[a]The scientific name must be verified.

All organisms in a test should be from the same source, since organisms of the same species from different sources may produce different results in an acute toxicity test. Small fish such as fathead minnows can also be raised in laboratory cultures. Usual sources of other freshwater fish are private, state, and federal hatcheries. Whenever trout are to be used, they should be obtained from a hatchery that has been certified disease-free (free of infectious pancreatic necrosis, furunculosis, kidney disease, and whirling disease) if possible.

All organisms in a test should be as uniform as possible in size and age. The use of fish that weigh between 0.5 and 5.0 g each is usually desirable. Unless there is a specific reason for doing so, very young (not actively feeding), sexually mature, spawning, or recently spent fish should not be used. In any single test, all fish should be from the same year class, and the standard length (tip of snout to end of caudal peduncle) of the longest fish should be no more than twice that of the shortest fish (Figure 1).

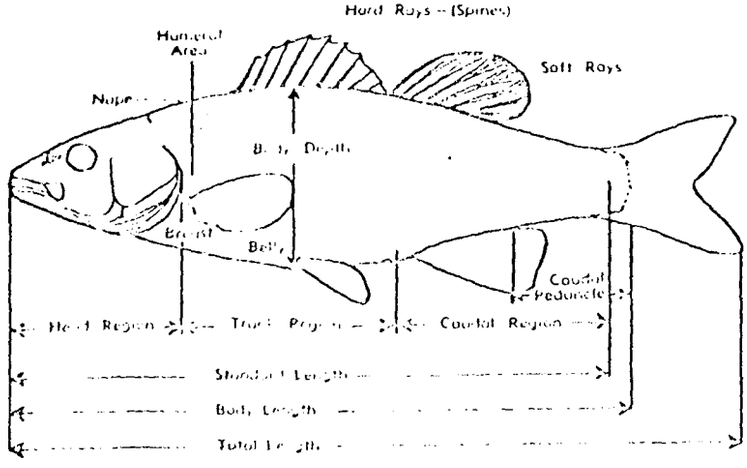


Figure 1

BZTO104(e)010855

2. Holding

After collection or transportation, fish should be acclimated for at least 14 days before they are used in tests. They should be held under stable conditions of temperature and water quality in uncontaminated, constant quality water in an aerated flow-through system with a flow rate of at least two volume additions per day. When possible, the organisms should be held in dilution water and at the temperature at which they are to be tested. During long holding periods, however, it is generally easier and safer to hold fish at temperatures lower than those specified in Table 1 because the metabolic rate and the number and severity of disease outbreaks are reduced.

3. Quality

All organisms in a test must be of acceptable quality. Organisms should be carefully observed daily during holding and acclimation for signs of disease, stress, physical damage, and mortality. Dead, injured, and abnormal individuals must be discarded. Visual examination of the behavior and external appearance of the organisms should cover the following: Are they eating? Is flipping, flashing, or erratic swimming evident? Are they gasping at the surface? Is their color normal? Is hyperventilation, hemorrhaging, or excessive mucus production evident? Are fin rot, fungus, or external parasites present? Are test organisms emaciated? If the organisms show any signs of disease or stress, appropriate action should be taken.

Organisms used in a test, including those used in a control treatment, must not be used in a later definitive test.

IV. TEST PROCEDURE

For the STATIC test, at least 10 organisms in three replicate test tanks must be exposed to each treatment. If replicates are used, they must be true replicates with no water connections between the replicate test chambers. Treatments should be randomized; if replicate test chambers are used, random assignment of one test chamber for each treatment in a row, followed by random assignment of a second test chamber for each treatment in another or an extension of the same row, is more desirable than total randomization. A representative sample of the test organisms should be impartially distributed to the test chambers by adding to each test chamber no more than 20 percent of the number of test organisms to be placed in each test chamber and repeating the process until each test chamber contains the desired number of test organisms. Alternatively, the organisms can be assigned either by random assignment of one organism to each test chamber, random assignment of a second organism to each chamber, etc., or by total randomization. It is often convenient to assign organisms to other containers and then add them to the test chambers all at once.

BZTO104(e)010856

Every test requires a control that consists of the same dilution water, conditions, procedures, and organisms as are used in the remainder of the test, except that none of the toxicants being tested is added.

The dissolved oxygen concentration in each test chamber must be between 60 and 100 percent saturation during the first 48 hours of the test and must be between 40 and 100 percent saturation after 48 hours. Test solutions should not be aerated. If the concentrations of dissolved oxygen fall below 40 percent saturation gentle aeration may be used. Aeration that is too vigorous can stress test organisms. However, since aeration readily occurs at the surface, efficient aeration can be achieved with minimal turbulence by using an air lift to transfer solution from the bottom to the surface. Aeration must be the same in all tanks, including the controls, at all times during the test. In such cases, a simultaneous test without aeration should be conducted to determine if aeration affects the results of the test.

A test is not acceptable if more than 10 percent of the organisms die in the control test chamber.

1. Test Temperature

   The test temperature for the test organism must be selected from Table 1. The actual test temperature must not deviate from the selected test temperature by more than ±0.5°C. at any time during the test.

2. Beginning of Test

   Tests are begun either by (1) placing toxicant in test chambers 18 to 24 hours after test organisms are added or (2) placing test organisms in chambers within 30 minutes after toxicant is added to dilution water. The first alternative allows organisms to partially acclimate to the chambers and precludes loss of toxicant due to hydrolysis, adsorption, or evaporation before addition of organisms. Additionally, the dilution water with organisms in it may be gently aerated in the chambers, but aeration must be stopped before addition of toxicant. The second alternative conserves dissolved oxygen and prevents exposure of test organisms to toxicant before it is evenly dispersed; this alternative must be used when tests are conducted on aged solutions of toxicant in dilution water. A gentle swirl with a glass rod is usually sufficient to disperse the toxicant.

3. Loading

   The g/liter of organism (wet weight, blotted dry) of solution in the test chambers must not be so high that it affects the results of the test. Therefore, the loading must be limited to ensure that (1) the concentrations of dissolved oxygen and toxicant are not decreased below acceptable levels, (2) the

BZTO104(e)010857

concentration of metabolic products does not increase above acceptable levels, and (3) the organisms are not stressed because of crowding. The loading in test chambers must not exceed 0.8 g/liter at or below the lower temperature of 17°C. and must not exceed 0.5 g/liter at higher temperatures. Lower loadings must be used if the concentration of dissolved oxygen does not remain above 60 percent saturation for the first 48 hours of the test and above 40 percent saturation after 48 hours.

4. Dissolving Toxicant

The toxicant should be added to the dilution water, at 100 mg/liter or 1000 mg/liter, without the use of any solvents or other carriers, except water, if possible. If carriers other than water are necessary, the amount used must be kept to a minimum. Because of low volatility and low toxicity to aquatic animals and high ability to dissolve many organic compounds, dimethylformamide and triethylene glycol are the preferred organic solvents for preparing stock solutions, but methanol, acetone, and ethanol may also be used. The concentration of solvent in any test solution must not exceed 0.5 ml/liter. If a carrier is used, a carrier control is also required. It may be desirable to conduct simultaneous tests with two chemically unrelated carriers or two different concentrations of the same carrier to obtain information concerning the possible effect of the carrier on test results.

5. Feeding

Test organisms should not be fed during acute toxicity tests or for a minimum of 48 hours before the test. Fecal matter and uneaten food will decrease the dissolved oxygen concentration which may affect the biological activity of some toxicants.

6. Duration

The test begins when the test organisms are first exposed to the toxicant and ends 96 hours or four days later.

7. Biological Data

Death is the adverse effect most often used in acute toxicity tests with aquatic organisms. The criteria for death are usually lack of movement, especially the absence of respiratory movements in fish and lack of reaction to gentle prodding. The loss of equilibrium, defined as the inability to make coordinated movement and maintain a normal upright position, or immobilization occurs during the test is not be to considered a mortality. The latter responses are used in determining the effective concentration (EC_{50}) of a test toxicant.

BZTO104(e)010858

It is extremely important that procedures used to determine whether test organisms are dead, immobilized, or otherwise affected, and to remove dead organisms do not stress live test organisms. Movement of test chambers and prodding must be done very gently.

The number of dead or affected organisms in each test chamber must be counted every 24 hours after the beginning of the test. More observations are desirable, especially near the beginning of the test. A suggested schedule is to count the number of dead or affected organisms in each chamber 3, 6, 12, and 24 hours after the beginning of the test and twice a day thereafter to the end of the test.

Dead organisms must be removed as soon as they are observed, or once every 24 hours. The weights (wet weight, blotted dry) and standard lengths of the test organisms should be determined by weighing, measuring, and discarding representative organisms before the test or the control organisms after the test.

8. Chemical and Physical Data for Test Tanks

Hardness, alkalinity, pH, and conductivity must be measured, and measurement of calcium, magnesium, sodium, potassium, chloride, and sulfate is desirable at beginning and end of test period. Measurement of particulate matter and total organic carbon (TOC) or chemical oxygen demand (COD) is also desirable. The dissolved oxygen concentration must be measured in all test tanks at the beginning, every 24 hours, and end of the test as long as live organisms are present. At a minimum, pH should be measured at the beginning and end of the test in all test tanks. For all tests, temperature must be recorded at least hourly throughout acclimation and throughout the test in at least one test chamber. For systems whose temperature is controlled by a constant-temperature room or water bath, the temperature of the test water must be recorded at least every six hours.

V. CALCULATION OF RESULT

As mentioned previously in the introduction, this method does not determine the LC_{50} but rather provides information "about" the LC_{50} of a test toxicant. That is, whether the LC_{50} is above or below a preestablished concentration. Therefore, this method is classified as a range finding test.

Data collected during the test will be analyzed according to the binomial distribution. Data from the three replicates will be pooled for several reasons; (1) ease of interpretation, (2) to increase the number of organisms (n) from 10 to 30, and (3) variation between the three replicates will provide information on sample representativeness and on laboratory methodology.

BZTO104(e)010859

1. Examples

For a waste material to be designated an extremely hazardous waste (EHW), greater than 10 cumulative deaths out of 30 test organisms must occur within 96 hours at a concentration 100 mg/l. This waste is said to have an LC_{50} less than 100 mg/l at the 95 percent confidence level (example 1).

Example 1. Number of Cumulative Deaths

	0	24	48	72	96 (hours)
Tank A	2	3	5	6	6
Tank B	3	3	4	4	4
Tank C	1	2	3	3	3
					13 EHW @ 100 mg/l

Similarly, a waste material would be designated a dangerous waste if greater than 11 cumulative deaths out of 30 test organisms occurred within 96 hours at a concentration of 1000 mg/l. This material is said to have an LC_{50} of less than 1000 mg/l at the 90 percent confidence level (example 2).

Example 2. Number of Cumulative Deaths

	0	24	48	72	96 (hours)
Tank D	3	4	5	5	6
Tank E	2	4	4	5	5
Tank F	3	3	3	5	5
					16 DW @ 1000 mg/l

Normally, any control deaths should be cause for concern with the test conditions. For those borderline tests, corrections for up to 10 percent mortality in control can be achieved by Abott's Formula (Equation 1).

BZTO104(e)010860

$$P = \frac{P^* - C}{1 - C}$$

(Equation 1)

P = corrected proportion for control mortality

P* = observed test fish mortaility as a proportion (i.e., .3, .4, etc.)

C = observed control fish mortality as a proportion.

Z is a test statistic that enables us to determine whether or not the test statistic exceeds any preselected confidence interval (Equation 2).

$$Z = \frac{P - po}{\sqrt{\frac{po\,(1-po)}{N}}}$$

(Equation 2)

Z = test statistic

po = 0.50 (i.e., LC_{50})

N = 30 (pooled organisms)

If the test statistic Z is less than the break point value for a chosen confidence interval (Table 3), then the hypothesis that the LC_{50} is less than 100 or 1000 mg/l is rejected. An application using Abbott's formula appears in Example 3.

Table 3. Confidence interval

Confidence Interval	Break Point
90% for 1000 mg/l	-1.28
95% for 100 mg/l	-1.64

Example 3.

A waste material has been tested at 100 mg/l and killed 11 fish within 96 hours. It appears the material is an EHW. However, one control death was observed (less than or equal to 10 percent), does this change the test conclusions?

BZTO104(e)010861

Step 1. Input variables into Equation 1:

$$P = \frac{P^* - C}{1 - C}$$ where $P^* = 11/30 = 0.37$, $C = 1/10 = 0.10$

$$P = \frac{0.37 - 0.10}{1 - 0.10}$$

$$P = 0.30$$

Step 2. Input P into Equation 2:

$$Z = \frac{P - po}{\sqrt{\frac{po\,(1 - po)}{N}}}$$ where $po = 0.50$, $N = 30$, $P = 0.30$

$$Z = \frac{0.30 - 0.50}{\sqrt{\frac{0.50\,(1 - 0.50)}{30}}}$$

$$Z = \frac{0.30 - 0.50}{0.9}$$

$$Z = -2.19$$

Since Z is less than the break point of -1.64 the material is not an EHW at the 95 percent confidence interval.

2. Precision

The results of acute toxicity tests conducted in different laboratories using the same species, dilution water, toxicant, and procedures will usually differ by no more than a factor of two.

3. Reporting

A report of the results of a test must include the following:

1. Name of test, investigator, and laboratory, and date test was begun

2. A detailed description of the toxicant, including its source, lot number, composition (identity and concentration of major ingredients and major impurities), known physical and chemical properties, and any carriers (solvents) or other additives used;

3. The source of the dilution water, its chemical characteristics, and a description of any pretreatment;

BZTO104(e)010862

4. Detailed information about the test organisms, including scientific name and how verified (and strain for salmonids when appropriate), weight (wet, blotted dry), length (standard length for fish), age, life stage, source, history, observed diseases, treatments, acclimation procedure, and food used;

5. A description of the experimental design and the test chambers, the depth and volume of solution in the chambers, the way the test was begun, the number of organisms per treatment, the loading, and the lighting.

6. A description of any aeration performed on test solutions before or during the test;

7. Definition of the criterion used to determine the effect and a summary of general observations on other effects or symptoms;

8. Percentage of organisms that died or showed the effect in the control treatment and the concentration of the toxicant in the control treatment;

9. Methods used for, and the results (with standard deviation) of, all chemical analyses of water quality and toxicant concentration, including validation studies and reagent blanks;

10. Methods used for, and the results (with standard deviation) of, all chemical analyses of water quality and toxicant concentration, including validation studies and reagent blanks;

11. The average and range of the acclimation temperature and test temperature;

12. Anything unusual about the test, any deviation from these procedures, and any other relevant information.

A sample reporting form is attached.

BZTO104(e)010863

State of Washington Department of Ecology

DATA SHEET FOR STATIC BASIC ACUTE FISH TOXICITY TEST*

Laboratory _____

Analyst _____

Industry Tested _____

Address _____

Contacts _____

Time Sample Collected _____

Beginning Date _____ Time _____

Ending Date _____ Time _____

Test Organism _____

Required Test Temperature Range _____

Laboratory Reference Number	Test Container No.	Conc. (%)	Number of Cumulative Deaths					Dissolved Oxygen (mg/l)					pH 25 C					Temperature (C)					Total Hardness (mg/l as $CaCO_3$)		Total Alkalinity (mg/l as $CaCO_3$)		Conductivity uMHOS/cm	
			0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96	0	96	0	96

Sample Description _____

Average Weight _____ Mean Length _____ Longest _____ Shortest _____ Ratio of Organisms _____

Number of organisms per chamber _____ Ratio of flesh to water _____ Comments _____

* Method on file with the Department of Ecology

GENERAL PROCEDURE FOR STATIC BASIC ACUTE FISH TOXICITY TEST

DATA VERIFIED BY _____ DATE _____

_____ EHW > 10/30

DW > 11/30

BZTO104(e)010864

PART B

ACUTE ORAL RAT TOXICITY TEST

I. INTRODUCTION

The purpose of oral rat testing is to determine the relative biological risk of potentially hazardous waste to man and wildlife. The results will determine whether a waste is classed as extremely hazardous waste or as a dangerous waste under WAC 173-302 "The Hazardous Waste Regulation". Test analyses are not based upon leachate extraction procedures and as such, do not attempt to simulate changes that the waste might undergo after disposal. The toxicity test is to be construed as an index of acute single exposure of biological risk to the generator, transporter, treater and disposal site operator. The test is not intended to determine what changes in toxicity might occur after disposal due to environmental reactions. These conditions are difficult to predict and quantify especially for the sanitary landfill scenario.

The department uses oral rat tests whenever a generator has not or cannot adequately characterize the toxicity of a waste because of:

a. A lack of knowledge of the chemical composition and presence of toxic constituents.

b. A lack of knowledge of the biological hazards of toxic constituents or the waste as a whole.

c. The inability to book designate a waste's biological toxicity.

II. STANDARDS

To determine whether a waste is extremely hazardous, a representative sample of the waste shall be tested at 500 milligrams of wastes per kilogram of rat body weight. Tests showing significant toxicity as defined herein shall be deemed extremely hazardous wastes (i.e., $LD_{50} \leq 500$ mg/kg). To determine whether a waste is a dangerous waste, a representative sample shall be tested at 5,000 milligrams of waste per kilogram of rat body weight (i.e., $LD_{50} \leq 5{,}000$ mg/kg). The death of two or less test animals per dose will be statistically evident that the LD_{50} is greater than the standard at the 95 percent confidence level. The death of any control animal will invalidate the entire test.

III. REPRESENTATING SAMPLING

A representative sample of the waste to be tested shall be obtained using methods established by the Department of Ecology. The need to obtain a truly representative waste sample is as important as the biological testing itself, and its inadequacy may be grounds for rejecting an otherwise acceptable result.

IV. SAMPLE PREPARATION

The waste shall be tested in the form it is to be disposed with the following exceptions:

a. Waste may be ground and coarsely filtered to allow its oral administration by stomach tube.

BZTO104(e)010866

b. Liquid and solid phases should be homogenized before administration.

c. Upon review and approval on a case-by-case basis by the Department of Ecology.

V. TEST ORGANISMS

Male albino rats weighing between 200 and 300 grams shall be used for test and control animals.

Ten rats shall be used at each dosage level, and ten rats for each positive control test (See footnote a/).

VI. DOSING

All animals shall be dosed by gavage. All animals shall receive the same concentration and approximate volume of dosing solution, not to exceed 4-5 mls per animal.

VII. TEST DURATION

The animals shall be observed for 14 days.

VIII. TEST PROCEDURE

Food shall be withheld from animals the night prior to dosing.

Observations for mortality and clinical pharmacological or toxicological signs will be recorded immediately after dosing at one and four hours, and daily thereafter for 14 consecutive days. All surviving animals will be sacrificed at termination on the 14th day. Gross necropsies will be performed on animals that die and those sacrificed at termination.

IX. DATA REPORTING

The test report shall include the following information:

a. Tabulation of response data by dose level (i.e., number of animals dying per number of animals exposed).

b. Time of death after dosing.

c. Clinical pharmacological, and/or toxicological signs.

d. Gross necropsy findings.

a/ Note: DOE may require a positive control group for particular wastes or toxicants when the sensitivity of the test animal is in doubt. When used, the positive control group should serve as an internal quality control to ascertain whether the test animals are sensitive or resistant to the test material by testing their response to a known toxic agent.

BZTO104(e)010867

M E M O R A N D U M

October 5, 1983

TO:	Robert Abendroth	Seattle
	Neil Gallagher (info)	Portland
	Terry Henderson	Seattle
		Seattle
	)	Portland
FROM:		Seattle
SUBJECT:	NWEST TERMINAL	

Neil Galla i I met with the following from Koppers Company at Northwest Terminal on Monday, October 3, 1983.

John D. Palmer
Manager
St. Louis Production Region

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, MO 63110, 314-772-2200

William J. Baldwin
Manager, Customer & Technical Services

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
Pittsburgh, PA 15219, 412-227-2457

We walked the woodtreating site thoroughly, then met to discuss site condition and planned remedies. The following is my understanding of verbal agreements reached.

Bulk pentachlorophenol operations ceased, effective immediately, until clean-up is completed and a new contract (if there is to be one) is consummated.

The only chemical product input allowable is that necessary to permit "blending off" and/or "shipping out" of remaining inventory. Both Koppers and TOC jointly agreed on inventory quantities. Planned "empty" date is November 15, 1983. Koppers felt date could be met but TOC agreed to slide it if needed to allow Koppers time to locate customers for on-hand inventory.

Koppers is to clean both Koppers owned and TOC owned tanks, dispose of any waste accumulated and pay costs of both actions. Koppers is to use TOC I.D. number on waste manifest since they have no I.D. number in Oregon. Most tanks are ready for cleaning now. Cleaning is to start as soon as Koppers can schedule it - estimated one week.

After cleaning, Koppers will physically remove the following Koppers owned tanks from TOC property.

Quantity	Capacity (gal)
1	3,000
1	6,000
1	7,000
3	8,000
1	10,000

TOC will remove its tanks, except 38009, all piping from area and pay these costs.

TOC will remove and dispose of ground to below test depth showing contamination, then replace ground and correctly grade to sump. Cost of this action is to be shared by Koppers and TOC based on an agreement to be reached between attorneys from both companies. Name of Koppers attorney for contact to be furnished within a week by Bill Baldwin.

TOC is to install impervious liner, spill control sump, pump and tank.

TOC will replace tanks, install complete new manifold system from tank car rack to drumming rack, painting and identifying both tanks and lines correctly.

TOC is to steam clean warehouse as soon as Koppers products are removed. Warehouse and/or tank farm refurbishment is to be in consonance with new contract requirements as negotiated between Koppers and TOC in the future. TOC will continue warehouse handling of pre-drummed penta based materials if desired.

NOTE: Robert Abendroth received telecon briefing of this meeting on October 4, 1983.

JPD/ch

TERRILL HENDERSON
ATTY FOR TIME OIL

M E M O R A N D U M

November 1, 1983

TO:	Robert Abendroth	Seattle
	Neil Gallagher	Portland
	Terry Henderson	Seattle
	Jock Streidl	Seattle
	Neil Wallis (info)	Portland
FROM:	John Denham	Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

This is an update on efforts to clean up subject operation as per telecon report from Neil Wallis this date. It is a follow up of our meeting with John Palmer and Bill Baldwin from Koppers on October 3, copy attached.

The Arlington site has changed hands and activities are now under "Chemical Waste Management" control. Change may delay hazardous waste movement a bit - until the new management gets its feet on the ground.

At mid-October, Bill Baldwin sent product samples and profile data sheets to "Chemical Waste Management" to obtain their approval for shipment of specified hazardous wastes to their facility. This is an essential step, prior to drumming waste from tank cleaning or digging up ground, as it will preclude Time Oil Co. from becoming a "storer". We have no "storer" permit and do not want to become a "storer" under any conditions. Baldwin has had no response yet.

John Palmer believes he has found a home for the pentachlorophenol operation. He will be out this way again next week to meet with prospect so we should know results by November 15. If it materializes favorably, John will remove all raw materials from Northwest terminal, as opposed to Time Oil Co. working off those materials on hand.

JPD/ch

Attachment a/s

TIME OIL CO. - WOOD TREATING CHEMICALS CO.
CONTRACT DATED MARCH 1, 1967

A-1 Time Oil to provide customer with tanks and facilities during contract term.

A-2 Time Oil to retain possession of facilities and keep in clean and serviceable condition and fit for storage and handling of products. Customer has the right to inspect but the provision expressly provides that the right of inspection does not relief Time Oil of its obligations regarding maintenance.

B-1 Time Oil is to provide all labor and services necessary to receive, store, handle, blend and redeliver in a safe, efficient and clean manner.

B-2 Time Oil will move product between tank and trucks etc. at the customer's direction. Time Oil will follow procedures in a booklet.

D-2 Time Oil is not leasing the facilities to the customer.

D-3 Time Oil holds the customer harmless from any costs from non-performance of any Time Oil obligation or from the negligence of Time Oil.

D-8 When the customer is on the premises, the customer is obligated to conform to Time Oil regulations.

D-12 Customer is liable for damages resulting from the storage of non-authorized commodities.

D-15 At the termination of the contract, Customer is to remove the products stored.

D-21 Time Oil is an independent contractor and not an agent of the customer.

Pg. 3 of Schedule - Customer has access to the loading racks but to no other area.

M E M O R A N D U M

October 5, 1983

TO:	Robert Abendroth	Seattle
	Neil Gallagher (info)	Portland
	Terry Henderson	Seattle
	Jock Streidl	Seattle
	Neil Wallis (info)	Portland
FROM:	John Denham	Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

Neil Gallagher, Neil Wallis and I met with the following from Koppers Company at Northwest Terminal on Monday, October 3, 1983.

John D. Palmer
Manager
St. Louis Production Region

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, MO 63110, 314-772-2200

William J. Baldwin
Manager, Customer & Technical Services

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
Pittsburgh, PA 15219, 412-227-2457

We walked the woodtreating site thoroughly, then met to discuss site condition and planned remedies. The following is my understanding of verbal agreements reached.

Bulk pentachlorophenol operations ceased, effective immediately, until clean-up is completed and a new contract (if there is to be one) is consummated.

The only chemical product input allowable is that necessary to permit "blending off" and/or "shipping out" of remaining inventory. Both Koppers and TOC jointly agreed on inventory quantities. Planned "empty" date is November 15, 1983. Koppers felt date could be met but TOC agreed to slide it if needed to allow Koppers time to locate customers for on-hand inventory.

Koppers is to clean both Koppers owned and TOC owned tanks, dispose of any waste accumulated and pay costs of both actions. Koppers is to use TOC I.D. number on waste manifest since they have no I.D. number in Oregon. Most tanks are ready for cleaning now. Cleaning is to start as soon as Koppers can schedule it - estimated one week.

After cleaning, Koppers will physically remove the following Koppers owned tanks from TOC property.

Quantity	Capacity (gal)
1	3,000
1	6,000
1	7,000
3	8,000
1	10,000

TOC will remove its tanks, except 38009, all piping from area and pay these costs.

TOC will remove and dispose of ground to below test depth showing contamination, then replace ground and correctly grade to sump. Cost of this action is to be shared by Koppers and TOC based on an agreement to be reached between attorneys from both companies. Name of Koppers attorney for contact to be furnished within a week by Bill Baldwin.

TOC is to install impervious liner, spill control sump, pump and tank.

TOC will replace tanks, install complete new manifold system from tank car rack to drumming rack, painting and identifying both tanks and lines correctly.

TOC is to steam clean warehouse as soon as Koppers products are removed. Warehouse and/or tank farm refurbishment is to be in consonance with new contract requirements as negotiated between Koppers and TOC in the future. TOC will continue warehouse handling of pre-drummed penta based materials if desired.

NOTE: Robert Abendroth received telecon briefing of this meeting on October 4, 1983.

JPD/ch

M E M O R A N D U M

October 5, 1983

TO:	Robert Abendroth	Seattle
	Neil Gallagher (info)	Portland
	Terry Henderson	Seattle
	Jock Streidl	Seattle
	Neil Wallis (info)	Portland
FROM:	John Denham	Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

Neil Gallagher, Neil Wallis and I met with the following from Koppers Company at Northwest Terminal on Monday, October 3, 1983.

John D. Palmer
Manager
St. Louis Production Region

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, MO 63110, 314-772-2200

William J. Baldwin
Manager, Customer & Technical Services

KOPPERS

Specialty Wood Chemicals Division
Koppers Company, Inc.
Pittsburgh, PA 15219, 412-227-2457

We walked the woodtreating site thoroughly, then met to discuss site condition and planned remedies. The following is my understanding of verbal agreements reached.

Bulk pentachlorophenol operations ceased, effective immediately, until clean-up is completed and a new contract (if there is to be one) is consummated.

The only chemical product input allowable is that necessary to permit "blending off" and/or "shipping out" of remaining inventory. Both Koppers and TOC jointly agreed on inventory quantities. Planned "empty" date is November 15, 1983. Koppers felt date could be met but TOC agreed to slide it if needed to allow Koppers time to locate customers for on-hand inventory.

10/5/83

From the desk of
DONALD F. MARION

To: J.D. PALMER
B. BALDWIN

Attached for your review is a copy of T.F. McDuffie's memo of 10/4/83 and Mr. Steve Tondo's memo of 9/30/83. Please review these memos and let's discuss in light of your trip to the West Coast.

Thanks,
Don
Marion

BZTO104(e)010875

TO CPB

FROM ACM

SUBJECT FPG- WTP IN NW USA.

DATE 09/30/83

FOLD— MESSAGE

MAC McGUIRE OF LAW/REAL ESTATE ADVISED THAT FPG WAS PREPARING TO DISENGAGE FROM A TREATING OPERATIONS CONTRACT IN NW AND WANTED TO KNOW WHAT LIABILITIES THEY WERE LEAVING → HE'S GOT A LETTER COMING TO ME - I'VE LEFT INSTRUCTIONS TO CC: YOU ON IT. PLEASE FOLLOW UP W/ McGUIRE AS APPROPRIATE. I'LL BE BACK WED. PM. 10/05/83. MJT HAS MY LOCATION IF YOU NEED TO CONTACT ME.

THANKS.

ORIGINATOR-DO NOT WRITE BELOW THIS LINE REPLY TO → SIGNED Andy.

REPLY

CC: MJT - PLEASE FWD CPB LETTER ASAP.

sent Brook's copy on 9/30/83

DATE MJT

SIGNED

FPG GEN'L.

2638

DETACH AND RETAIN THIS COPY

BEP107232

BZTO104(e)010876

KOPPERS

Interoffice Correspondence

To J. D. Palmer

Location St. Louis

Subject August Monthly Report

From J. D. Hite

Location Pittsburgh

Date September 20, 1983

I note from your monthly report that we still do not have a contract finalized with Time Oil and as a consequence are forced to ship drummed material to the West Coast from St. Louis. I assume that making shipments from St. Louis to the West Coast is costly and results on loss of profit on the business in question. I suggest that between you and Don Marion you take whatever action is necessary relative to the Time Oil contract to get it finalized and to get us into business again on the West Coast.

I note that you refer to Jones-Hamilton having a quantity of having old CCA solution. I would appreciate an explanation of what is old CCA solution, how did it develop and what are our plans to obtain recovery from it.

John D. Hite

JDH/dkm

cc: D. F. Marion

John,

Bill + I are going to the West Coast Oct 3 to try to solve the situation.

the Old CCA was from CCA-B production and concentrate returned from Licensees

Brian Stuart has outlined the procedures in handling this product (attached)

cc. DM

K43-REV. 5 100M 9-80

61

BZTO104(e)010877

KOPPERS

Interoffice Correspondence

To John D. Palmer

Location St. Louis, MO

Subject JONES-HAMILTON -- WASTE CLEAN-UP

From Brian E. Stuart

Location Conley, GA

Date August 25, 1983

There are only three ways that the Jones-Hamilton sludge can be cleaned up. First, by adding sulfuric acid or chromic acid and decanting or extracting useable oxides for use in mixes. After several of these cycles, the remaining unuseable material would be drummed for waste disposal. The second method would be to have this material shipped to Conley for recovery. This would be done because Conley is accustomed to reclaim and due to the high production volume here, it could be reclaimed quicker. The last method for handling this material would be to drum it all and ship it to a land-fill.

A decision cannot be made between these options until samples are received from Jones-Hamilton and evaluated. Of course, the first option of insitu reclaim is the option of choice because of cost and convenience.

Please contact me if you have any questions.

Brian

Brian E. Stuart

BES:dr
cc: C. R. McIntyre
D. Marion
F. Klasnick

61

K-5 REV. 2

M E M O R A N D U M

August 15, 1983

TO: Neil Wallis — Portland

FROM: John Denham — Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

On August 8, 1983 you contacted me, I understand as the result of a discussion with Robert, regarding development of an action plan to "clean-up" the area in which Pentachlorophenol is used. I believe such a plan should consist of two steps:

1. Determine what deficiencies exist.

2. Correct them.

Subject operation has been inspected and corrective action recommended seven times during the past twelve years as shown below.

Inspection Date	Inspected By	Discrepancies Noted
5/29/71	TOC (Denham)	37
1/19/77	TOC (Denham)	13
10/13/77	OR. Health Dept.	7
2/28/78	TOC (Denham)	17
3/26/79	TOC (Denham)	22
9/29/80	OR. Health Dept.	6
8/21/81	TOC (Denham)	31
	Total	133

Known deficiencies currently existing are listed here by category. Federal, State or appropriate Agency regulations, covering each item listed, are eliminated for ease of reading. They do exist however and are available on file in this office if desired.

a. Building

1. Front working space at north wall electrical control center is less than three feet. Rewarehousing needed.

2. No sprinkler system exists. Installation needed.

3. Excess trash, paper on warehouse floor and in open top containers. Clean-up needed.

4. Fire extinguishers size and placement is inadequate. Extinguishers needed.

BZTO104(e)010879

5. Wax, penta and drums are warehoused closer than three feet to overhead beams or obstructions. Rewarehousing needed.

6. No fire extinguishers are located outside north warehouse room doors within ten feet of door. Installation needed.

7. Building exit signs do not exist. Installation needed.

8. Good housekeeping methods are not observed. Clean-up needed.

9. Permanent aisles are not marked in areas where mechanical handling equipment is used. Marking needed.

10. Floor load plates are not installed in building used for storage. Installation needed.

11. No warning signs exist on beams to alert forklift operators of clearance limits. Signs needed.

12. Caution signs are not used to warn against potential hazard or to caution against unsafe practices. Signs needed.

13. Safety instruction signs are not used where there is a need for general instructions and suggestions relative to safety measures. Signs needed.

14. Black, white or a combination of these two colors are not used for traffic and housekeeping markings. Painting needed.

15. Several heating coils in 1400 gallon heating tank under platform do not work. Replacement needed.

16. Deck atop 1400 gallon heating tank is damaged, unsafe to walk on and permits vapors from this volitile mixture to readily escape into working area. New metal deck needed.

17 Operation is not isolated. Fumes generated during process can readily enter lube oil warehousing area and overcome any individual not wearing appropriate respiratory equipment. Wall needed to isolate operation.

18. Ventilation inadequate even with doors open. Installation of 3 four foot sucker fans needed - one in south wall, one in east wall and one over 1400 gallon heating tank.

19. No spill control system exists in building. Now liquid can run all over area and out of doors at will. Floor sloping and drain installation needed.

20. Lighting is inadequate for work. Several bulbs are out but even with all lights on, only one candlepower was recorded during middle of day and bright daylight. Additional lighting to a minimum of 5 foot candles needed. An assist to this end would be to paint ceiling white.

21. Work area is caked with product and very very dirty. Steam cleaning needed badly.

BZTO104(e)010880

22. No emergency deluge shower exists. Material handled can be injurious. Permanent shower/eyewash needed.

23. Warning labels on WK-60 solvent drums do not list common chemical names of hazardous components. Correct labeling needed.

24. Persons now doing work had full beards which interfered with effective face seal of respirator. Shave needed.

25. No warning signs exist to call attention to hazards in area where penta is stored and mixed. Signs needed.

b. Tank Farm

1. Elevated walkways are not at least 22 " wide and equipped with standard handrails. Modification needed.

2. Platforms over 4' high do not have standard railings and toeboards on all open sides except at stairway or fixed ladder entrances. Modification needed

3. Railings do not have top rail 36" - 44" high and smooth surfaced intermediate rail half way between top rail and floor. Modification needed.

4. Handrails are not of metal pipe and are not a minimum of 1 1/2" diameter. Modification needed.

5. Stairway platforms are not a minimum of 30" in length measured in the direction of travel. Modification needed.

6. Piping systems are not identified with name of contents. Identification needed.

7. Piping has not been painted or color-coded. Painting needed.

8. Ladder cages do not extend a minimum of 42" above top of landing. Modification needed.

9. Cages do not extend down the ladder to a point not less than 7' nor more than 8' above ladder base. Modification needed.

10. Tank venting devices do not have stamped on them the opening pressure, the pressure at which the valve reaches the full open position and the flow capacity at the full open position, expressed in cubic feet per hour of air at 60° F. And at a pressure of 14.7 p.s.i.a. New venting devices needed.

11. Slope away from tank toward drainage system is less than 1 percent. Regrading needed. Drainage system installation needed.

12. Diked area containing two or more tanks is not subdivided by intermediate curbs, not less than 18" in width, to prevent spills from endangering adjacent tanks within diked area. Subdivisions needed.

BZTO104(e)010881

13. Piping system is not substantially supported and protected against excessive stresses from settlement, vibration, expansion or contraction. Pipe supports needed.

14. Tanks 20001 and 13001 are to close to warehouse. Relocation needed to at least 5 feet from building.

15. Tanks are rusted in many places. Cleaning and painting white needed.

16. No stairways, railings or walkways exist on horizontal tanks 3010, 6008, 8005, 8006 and 8007. Installation needed.

17. No ladder cages exist on tanks 20002, 20003 and 38009. Walkways and railings are damaged, missing or improper. Installation needed.

18. No manifold system exists on incoming product lines for receipt, blending or storage purposes. Manifold needed.

19. Valves on tanks and pipelines are not maintained at all. Repair and testing or replacement needed.

20. Valves, lines, pumps, hoses and tanks (in some places) are thickly covered with product. Steam cleaning badly needed.

21. Several valves in system are not chained and locked. Installation needed.

22. Pump journal cover is not secured to pump. Sheet metal screws needed.

23. Cargo hoses are not marked or recorded to show condition, manufacture, dates inspected or pressure tested. Some are damaged. Repair and recording needed.

24. Rail car siding wheel bumpers are not adequate (bolts missing) in that bumpers are not fastened to track. Repair needed.

25. No spill control system exists at rail car rack or within diked area. One was recommended in 1975. SPCC plan obligation not fulfilled. Installation needed.

26. Storage tanks are not labeled with information identifying their contents. Labeling required.

c. Ground Area

1. Ground area at end of pipelines is saturated with product at least 12" deep. Extent of condition unknown. Dirt removal and replacement needed.

BZTO104(e)010882

COMMENTS

a. It is my understanding that 1 - 3000 gallon, 1 - 6000 gallon, 1 - 7000 gallon. 3 - 8000 and 1 -10000 gallon tanks are Koppers Company property. Based on January 28, 1981 letter from Al Schneider to the Koppers Company, service agreement with Koppers was terminated effective May 31, 1982. In that light, consideration should be given to following paragraph 10 of agreement, regarding removal of all "Kopper owned" products from the area, before any clean-up actions begin. Should agreement still be in effect, it would appear appropriate to coordinate with Koppers so that service could be curtailed during clean-up activities. In either instance, the most practical approach to me seems:

1. Clean all tanks.
2. Dispose of this waste at Arlington.
3. Remove all tanks from within diked area and steam clean.
4. Remove ground to below test depth showing contaminations.
5. Dispose of this waste at Arlington.
6. Install spill control sump, pump, tank and impervious liner.
7. Replace ground and correctly grade to slope toward sump.
8. Replace tanks, paint white and identify each correctly.
9. Install new piping and manifold system throughout, paint it white and identify lines.
10. Correct all deficiencies listed under "tank farm" above.

b. The "how to do it", as applied to many of the corrective actions needed, is strictly specified in a number of instances so when "clean-up" is done, the appropriate regulations should be followed exactly. All are on file in this office and available on call.

c. Due to TOC longterm non-compliance with applicable regulations governing this particular operation, the company is now extemely vulnerable to fines and possible shutdown of entire terminal until corrective action in penta area is completed. All it would take is one complaint, one call or one inspector to trigger such action. For this reason, "clean-up" should be accomplished quietly and only the minimum number of people necessary should know of the matter, even after clean-up is finished. Because of the sensitivity, no Federal or State agency should be contacted by anyone at this time for anything. Kindly refer potential problem areas to me.

BZTO104(e)010883

To: J. DENHAM

FROM FROM: N. WALLIS / PORTLAND

TIME OIL CO.
P.O. BOX 24447
TERMINAL ANNEX
SEATTLE, WASHINGTON 98124
(206) 285-2400

SUBJECT WOODTREATING DATE: 8/9/83

FOLD ↑

P.S. FIND ATTACHED DRAWING # 1858, OUTLAY OF FACILITY AND DESCRIPTION OF TANKS CONTENTS. ALSO ATTACHED IS LAB. ANALYSIS OF TANK FARM SOIL. IF ADDITIONAL INFO. IS REQUIRED, PLS CALL.

J Neil Wallis

RETURN TO → SIGNED

DATE SIGNED

THIS COPY FOR PERSON ADDRESSED

AT am test inc.
4900 9TH AVENUE N.W., • SEATTLE, WASHINGTON 98107-3697 • 206/783-4700

ANALYSIS REPORT

CLIENT: Time Oil Company

DATE REPORTED: 4/18/83

REPORT TO: Neil Wallis
P.O. Box 03117
St. Johns Station
Portland, OR 97203

P.O.# 24870

Laboratory Sample No.	57057
Client Identification	Soil 2/28/83

SUBJECT: Static acute fish bioassay testing on juvenile rainbow trout Salmo gairdneri.

PROCEDURE: Sample was tested at both the 100 and 1000ppm levels. The procedure followed is outlined in the State of Washington's General Procedure for Static Acute Fish Bioassay Testing.

The test was begun using method two in which the test organisms were placed into the chambers within 30 minutes of adding the toxicant to the water. Daily logs of temperature, dissolved oxygen and mortalities were maintained.

RESULTS: Thirty (30/30) of the fish tested at the 1000 ppm level died within the first five hours of the four day test period.

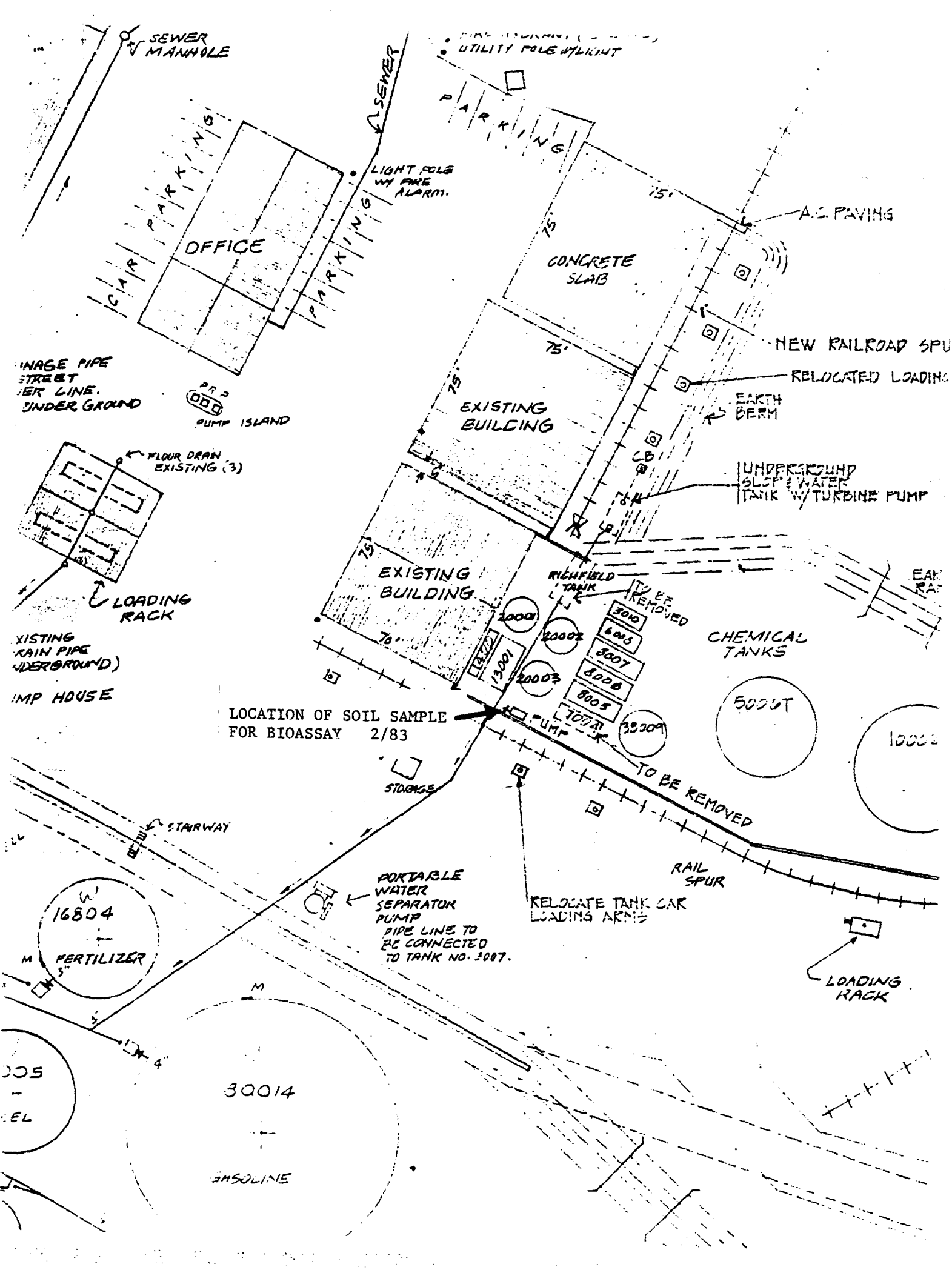
Thirty (30/30) of the fish tested at the 100ppm level died within 24 hours of the four day period.

None (0/60) of the control fish died during the four day test period.

CONCLUSION: The soil sample submitted by the Time Oil Company was found to be toxic to juvenile rainbow trout at both the 100 and 1000 ppm hazardous waste material (E.H.W.) under Washington State Guidelines.

Respectfully Submitted,

Mark A. Fugiel
Director of Industrial Chemistry



BZTO104(e)010886

OREGON TERMINAL INSPECTION SHEET

WT

The following references are to the Oregon Safety Code

ANSWER EACH QUESTION BY PLACING ✓ MARK IN APPROPRIATE BLOCK.	Yes	No	N/A
GENERAL			
Is a Safety Program being conducted? (1-2-17)	X		
Has each lost time injury been investigated and corrective action taken? (1-2-18)	X		
Are good housekeeping methods observed in all operations? (1-4-1)	X	1-17 X	
Are working and storage areas and passageways free of unnecessary obstructions? (1-4-2)	X		
Are all materials which might cause a workman to slip removed from floors or other treading surfaces? (1-4-3)	X		
Are operational working surfaces as level as practical and free of debris? (1-4-5)	X		
Has accumulated scrap, waste material or debris been removed? (1-4-8)	X		
Have flammable wastes, such as oily rags, been placed in suitable containers? (1-4-9)	X		
WORKING AREAS			
Are all places of employment clean, orderly, and in a sanitary condition? (2-2-2)	X		
Are floors free from protruding nails, splinters, holes, or loose boards? (2-2-5)	X		
Are permanent aisles marked in areas where mechanical handling equipment is used? (2-2-8)	X	1-19 X	
Are floor load plates installed in buildings used for storage? (2-2-10)	X	1-19 X	5-26 6-12 X
Does a $6\frac{1}{2}$' vertical clearance exist in work areas, aisles, passageways and stairways? (2-2-20)	X		
Are means of access and egress free from slipping and tripping hazards, debris, obstructions and projections? (2-2-24)	X		
Is there sufficient illumination for safe access and egress? (2-2-24-d)	X		
Is not less than 3 ft. of clear space maintained in front of electrical panels? (2-2-25)	X		

BZTO104(e)010887

WT

	Yes	No	N/A
Are aisles, passageways and walkways a minimum of 22" wide? (2-2-26)	X		
Are vehicle aisles and passageways at least 2' wider than the vehicles used? (2-2-27-a)	X		
RAILINGS			
Are elevated walkways at least 22" wide and equipped with standard handrails? (2-2-28)	X		
Are fixed inclined walkways at least 22" wide, equipped with handrails, and inclined less than 24°? (2-2-29)	X		
Are inclined walkways coated with an anti-slip surface or cleats not more than 18" apart? (2-2-30)	X	~~8-10~~ 9-20 X	~~10-19~~
Do all platforms over 4' high have standard railings and toeboards on all open sides except at stairway or fixed ladder entrances? (2-2-35)	X	1-19 X	
Do stairways conform to the following standard: (2-3-19)			
Less than 44" wide:			
Both sides enclosed - handrail on right side decending?	X		
One side open - stair rail on open side?	X		
Both sides open - stair rail on each side?	X		
Over 44" wide and less than 88" wide:	~~1-19~~ 2-24 4-28 10-19		
Handrail on each enclosed side and stair rail on each open side?	X		X
Over 88" wide:			
Handrail on each enclosed side, stair rail on each open side and midway of width?	X		
Do standard railings have top rail 36" - 44" high and smooth surfaced, intermediate rail half way between top rail and floor, and no railing overhang at either end? (2-3-21)	X		
Are stair railings 30" - 34" high? (2-3-22)	X		
Are wood railings of 2" x 4" stock with posts spaced not to exceed 6'? (2-3-24)	X		

WT

	Yes	No	N/A
Are structural steel railings, posts, and intermediate rails of 2" x 2" x 3/4" angles with posts spaced not to exceed 8 ft.? (2-3-26)	X		
Will top rail withstand a load of at least 200 lb. applied in any direction at any point? (2-3-27)	X		
Are handrails a minimum of 2" in diameter if wood, and a minimum of 1½" in diameter if metal pipe? (2-3-33)	X		
Do all handrails and railings have at least a 3" clearance from any other object? (2-3-35)	X		
FIXED INDUSTRIAL STAIRS			
Will fixed stairs carry a minimum concentrated load limit of 1000 lbs. safely? (2-4-5)	X		
Do stairways have a minimum width of 22"? (2-4-6)	X		
Are stairs installed at an angle of between 30° and 50°? (2-4-7)	X		
Are stair treads reasonably slip-resistant? (2-4-8)	X		
Are stairway platforms not less than the width of stairway and a minimum of 30" in length measured in the direction of travel? (2-4-12)	X	2-28 X	
Do fixed industrial stairs have a vertical clearance of 7'? (2-4-16)	X		
Do stairs having treads of less than 9" wide also have open risers? (2-4-17)	X		
Are open grating treads used for outside stairs? (2-4-18)		X	
PIERS AND WHARVES			
Are handholds provided on portable dockboards to permit safe handling? (2-5-4)	X		
Do open sides of piers and wharves more than 4' above the water have bull rail of not less than 6" x 6" timber on 3" blocking and standard handrails? (2-5-16)	X	2-28 X	
Are ladders provided from low water mark to dock floor for each 400 feet of wharf? (2-5-17)	X		2-28 X

	Yes	No	N/A
PIPING SYSTEMS			
Are all piping systems positively identified with name of contents? (5-5-5)		2-28 X	
Have all piping systems been painted &/or color coded? (5-5-7)	X		
HAND HELD TOOLS			
Are tools being used for their intended purpose? (6-1-3)	X		
Have defective tools been removed from service? (6-1-5)	X		
When not in use, are tools put away to avoid a hazardous condition? (6-1-6)	X		
Are hand tools, used in an explosive or flammable atmosphere, of the spark resisting type? (6-2-6)	2-28 X	X	
Do flexible cords used outdoors have weather-resistant insulation and connection? (6-3-10)	X		
Do workmen shut off compressed air before coupling or uncoupling air hoses? (6-3-14)	X		
Are workmen using compressed air for cleaning equipped with eye protection? (6-3-20)	X		
PERSONAL PROTECTIVE EQUIPMENT			
Is protective equipment maintained in a sanitary and reliable conditions? (7-1-8)	X		
Is there an inspection and maintenance system for personal protective equipment? (7-1-12)	X	2-28 X	
Has clothing that has been saturated with flammable liquids been properly cleaned before reuse? (7-2-4)	X		
Do hard hats meet ANSI Standard Z89.1-1969? (7-3-2)	X		
Is eye protection worn when there is a reasonable probability of injury that can be prevented by its use? (7-3-6)	X		
Do eye protectors meet the minimum requirements: adequate for danger, comfort, correct fit, no undue interference, durable, capable of being disinfected, easily cleaned, ease of repair? (7-3-8)	X		
Are ear protectors worn in applicable areas? (7-3-13)			X

WT

	Yes	No	N/A
Is proper drainage provided? (9-2-8)	X		
Are all solvent waste, oily rags, and flammable liquids kept in fire resistant covered containers? (9-2-11)	X		
Are lights, fire control devices, aisles, exits, and electrical switch panels free of stored materials? (9-2-12)	X		
Are all material stacks placed on level and solid supports in order to be stable and self-supporting? (9-2-18)	X		
Are there warning signs to indicate clearance limits? (9-3-4)		2-28 X	
MACHINES			
Are there one or more methods of machine guarding provided to protect the operator from such hazards as nip points, rotating or reciprocating parts, flying chips and sparks at the point of operation? (10-2-1)	X		
Are ~~fan blade guard openings no larger than $\frac{1}{2}$" when fan is less than 7 feet~~ above floor? (10-2-8)	3-29 X	2-28 X	
Are machines in fixed locations securely anchored to prevent walking or moving? (10-2-10)	X		
Before service, adjustment or cleanup, has the machine been locked out so that accidental restarting is impossible? (10-2-11)	X		
Are machines and other equipment stopped while being lubricated (unless moving parts are guarded not allowing access to moving parts)? (10-2-12)	X		
Are any pulleys less than 7' from the floor or working area guarded? (10-8-19)	X		
Are pulleys kept in proper alignment to keep belts from running off? (10-8-81)	X		
Are frequent inspections of belts made to insure they are in good repair? (10-8-86)	X		
DOCK CRANE			
Is clearly legible rating chart securely affixed to crane? (11-5-6)	X		

WT

	Yes	No	N/A
Are ladders stored in a horizontal position sufficiently supported to avoid sagging? (19-2-113)	X		
Are ladders carried on vehicles securely fastened in position to minimize chafing and road shock effect? (19-2-114)	X		
Do the rungs of portable metal ladders have antiskid surfaces? (19-3-6)	X		4-28 X
Do fixed ladders have a minimum concentrated live load capacity of 200 pounds? (19-4-1(a))	X	1-19 2-24 X	5-26
Are rungs a minimum diameter of 3/4" for metal ladders and 1 1/8" for wood ladders? (19-4-3)	X		
Is distance between rungs and/or steps less than 12" and uniform throughout ladder length? (19-4-4)	X		
Is minimum clear length of rungs 16"? (19-4-5)	X		
Is distance from rung centerline to nearest object in back of ladder not less than 7"? (19-4-21)	X		
Are cages provided on ladders more than 20 feet in length? (19-4-29)		X	1-19 X
Do cages extend a minimum of 42" above top of landing? (19-4-30)	X	1-19, 10-19 X	2-24;
Do cages extend down ladder to a point not less than 7 feet nor more than 8 feet above ladder base? (19-4-31)	X	1-19, 10-19 X	2-24
Are all ladders maintained in a safe condition? (19-4-51)	X		
MACHINE GUARDING			
Do grinder guards cover spindle end, nut and flange projections? (20-2-2)	X		
Are work rests adjusted closely to the wheel with a maximum opening of 1/8"? (20-2-4)	X		
Is angular exposure of grinding wheel periphery less than 90°? (20-3-3)	X		
Are abrasive wheel flanges at least 1/3 the diameter of the wheel? (20-4-1)	X		

WT

	Yes	No	N/A
FLAMMABLE AND COMBUSTIBLE LIQUIDS			
Are storage tanks equipped with pressure vacuum venting devices? 22-055(c)(2)(iv)(f)	X		
Does each tank venting device have stamped on it the opening pressure, the pressure at which the valve reaches the full open position, and the flow capacity at the full open position, expressed in cubic feet per hour of air at 60°F and at a pressure of 14.7 p.s.i.a.? 22-055(c)(2)(v)(h)		1-19 X	
Is a slope provided of not less than 1% away from the tank toward the drainage system? 22-055(c)(2)(vii)(b)(1) 5-26,	6-12 7-15 X	1-19 X	
Do earthen walls 3 feet or more in height have a flat section at the top not less than 2 feet wide? 22-055(c)(2)(vii)(c)(3)	X		
Are loose combustible materials, empty or full drums or barrels prohibited from being within the diked area? 22-055(c)(2)(vii)(c)(6)	X		
Is each diked area containing two or more tanks subdivided by intermediate curbs, not less than 18" in width, to prevent spills from endangering adjacent tanks within diked area? 22-055(c)(2)(vii)(c)(7)		1-19 X	
Are connections for all tank openings vaportight and liquid-tight? 22-055(c)(2)(viii)(a)	X		
Are external valves on tanks made of steel? 22-055(c)(2)(viii)(b)	X		
Are openings for gaging provided with a vaportight cap or cover? 22-055(c)(2)(viii)(d)	X		
Are vent pipes from underground storage tanks not less than 12 feet above ground level? 22-055(c)(3)(iv)(a)	X		
Are underground storage tank vent pipes not less than 1 1/4" inside diameter? 22-055(c)(3)(iv)(b)	X		
Are openings for manual gaging of underground storage tanks provided with liquidtight cap or cover? 22-055(c)(3)(v)(b)	X		
Is piping system substantially supported and protected against excessive stresses from settlement, vibration, expansion, or contraction? 22-055(d)(4)	X		
Is storage area fenced and free of weeds, debris and other combustible material not necessary to the storage? 22-055(e)(6)(iv)	X		

	Yes	No	N/A
SIGNS			
Are "DANGER" signs used only where an immediate hazard exists? (28-1-5)		X	
Are "CAUTION" signs used only to warn against potential hazards or to caution against unsafe practices? (28-1-8)		X	
Are "SAFETY" instruction signs used where there is a need for general instructions and suggestions relative to safety measures? (28-1-10)		X	
Are red, black, and white colors of opaque, glossy nature used for "DANGER" signs? (28-2-2)		X	
Do "CAUTION" signs have yellow background, black panel and yellow letters? (28-2-3)		X	
Do "SAFETY INSTRUCTION" signs have white background, green panel and white letters? (28-2-5)	X		
Do "DIRECTIONAL" signs have white background, black panel and white directional symbol? (28-2-6)		X	
Do "TRAFFIC" regulatory signs conform to paragraph 6B-5 through 6B-11 of Uniform Traffic Control Devices in ANSI Standard D6.1-1971? (28-2-7)		X	
Do "INFORMATIONAL" signs have white background, blue panel and white letters? (28-2-8)	X		
Is wording of any sign easily read and concise? (28-3-1)	X	2-28 X	
Are "Do Not Start" tags used on power equipment as a temporary means to warn of hazardous condition? (28-4-3-(a))	X		
Are "Defective Equipment" tags placed on damaged ladders and arrangements made for ladder repair or removal from workplace? (28-4-3-(b))	X		
Are employees instructed that "Danger" tags indicate immediate danger and that special precautions are necessary? (28-4-8)	X		
Are employees instructed that "Caution" tags indicate possible hazard against which proper precautions must be taken? (28-4-10)	X		
Are "Out of Order" tags used to indicate a piece of equipment is out of order and to attempt to use it might present a hazard? (28-4-11)	X		

WT

	Yes	No	N/A
Are warning signs posted on dock? (Reference: 46 CFR 151.45-2(e)(1))	X		
		8-10	5-26 6-12 7-15 9-20
COLOR CODING			
Are the following fire protection devices painted red? (28-5-1)			
Fire Buckets or Pails	X	X	X
Fire Exit Signs	X	X 5-26	
Fire Extinguishers	X		
Fire Hose Locations	X		
Fire Hydrants (Industrial)	X		
Have all safety cans or other portable containers of flammable liquids been painted red with yellow lettering naming the contents? (28-5-2)	X	6-12 7-15 X	
Are all danger signs painted red? (28-5-4)	X	5-26 X	
Are all stop buttons or electrical switches used for emergency stopping of machinery painted red? (28-5-6)		X	
Are all dangerous parts of machines or parts of energized equipment painted orange? (28-5-7)	8-10 X	X	
Is yellow the basic color for marking physical hazards such as: striking against, stumbling, falling, tripping and caught-in-between? (28-5-8)	X	8-10 X	
Is green the basic color used for designating "Safety" and the location of first aid equipment (other than fire fighting equipment)? (28-5-9)		X	
Is blue the basic color used for designating caution, warning against the starting, use of, or movement of equipment under repair or being worked on? (28-5-10)		X	
Are black, white or a combination of these two the basic colors used for traffic and housekeeping markings? (28-5-12)	1-19, 2-24 10-19 X	1-19 X	
The following references are to TITLE 33 of the Code of Federal Regulations:			
Are cargo hoses long enough to allow vessel movement to its mooring limits without placing a strain on hoses or transfer piping system? 156.120 (b)	X		
Does each cargo hose support prevent strain on its coupling? 156.120(c)	X		

EXHIBIT "A"

Employer Name: Tice Oil Co.

Date Issued: [illegible]

Employer I.D. No.: [illegible]

Citation No.: [illegible]

Item No.	Standard Allegedly Violated OAR Chap. 437	Description of Alleged Violation	Date Correction Required	Penalty
1.	22-011(2)	Employes working in the pentachlorophenol mixing area were not adequately informed of the known health hazards associated with the material. Although the employes were familiar with the need for the provided personal protective equipment, they were not adequately informed as to the following:		
		(a) Short term health effects.		
		(b) Long term health effects.		
		(c) Symptoms of over-exposure.	12-1-80	$10.00
2.	7-2-1	Employes were provided with but did not always wear clothing impermeable to pentachlorophenol, namely, while working in the mixing area.	11-26-80	$10.00
3.	22-015(2)(b)	The following storage tanks, located behind the pentachlorophenol mixing area, were not labeled with information identifying their contents, the hazards presented by the contents and necessary handling precautions:		
		(a) The Tiabertox 30 concentrate tank which contains pentachlorophenol.		
		(b) The Chevron 325 solvent tank which contains naphthalenes and paraffins.		
		(c) The K0-3 tank which contains aliphatic ketones.		
		(d) The S-11 tank.		
		(e) The Oxo Bottoms solvent tank which contains Oxo alcohol high boilers.	11-24-80	$0.00
4.	22-015(2)(a)	The warning labels on the 55 gallon drums of Kopper's Chemical Co. KK-10 solvent were inadequate in that the common chemical names of the hazardous components were not listed. KK-10 solvent contains aliphatic ketones.	11-24-80	$0.00

Page ____ of ____ Pages

Total Penalty

436-1221 (Rev. 1/76)

BZTO104(e)010896

EXHIBIT "A"

Employer Name: [illegible] Date Issued: [illegible]

Employer I.D. No.: [illegible] Citation No.: [illegible]

Item No.	Standard Allegedly Violated OAR Chap. 437	Description of Alleged Violation	Date Correction Required	Penalty
1.	[illegible]	Although the following employees were exposed to known health hazards they were not adequately informed as to the nature of the hazards, the measures taken to prevent overexposure and hazards or the proper methods of utilizing such control measures. Employee / Location — Hazard 1. Don Stell - Mining Area — Pentachlorophenol 2. David Wood Mining Area — Pentachlorophenol Within the compliance deadline the firm must undertake one of the following: a. Provide adequate information or training to affected employees by internal efforts and/or by the firm's Workmen's Compensation carrier. b. In cooperation with the Occupational Health Section prepare, develop and obtain approval of an employee information program. This program shall be designed to insure that employees are adequately informed of the health hazards to which they are exposed and the measures necessary to control such exposures. (Complied with at time of inspection). FIRST INSTANCE VIOLATION——————$25.00	N/A	[illegible]
2.	22-049 (4)(b)(1)	There were no written standard operating procedures governing the selection and use of respirators. FIRST INSTANCE VIOLATION-$0.00	5-6-76	[illegible]
3.	22-049 (4)(e)(5) (1) a	Don Stell and David Ford, who were wearing respirators, had full beards which interferred with an effective face seal. (Complied with at time of inspection). FIRST INSTANCE VIOLATION——————$0.00	N/A	[illegible]
4.	7-2-1 & 7-2-1	Boots and raingear made of material impervious to pentachlorophenol were not provided to employees during mining and filling operations when it was possible for this substance to come in contact with the employees skin. FIRST INSTANCE VIOLATION——————$15.00	5-6-76	[illegible]

Page 1 of 2 Pages — Total Penalty

WCB 1221 (Rev. 1/76)

BZTO104(e)010897

EXHIBIT "A"

Employer Name: [illegible] Date Issued: [illegible]

Employer I.D. No.: [illegible] Citation No.: [illegible]

Item No.	Standard Allegedly Violated OAR Chap. 437	Description of Alleged Violation	Date Correction Required	Penalty
[illegible]	[illegible]	~~Adequate eye protection was not [illegible] for employees during rising and filling over [illegible] as evidenced by the safety glasses provided that [illegible] not prevent [illegible] from coming up under the [illegible] top rim and entering their eyes.~~ ~~FIRST INSTANCE VIOLATION ----------$25.00~~	[illegible]	[illegible]
6.	22-060(12)	~~There was no eye wash fountain in the warehouse area where pentachlorophenol was handled.~~ ~~FIRST INSTANCE VIOLATION----------$25.00~~	5-6-78	[illegible]
7.	22-015 (1)(a)	In the warehouse area where pentachlorophenol was stored and mixed there was no warning sign or other equally effective means of calling attention to such hazards at their location where the hazards exist. FIRST INSTANCE VIOLATION ----------[illegible]	[illegible]	[illegible]

Page [illegible] of [illegible] Pages

Total Penalty

WCB 1221 (Rev. 1/76)

BZTO104(e)010898

M E M O R A N D U M

August 27,1981

TO: R.D. Abendroth Seattle

FROM: John Denham Seattle

SUBJECT: WOOD TREATING (KOPPERS COMPANY)

Reference last sentence of my August 17,1981 memo, copy attached.

My August 21,1981 inspection of this operation revealed the following deficiencies:

A. TANK FARM OUTSIDE WAREHOUSE

1. Tanks 20001 and 13001 are too close to warehouse. (relocation needed to ~~distance~~ at least five feet from building)

2. Tanks are rusted in many places. (cleaning and painting white needed)

3. No stairways, railings or walkways exist on horizontal tanks 3010, 6008, 8005, 8006 and 8007. (installation needed)

4. No ladder cages exist on tanks 20002, 20003, and 38009. Walkways and railings are damaged, missing or improper. (installation needed)

5. Several heating coils in 1400 gallon heating tank under platform do not work. (replacement needed)

6. Deck atop 1400 gallon heating tank is damaged, unsafe to walk on and permits vapors from this volatile mixture to readily escape into working area. (new metal deck needed)

7. No suction ~~pipelines~~ or manifold ~~exist~~ at rail car siding ~~for unloading purposes~~. (installation needed)

no piped in system

8. No manifold system exists on incoming product lines for receipt, blending or storage purposes. (manifold needed)

9. Valves on tanks and lines are not maintained at all. (repair and testing or replacement needed)

BZTO104(e)010899

10. Valves, lines, pumps, hoses and tanks (in some places) are thickly covered with product. (steam cleaning badly needed)

11. Several valves in system are not chained and locked. (installation needed)

12. Valve at ~~end~~ of isolated line to tank 38009 ~~is leaking~~ product onto ground. ~~(replacement valve~~ needed)

13. Pipeline ~~supports are improper and~~ inadequate. ~~(replacement needed)~~

14. ~~Pipelines~~ are not painted ~~or identified as to product~~ content. ~~(maintenance needed)~~

15. Product ~~identification is~~ not on all tanks. ~~(signs needed)~~

16. Ground area at end of pipelines is saturated with product ~~about four~~ at least twelve inches deep. (dirt removal and replacement needed)

17. Pump journal cover is not secured to pump. (four sheetmetal screws needed)

18. Cargo hoses are not marked or recorded to show condition, manufacturer, dates inspected or pressure tested. Some are damaged. (repair and recording needed)

19. ~~Weeds are prevalent in quantity within diked compound. Good fire hazard. (weed removal needed)~~

20. Rail car siding wheel bumpers are ~~not~~ inadequate (bolts missing) fastened to track. (repair needed)

21. Fire extinguisher on platform by 1400 gallon heating tank ~~is~~ not tagged, has ~~not~~ been inspected for operational capability and is fixed so it can not work, even if needed. (replacement system needed)

22. No spill control system exists at rail car rack or within diked area. One was recommended in 1975, ~~copy attached, but apparently not approved by management~~. (installation needed)

B. INSIDE WAREHOUSE

1. Operation is not isolated. Fumes generated during process can readily enter lube oil warehousing area and overcome any individual not wearing appropriate respiratory equipment. (wall needed in warehouse to isolate operation)

BZTO104(e)010900

2. Ventilation inadequate even with doors open. (installation of three - four foot sucker fans needed - one in south wall, one in east wall and one over 1400 gallon heating tank)

3. No spill control system exists in building. Now liquid can run all over area and out of doors at will. (floor sloping and drain installation needed)

4. Four ceiling joists are damaged severely from fork lift operation. (repair ~~and/or~~ replacement beams needed)

5. No clearance signs exist on beams to alert fork lift operators. (signs needed)

6. Lighting is inadequate for ~~the~~ work. Several bulbs are out but even with all lights on, only one candle power was recorded during middle of the day bright daylight. (additional lighting to a minimum of five foot candles needed. An assist to this would be to paint ceiling white)

7. Work area is caked with product and very very dirty. (steam cleaning needed badly)

8. Small floor fan thickly covered with product. Fire hazard. (cleaning needed)

9. No emergency deluge shower exists. Material handled can be injurious. (shower would help. Eyewash should be included on such a permanent hookup)

Nearly all of these deficiencies have been reported previously.

JPD/mm

Attachments

BZTO104(e)010901

PORTLAND WOODTREATING 8-19-83

1. REMOVE HORIZONTAL TANKS — CUSTOMER'S EXPENSE

2. REMOVE 1' DIRT THROUGHOUT OPEN AREA + TRUCK TO ARLINGTON → ? $5000-
REPLACE WITH CLEAN DIRT → 1500-

3. 10'x10' CONC. CATCHMENT UNDER PUMP, MANIFOLD + METER — *1500

4. STEEL DRIP PAN FOR BARRELING + Scales 10'x15' — *1500

5. CONCRETE CATCHMENT FOR TRUCK LOADING 15'x 40' x 4" BERM (6" THICK, w/STEEL) — ? 3000

6. VALVES 2 @ 3"φ GV @ $240/ea — *5000

7. PIPE - 300' NEW WELDED w/ FTGS, SUPPORTS, MANIFOLDING, ETC
LABOR 5000
MATL 1500 → *6500

8. METER - PROVIDE FROM STOCK — —

9. DRY BREAK, HOSE, CV @ TRUCK LOAD 3"φ — ? 1500

10. ✓ ✓ ✓ @ RAILROAD 3"φ — ? 1500-

11. VENT FANS + WIRING IN BARRELING AREA (2) — ? 2000-

12. CONECTION SYSTEM FOR SPILL CATCHMENTS 5000 GAL TK, PIPING + VALVES — ? 8000-

13. FIX LADDERS ON TANKS (ADD CAGES + 2 TANKS) — *1200-

14. PAINTING *=15700 — ? 7500-

(NO RD SPCC [illegible]) TOTAL $ 45,700-

BZTO104(e)010902

TIME OIL COMPANY

P. O. BOX 03117 • ST. JOHNS STATION
12005 N. BURGARD STREET • PORTLAND, OREGON 97203
PHONE 286-1611

PURCHASE ORDER

No. 24870

PLACE THIS NUMBER ON YOUR INVOICE AND ALL CORRESPONDENCE

TO AM TEST INC
[illegible] 9th AVE N W
STATTLE, WA 98107

DATE 2/28/83

SHIP BY

✓	QUANTITY	PART NO.	DESCRIPTION	LIST UNIT PRICE	NET UNIT PRICE	AMOUNT
			"Fish [illegible] Assay"			
			(Soil)			
			1000 PARTS		[illegible]	
			100 "		150.00	
						500.00

FOR RESALE ☐ WASH. STATE RESALE CERTIFICATE NO. C 178-47526

Time Oil Company

BY [illegible]

THIS PURCHASE IS EXPENSE OF: ☒ T.O.C. ☐ OTHER

DATE WANTED

IF T.O.C.

DEPARTMENT: N.W. TML (St. JOHNS)

SERVICE STATION (Show address and Operator)

EXPLANATION: SOIL ANALYSIS FOR WOOD TREATING TANKS

ACCOUNT NO.

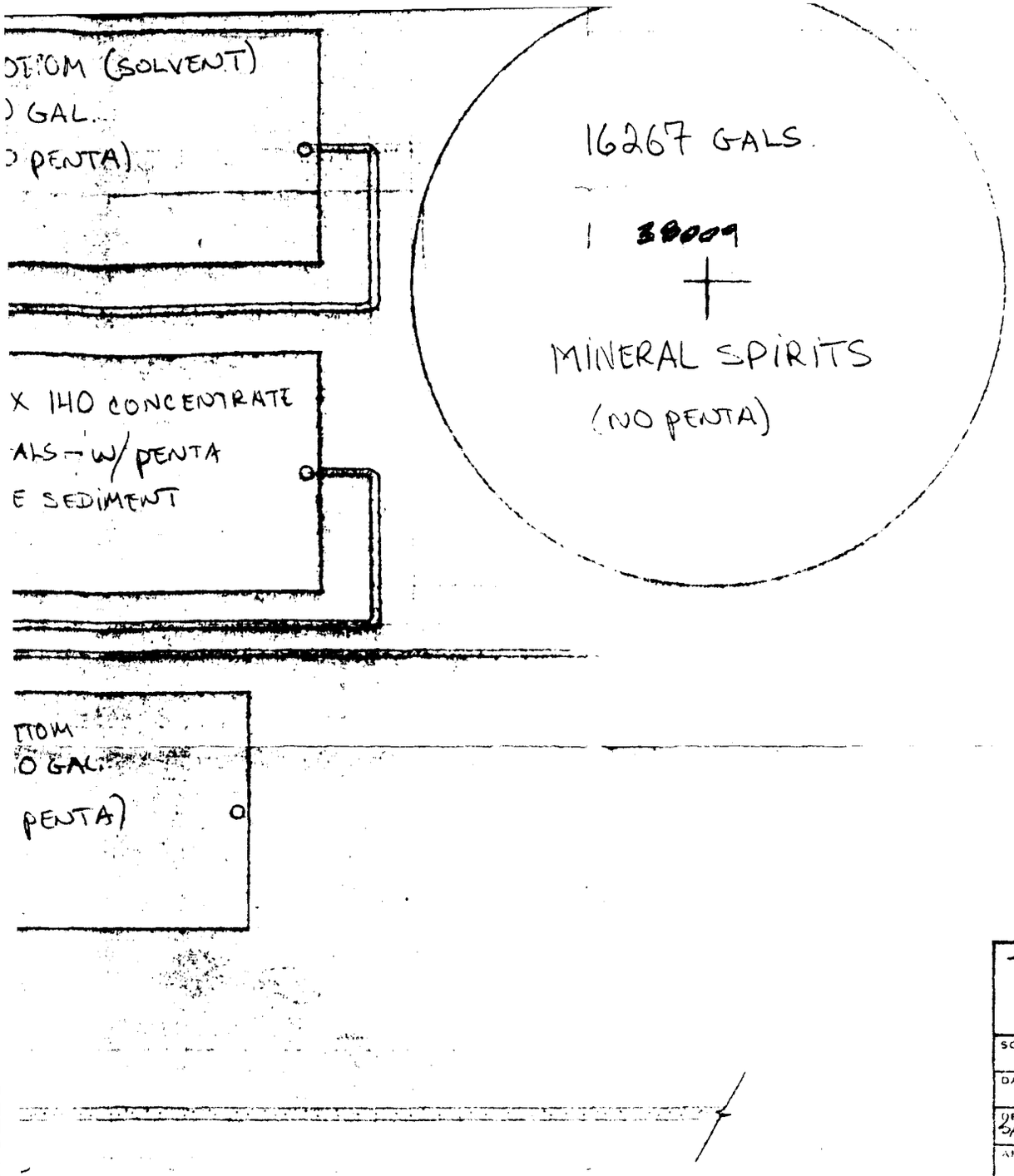
REQUESTED BY

APPROVED BY

APR 2

FILE COPY

BZTO104(e)010903



NOTE: INVENTORY AS OF
8/8/83

NOTE
ALL PRODUCT LINES ARE 3"ϕ

TIME OIL COMPANY
2737 WEST COMMODORE WAY SEATTLE, WA.

SCALE 3/16"=1'-0"	REVISIONS	BY	DAT
DATE 12-1-81			
DRN SAIDHOT CKD			
APPVD			

TITLE CHEMICAL TANKS
NORTHWEST SHELL OIL TERMINAL

NO. 1858

BZTO104(e)010904

Back up material

5/29/71 FED. REG. PAGE NO.	SAFETY STANDARDS OR REGULATIONS ALLEGEDLY VIOLATED	DESCRIPTION OF ALLEGED VIOLATIONS
36. 10700	1910.310(i)(4)	Front working space at north wall electrical control center is less than 3 feet. Rewarehousing needed. The working space in front of panels shall be not less than 3 feet.
37. 10700	1910.310(o)	Electric circuits at north end of warehouse are not marked to indicate purpose. Identification needed. Circuits shall be legibly marked. Marking shall be of sufficient durability to withstand the environment involved.

BZTO104(e)010906

5/29/71 FED. REG. PAGE NO.	SAFETY STANDARDS OR REGULATIONS ALLEGEDLY VIOLATED	DESCRIPTION OF ALLEGED VIOLATIONS
29. 10603	1910.157(d)(3)(i)	Unmounted portable fire extinguishers are not maintained or recharged annually. Maintenance needed. At regular intervals, not more than 1 year apart, extinguishers shall be thoroughly examined and/or recharged or repaired to insure operability and safety.
30. 10603	1910.157(d)(3)(iv)	Portable fire extinguishers are not tagged. Tags needed. Each extinguisher shall have a durable tag securely attached to show the maintenance or recharge date and the initials or signature of the person who performs this service.
31. 10612	1910.176(f)	No bumper blocks exist at end of railroad tracks in yard. Installation needed. Bumper blocks shall be provided on spur railroad tracks where a rolling car could enter a work or traffic area.
32. 10613	1910.177(d)(1)	No sprinkler system exists. Installation needed. Warehouses containing commodities having combustible packaging shall be protected with automatic sprinkler system.
33. 10613	1910.177(f)(1)	Several lights do not work in warehouse interior. Repair needed. Heating, lighting, and service equipment shall be maintained in accordance with good practice.
34. 10616	1910.178(m)(5)	Emergency brake does not work on fork lift truck. Battery cable wiring is frayed showing bare wires. Repair needed. Brakes shall be set when truck is unattended. If at any time a powered industrial truck is found to be in need of repair, it shall be taken out of service until it has been restored to a safe operating condition.
35. 10617	1910.178(p)(1)	

5/29/71 FED. REG. PAGE NO.		SAFETY STANDARDS OR REGULATIONS ALLEGEDLY VIOLATED		DESCRIPTION OF ALLEGED VIOLATIONS
				Emergency drainage systems shall be provided to direct flammable or combustible liquid leakage and fire protection water to a safe location.
23.	10540	1910.106(a)(36)(e)(9)(iii)	a	Excess trash, paper on warehouse floor and in open top containers. Clean up needed. Combustible waste material and residues in a building or unit operating area shall be kept to a minimum, stored in covered metal receptacles and disposed of daily.
24.	10541	1910.106(a)(36)(f)(3)(iv)(a)		Bonding cables are missing from some tank car loading stands. Installation needed. Bonding facilities for protection against static sparks during the loading of tank vehicles through open domes shall be provided.
25.	10541	1910.106(a)(36)(f)(3)(v)		No static protection exists at tank car loading stands. Installation needed. Tank car loading facilities shall be protected against stray currents by bonding the pipe to at least one rail and to the rack structure if of metal.
26.	10602	1910.157(a)(5)		Two portable fire extinguishers in warehouse are not mounted. Mounting needed. Portable extinguishers shall be installed on hangers or brackets supplied, mounted in cabinets or set on shelves so top of extinguisher is not more than 5 feet above floor.
27.	10603	1910.157(c)(3)	a	Fire extinguisher size and placement is inadequate. Extinguishers needed. Maximum travel distance to extinguishers shall not exceed 50 feet for type operation.
28.	10603	1910.157(d)(2)(i)		Unmounted portable fire extinguishers are not inspected monthly. Inspection needed. Extinguishers shall be inspected monthly to insure they are in their designated places, that they have not been activated or tampered with, and to detect any obvious physical damage.

5/29/71 FED. REG. PAGE NO.	SAFETY STANDARDS OR REGULATIONS ALLEGEDLY VIOLATED	DESCRIPTION OF ALLEGED VIOLATIONS
16. 10533	1910.106(a)(36)(b)(2)(vii)(c)(1)	Tanks have no dikes around them. Installation needed. The volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank.
17. 10536	1910.106(a)(36)(c)(3)	Quick coupling pipe cap missing from one line allowing product to leak. Maintenance needed. Joints shall be made liquid tight.
18. 10536	1910.106(a)(36)(c)(4)	Some tank farm pipelines are not substantially supported. Maintenance needed. Adequate supports are needed to protect piping system against physical damage and excessive stresses arising from settlement, vibration, expansion, or contraction.
19. 10536	1910.106(a)(36)(c)(5)	Not all tank farm pipelines are painted. Maintenance needed. All piping for flammable or combustible liquids shall be painted or otherwise protected against external corrosion.
20. 10538	1910.106(a)(36)(d)(5)(vi)(e)	Wax, penta, and drums are warehoused closer than 3 feet to overhead beams or obstructions. Rewarehousing needed. No pile shall be closer than 3 feet to the nearest beam.
21. 10539	1910.106(a)(36)(d)(7)(i)(a)	No fire extinguishers are located outside north warehouse room doors. Installation needed. At least one portable fire extinguisher having a rating of not less than 12-B units shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage.
22. 10539	1910.106(a)(36)(e)(3)(iv)(a)	No means exists for prompt and safe disposal of spills at tank 13001. Area is completely saturated.

BZTO104(e)010909

5/29/71 FED. REG. PAGE NO.	SAFETY STANDARDS OR REGULATIONS ALLEGEDLY VIOLATED	DESCRIPTION OF ALLEGED VIOLATIONS
5. 10476	1910.25(c)(2)(i)(h)	Bucket shelf on wooden stepladder is broken. Repair needed. Where bucket shelves are provided, they shall be constructed to support a load of 25 pounds and so fastened that they can be folded up when ladder is closed.
6. 10481	1910.26(a)(1)(iii)	Section of metal ladder has bent side rails and rungs missing. Replacement needed. Spacing of rungs shall be on 12 inch centers.
7. 10484	1910.27(d)(1)(iii)	Cage on tank 38009 does not extend above roof. Modification needed. Cages shall extend a minimum of 42 inches above the top of the landing, unless other acceptable protection is provided.
8. 10485	1910.27(d)(3)	Ladder extensions atop tanks 5006, 10002, 20001, 20002, 20003 are too short. Modification needed. The side rails of ladder extensions shall extend 3 1/2 feet above parapets and landings.
9. 10495	1910.36(b)(6)	Dock exit facilities lights do not work. Cover missing from one junction box. Repair needed. In every building equipped for artificial illumination, adequate and reliable illumination shall be provided for all exit facilities.
10. 10496	1910.37(q)	No building exit signs exist. Standard illuminated exit signs bearing word "exit" in letters not less than 6 inches high and 3/4 inches wide shall be at each exit, red in color. Standard directional signs with arrow indicating direction to nearest exit shall be placed where nearest exit is not immediately apparent. Words "fire exit" should appear below panel. Size and colors of directional signs are attached.
11. 10496	1910.37(q)(4)	
12. 10496	1910.37(q)(5)	
13. 10496	1910.37(q)(6)	
14. 10496	1910.37(q)(8)	
15. 10597	1910.144(a)(1)(i)(d)	

BZTO104(e)010910

Koppers Company, Inc., Forest Products Group
Pittsburgh, PA 15219, Telephone 227-2775

KOPPERS

Donald F. Marion
Manager, Raw Materials
Specialty Wood Chemicals Division

June 14, 1983

Mr. Neil Wallis
Time Oil Company
12005 N. Burgard Street
Portland, OR 97203

Dear Neil:

I would like to take this opportunity to thank you and Don Schwendiman for meeting me in Seattle at the airport on Thursday, June 9 to discuss the Storage and License Agreement. I feel that all of the non-economic verbage items have been resolved to our mutual satisfaction. I would hope that we can now agree on the minimum storage fee and the per gallon blending fee and have the agreement executed by both parties by June 30, 1983. I would like to get the first 10,000 gallon railcar in motion to you as quickly as possible. Please review your numbers and advise if you need to discuss any remaining items. I am truly looking forward to getting these negotiations behind us.

Again, my sincere thanks to both Don and yourself for meeting me in Seattle. I will be anxiously awaiting your call on the remaining open items.

Sincerely yours,

Donald F. Marion

DFM/dkm

cc: Robert D. Avendroth
Donald L. Schwendiman

BZTO104(e)010911

Don - as usual - good job. Paul

KOPPERS

Interoffice Correspondence

To J. D. Palmer

Location St. Louis

Subject Time Oil Company Meeting - 6/9/83

From D. F. Marion

Location Pittsburgh

Date June 14, 1983

On Thursday, June 9, I met with Donald L. Schwendiman and Neil Wallis of Time Oil in Seattle to discuss the new agreement covering Woodtox concentrate dilution to Woodtox ready-to-use. The fundamental language of the contract was finalized and will be reviewed by Robert Abendroth before sending the Agreement to me for execution. However, the minimum storage fee and the $0.05 per gallon handling fee are being reviewed. I have proposed a $500 per month minimum storage fee versus their original $700 proposal. Robert Abendroth must formally approve the number. In addition, due to the melting of parafin wax and adding it, along with the mineral spirits, to the Woodtox concentrate per George Mill's memo of 5/19/83, which was reviewed with Neil and Don, Neil indicated he would have to review his $0.05 per gallon price. He will contact George Mills direct regarding the mixing procedures referenced in George's memo and then discuss the situation with Neil Gallagher and advise me regarding the necessity to revise his number. It appears that these remaining economic items, along with the minor wording items, will be resolved in the next week or so. We should then be receiving the final agreement executed by Time Oil for our execution on behalf of Koppers.

JDP TO Review

I'll continue to closely monitor the situation until I have the Agreement in hand and we're ready to move the first railcar of Woodtox Concentrate to the West Coast. When we ship the first car to Portland, I would recommend that George Mills go out and work closely with Neil Gallagher on the procedures for dilution. George can also set up procedures to work off inventories of other items. Our objective should be to clear up all items that are not moving through Time Oil any longer.

61

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject Time Oil Meeting Date June 14, 1983

If you have any questions regarding the above information or you would like to discuss the situation at Time Oil further, please call.

Donald F. Marion

DFM/dkm

cc: P. A. Goydan
G. B. Mills
W. J. Baldwin

61

Ed Labe
W S Baldwin

RECEIVED
JUN 14 1983
FOREST PRODUCTS GROUP
ENGINEERING

KOPPERS

Interoffice Correspondence

To J. D. Palmer

Location St. Louis

Subject Time Oil Company Meeting - 6/9/83

From D. F. Marion

Location Pittsburgh

Date June 14, 1983

On Thursday, June 9, I met with Donald L. Schwendiman and Neil Wallis of Time Oil in Seattle to discuss the new agreement covering Woodtox concentrate dilution to Woodtox ready-to-use. The fundamental language of the contract was finalized and will be reviewed by Robert Abendroth before sending the Agreement to me for execution. However, the minimum storage fee and the $0.05 per gallon handling fee are being reviewed. I have proposed a $500 per month minimum storage fee versus their original $700 proposal. Robert Abendroth must formally approve the number. In addition, due to the melting of parafin wax and adding it, along with the mineral spirits, to the Woodtox concentrate per George Mill's memo of 5/19/83, which was reviewed with Neil and Don, Neil indicated he would have to review his $0.05 per gallon price. He will contact George Mills direct regarding the mixing procedures referenced in George's memo and then discuss the situation with Neil Gallagher and advise me regarding the necessity to revise his number. It appears that these remaining economic items, along with the minor wording items, will be resolved in the next week or so. We should then be receiving the final agreement executed by Time Oil for our execution on behalf of Koppers.

I'll continue to closely monitor the situation until I have the Agreement in hand and we're ready to move the first railcar of Woodtox Concentrate to the West Coast. When we ship the first car to Portland, I would recommend that George Mills go out and work closely with Neil Gallagher on the procedures for dilution. George can also set up procedures to work off inventories of other items. Our objective should be to clear up all items that are not moving through Time Oil any longer.

BZTO104(e)010914

KOPPERS

Interoffice Correspondence

To _____ From _____

Location _____ Location _____

Subject Time Oil Meeting Date June 14, 1983

If you have any questions regarding the above information or you would like to discuss the situation at Time Oil further, please call.

Donald F. Marion

DFM/dkm

cc: P. A. Goydan
G. B. Mills
W. J. Baldwin

BZTO104(e)010915

cc: J. D. Hite
J. Kusar
D. MacArthur
D. F. Marion
K. E. Cogan K/700

JUN 2 1983

KOPPERS

Interoffice Correspondence

To Paul A. Goydan
Location K/750
Subject May Monthly Report

From John D. Palmer
Location WTC - St. Louis
Date June 2, 1983

GENERAL COMMENTS

Time Oil
The contract is in the hands of Time Oil. George Mills has completed various tests on the concentrate and has also prepared a draft label for Bill Baldwin.

Jones-Hamilton - WTC
Four batches of Liquid Noxtane SS-1, three batches of T-1, and one small batch of Liquid Azide are being produced by Jones-Hamilton.

Jones-Hamilton - CCA-C
Production and inventory variances have been discussed with Dan Gilbert. We will be setting up new guidelines.

St. Louis
Production of all products were still at an increased level. We did find time to allow each man to take one week of vacation.

May Inventory:

Current $ (000)	500
Percent of Change from Previous Month	(11%)
Month Prior Year	(10%)

St. Louis invoicing for WTC formulated products was at an all time high of $520,000 for the month of May.

Raw Materials
A source of #2 fuel oil has been secured at a price below $0.80/gallon delivered.

KB-3 continues to be in tight supply.

Miscellaneous
I will enter the hospital for surgery May 31. Everyone has been briefed on filling in for me. George, with Pittsburgh's assistance, will handle purchasing and production. Carol will handle penta and KB-3 purchasing and Newark payables. Harold will handle St. Louis payables. All production men will be working.

55

John D. Palmer

JDP:klc

REV. 2

BZTO104(e)010916

KOPPERS

Interoffice Correspondence

To P. A. Goydan
M. S. Marino
Location G. Mills

From W. J. Baldwin
Location K-927

Subject TIME OIL COMPANY

Date June 1, 1983

As most of you are aware, in the near future we will be shipping a concentrated Woodtox^{R} solution from St. Louis to Time Oil for further dilution and sale as Woodtox Preprime RTU. The concentrated solution of Woodtox is not currently registered with U.S. EPA; however, we are exempt from registration requirement in accordance with 40 CFR, Section 162.5(b)(1). The regulations do require, however, that a label accompany each shipment. As such, I am attaching a draft label prepared by G. Mills and myself for your review and comment.

Bill B.

William J. Baldwin

WJB/pc

Enclosure

cc: J. D. Palmer - Enclosure
D. F. Marion - "
J. J. Kozak - "

61

BZTO104(e)010918

KOPPERS®

PRE-PRIME 1-7 CONCENTRATE

For Manufacturing Purposes Only

WARNING! KEEP OUT OF REACH OF CHILDREN.
See side panel for first aid and additional precautionary statements.

READ "LIMIT OF WARRANTY AND LIABILITY" BEFORE BUYING OR USING. IF SUCH TERMS ARE NOT ACCEPTABLE RETURN AT ONCE UNOPENED.

ACTIVE INGREDIENTS:	
Pentachlorophenol*	27.95
Other Trichlorophenols and Related Compounds	3.25
INERT INGREDIENTS	68.80
	100.00

* 32.5% Technical Pentachlorophenol as defined in Fed. Spec. TT-W-570.

EPA Est. 453-MO-1

Koppers Company, Inc.
Wood Treating Chemicals Dept.
5137 Southwest Avenue, St. Louis, Missouri 63110
314/772-2200

NET CONTENTS U.S. GALLONS

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

This product is exempt from registration requirements in accordance with 40 CFR §162.5(b)(1).

This product must be used in the formulation of WOODTOX® Preprime RTU, EPA Reg. No. 453-202 at Est. No. 33760-OR-01, in accordance with the following:

	Lbs	Gallons
Pre-Prime 1-7 Concentrate	16.19	1.846
Paraffin Wax(125-130 mp)	0.75	0.100
Mineral Spirits(360°F EP)	83.06	12.978
	100.00	14.924

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

LIMIT OF WARRANTY AND LIABILITY

This company warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the directions for use. This product is sold subject to the understanding that the buyer assumes all risks of use or handling of this material not in strict accordance with the directions given herewith which are beyond the control of the seller, such as for example incompatibility with other products and the manner of the use of application. NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY IS MADE. The exclusive remedy of the buyer, and the limit of liability of this company or any other seller for any and all losses, injuries or damages resulting from the use or handling of this product shall be the purchase price paid by the user or buyer for the quantity of this product involved. The buyer and all users are deemed to have accepted the terms of this sale which may not be varied by any verbal or written agreement.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

WARNING

MAY BE FATAL IF SWALLOWED. INHALED OR ABSORBED THROUGH SKIN. CAUSES SKIN AND EYE IRRITATION. MAY CAUSE DELAYED CHEMICAL BURNS. COMBUSTIBLE.

Do not get in eyes or on skin or on clothing. Use of goggles and protective clothing (rubber gloves) is recommended when brushing or dipping and use of an approved respirator when spraying. Avoid prolonged and/or repeated breathing of vapors, mist or substantially saturated atmosphere. Use only in well ventilated areas. Not for use or storage in or around the home. Avoid contamination of food. Do not take internally.

FIRST AID: If swallowed, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. **In case of eye contact,** flush immediately with plenty of water for 15 minutes and get medical attention. **For skin contact,** wash thoroughly with soap and water. Remove contaminated clothing and shoes. Wash clothes before reuse. **If inhaled,** remove to fresh air.

NOTE TO PHYSICIAN: This product is a metabolic stimulant, causes hyperthermia. Treat symptomatically.

PHYSICAL OR CHEMICAL HAZARDS COMBUSTIBLE: Do not use, pour, spill or store near heat or open flame.

IN CASE OF FIRE: Use dry chemicals, foam, water fog or CO_2. Cool closed containers with water.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic life. Do not apply directly to lakes, streams or ponds or pollute water by cleaning of equipment or disposal of wastes.

Vapors may cause injury if adequate ventilation is not insured. Do not use this product indoors or any other confined areas where the vapors may concentrate and cause injury to plant or animal life. Keep containers closed when not in use.

61

RECEIVED
JUN 9 1983
FOREST PRODUCTS GROUP
ENGINEERING

KOPPERS

Interoffice Correspondence

To P. A. Goydan
M. S. Marino
Location G. Mills

From W. J. Baldwin
Location K-927

Subject TIME OIL COMPANY

Date June 1, 1983

As most of you are aware, in the near future we will be shipping a concentrated Woodtox® solution from St. Louis to Time Oil for further dilution and sale as Woodtox Preprime RTU. The concentrated solution of Woodtox is not currently registered with U.S. EPA; however, we are exempt from registration requirement in accordance with 40 CFR, Section 162.5(b)(1). The regulations do require, however, that a label accompany each shipment. As such, I am attaching a draft label prepared by G. Mills and myself for your review and comment.

Bill B.

William J. Baldwin

WJB/pc

Enclosure

cc: J. D. Palmer - Enclosure
D. F. Marion - "
J. J. Kozak - "

To Bill Baldwin
Bill - Please see my note
Dave
cc Palmer

K-5 REV. 2

BZTO104(e)010919

KOPPERS®

PRE-PRIME 1-7 CONCENTRATE

For Manufacturing Purposes Only

WARNING! KEEP OUT OF REACH OF CHILDREN.
See side panel for first aid and additional precautionary statements.

READ "LIMIT OF WARRANTY AND LIABILITY" BEFORE BUYING OR USING. IF SUCH TERMS ARE NOT ACCEPTABLE, RETURN AT ONCE UNOPENED.

ACTIVE INGREDIENTS:	
Pentachlorophenol*	27.95
Other Chlorophenols and Related Compounds	3.25
INERT INGREDIENTS	68.80
TOTAL	100.00%

* 32.5% Technical Pentachlorophenol as defined in Fed. Spec. TT-W-570.

EPA Est. 453-MO-1

Koppers Company, Inc.
Wood Treating Chemicals Dept.
5137 Southwest Avenue, St. Louis, Missouri 63110
314/772-2200

NET CONTENTS **U.S. GALLONS**

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

This product is exempt from registration requirements in accordance with 40 CFR §162.5(b)(1).

This product must be used in the formulation of WOODTOX® Preprime RTU, EPA Reg. No. 453-202 at Est. No. 33760-OR-01, in accordance with the following:

	~~Lbs~~	Gallons
Pre-Prime 1-7 Concentrate	16.19	1.846
Paraffin Wax(125-130 mp)	0.75	0.100
Mineral Spirits(360°F EP)	83.06	12.978
	100.00	14.924

Bill Boardman

Bill - must we say this

If so, Don't specify EXACT Type of Mineral Spirits. also Be flexible with Spec. or WAX TOO. [illegible]

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

LIMIT OF WARRANTY AND LIABILITY

This company warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the directions for use. This product is sold subject to the understanding that the buyer assumes all risks of use or handling of this material not in strict accordance with the directions given herewith which are beyond the control of the seller, such as for example incompatibility with other products and the manner of its use of application. NO OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY IS MADE. The exclusive remedy of the buyer, and the limit of liability of this company or any other seller for any and all losses, injuries or damages resulting from the use or handling of this product shall be the purchase price paid by the user or buyer for the quantity of this product involved. The buyer and all users are deemed to have accepted the terms of this notice which may not be varied by any verbal or written agreement.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

WARNING

MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES SKIN AND EYE IRRITATION. MAY CAUSE DELAYED CHEMICAL BURNS. COMBUSTIBLE.

Do not get in eyes, on skin or on clothing. Use of goggles and protective clothing (rubber gloves) is recommended when brushing or dipping, and use of an approved respirator when spraying. Avoid prolonged and/or repeated breathing of vapors, mist or substantially saturated atmosphere. Use only in well ventilated areas. Not for use or storage in or around the home. Avoid contamination of food. Do not take internally.

FIRST AID: If swallowed, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

In case of eye contact, flush immediately with plenty of water for 15 minutes and get medical attention. **For skin contact,** wash thoroughly with soap and water. Remove contaminated clothing and shoes. Wash clothes before reuse. **If inhaled,** remove to fresh air.

NOTE TO PHYSICIAN: This product is a metabolic stimulant, causes hyperthermia. Treat symptomatically.

PHYSICAL OR CHEMICAL HAZARDS COMBUSTIBLE: Do not use, pour, spill or store near heat or open flame.

IN CASE OF FIRE: Use dry chemicals, foam, water fog or CO_2. Cool closed containers with water.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and wildlife. Do not apply directly to lakes, streams or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.

Vapors may cause injury if adequate ventilation is not insured. Do not use this product indoors, or any other confined areas where the vapors may concentrate and cause injury to plant or animal life. Keep containers closed when not in use.

BZTO104(e)010920

FROM:

Donald F. Marion
Koppers Company, Inc.
724 Koppers Building
pittsburgh, PA 15219

Customer Number, if any:

TO:

Mr. Robert D. Abendroth
Time Oil Company
P O Box 24447
Terminal Annex
Seattle, WA 98199

61

Label 11-B, Jan. 1983 ★ U.S.G.P.O. 1982-384-133

EXPRESS MAIL NEXT DAY SERVICE

POST OFFICE TO ADDRESSEE

UNITED STATES POSTAL SERVICE U.S. MAIL

ORIGIN

ST

15219

5-20 16:00

Return Receipt Service

To Whom & Date Delivered

To Whom, Date & Address of Delivery

Weight 1

Postage & Fees $ 9 35

B 11347294

SERVICE GUARANTEE:
Domestic mailings under this service made at designated USPS facilities on or before a specified deposit time will be accepted for express shipment to a designated USPS delivery area having Express Mail Service for next day delivery to an addressee or agent on or before the time specified by the USPS at mailing. USPS will refund upon application to originating office the postage for any shipments mailed under this service and not meeting the service standard except for those delayed by strike or work stoppage. See USPS Notice 123 for details.

INSURANCE COVERAGE:
See USPS Notice 63 for exclusions of coverage.
(1) Document Reconstruction Insurance. Non-negotiable documents are insured against loss, damage, or rifling up to $50,000 per piece, subject to a limit of $500,000 per occurrence.
(2) Merchandise Insurance. Parcels are insured against loss, damage, or rifling up to a maximum of $500.

- Signature is required upon delivery
- Claims for delay, loss, damage or rifling must be made within 90 days. Claim forms may be obtained at the post office of mailing.
- This receipt must be presented when a claim is filed.

EXPRESS MAIL SERVICE

Customer Receipt

REMOVE COPIES 1 & 2

BZTO104(e)010921

FROM:

Donald F. Marion
Koppers Company, Inc.
724 Koppers Building
Pittsburgh, PA 15219

Customer Number, if any:

TO:

N. Wallis
Time Oil Company
12005 N. Burgard Street
Portland, OR 97203

61

Label 11-B, Jan. 1983 ★ U.S.G.P.O. 1982-384-133

EXPRESS MAIL NEXT DAY SERVICE

POST OFFICE TO ADDRESSEE

UNITED STATES POSTAL SERVICE U.S.MAIL

ORIGIN

ST
15219
5-20 16:00

1
9 35

11347295

SERVICE GUARANTEE:
Domestic mailings under this service made at designated USPS facilities on or before a specified deposit time will be accepted for express shipment to a designated USPS delivery area having Express Mail service for next day delivery to an addressee or agent on or before the time specified by the USPS at mailing. USPS will refund upon application to originating office the postage for any shipment mailed under this service and not meeting the service standard except for those delayed by strike or work stoppage. See USPS Notice 63 for details.

INSURANCE COVERAGE:
See USPS Notice 63 for exclusions of coverage.
(1) Document Insurance Section. Insurance. Non-negotiable documents are insured against loss, damage, or rifling up to $50,000 per piece, subject to a limit of $500,000 per occurrence.
(2) Merchandise Insurance Sources are insured against loss, damage, or rifling up to a maximum of $500.

- Signature is required upon delivery
- Claims for delay, loss, damage or rifling must be made within 90 days. Claim forms may be obtained at the post office of mailing
- This receipt must be presented when a claim is filed

EXPRESS MAIL SERVICE

Customer Receipt

REMOVE COPIES 1 & 2

BZTO104(e)010922

Koppers Company, Inc., Forest Products Group
Pittsburgh, PA 15219, Telephone 412-227-2775

KOPPERS

Donald F. Marion
Manager, Raw Materials
Specialty Wood Chemicals Division

May 20, 1983

Time Oil Company
P. O. Box 24447
Terminal Annex
Seattle, Washington 98199
Attention: Mr. Robert D. Abendroth
Operations Manager

Dear Robert:

Attached for your review and execution are two (2) copies of the Storage and Concentrate Dilution Agreement between Time Oil Company and Koppers Company, Inc. Please review the Agreement and execute both copies on behalf of Time Oil Company and return them to me for execution by Koppers Company, Inc. I have also forwarded a copy of the Agreement to Neil Wallis in Portland for his review. Should you desire to get together either in Seattle or Portland to review the Agreement and thus finalize all the language, please advise. I have left my schedule open to accommodate your schedule. As soon as the Agreement is executed, I will arrange to have the first 10,000 gallon railcar shipped to Portland for dilution. At that time, someone from the St. Louis operation will be in Portland to review the mixing procedure with Neil Gallagher to insure that everything goes smoothly. At that time, we will also coordinate with Neil Wallis and Neil Gallagher to reduce and ultimately eliminate raw materials and finished goods that will no longer be needed in Portland. I anticipate a very smooth transition during this period.

I will anxiously be awaiting your call regarding the next steps in finalizing the Agreement and getting everything in motion. I sincerely appreciate all your and Neil Wallis' cooperation in finalizing this matter.

Sincerely yours,

Donald F. Marion

DFM/ctj

Attachments

cc: J. Palmer
[redacted]
T. McGuire
N. Wallis - Time Oil Company

61

Koppers Company, Inc., Forest Products Group
Pittsburgh, PA 15219, Telephone 412-227-2775

KOPPERS

Donald F. Marion
Manager, Raw Materials
Specialty Wood Chemicals Division

FILE

May 20, 1983

Time Oil Company
P. O. Box 24447
Terminal Annex
Seattle, Washington 98199
Attention: Mr. Robert D. Abendroth
Operations Manager

Dear Robert:

Attached for your review and execution are two (2) copies of the Storage and Concentrate Dilution Agreement between Time Oil Company and Koppers Company, Inc. Please review the Agreement and execute both copies on behalf of Time Oil Company and return them to me for execution by Koppers Company, Inc. I have also forwarded a copy of the Agreement to Neil Wallis in Portland for his review. Should you desire to get together either in Seattle or Portland to review the Agreement and thus finalize all the language, please advise. I have left my schedule open to accommodate your schedule. As soon as the Agreement is executed, I will arrange to have the first 10,000 gallon railcar shipped to Portland for dilution. At that time, someone from the St. Louis operation will be in Portland to review the mixing procedure with Neil Gallagher to insure that everything goes smoothly. At that time, we will also coordinate with Neil Wallis and Neil Gallagher to reduce and ultimately eliminate raw materials and finished goods that will no longer be needed in Portland. I anticipate a very smooth transition during this period.

I will anxiously be awaiting your call regarding the next steps in finalizing the Agreement and getting everything in motion. I sincerely appreciate all your and Neil Wallis' cooperation in finalizing this matter.

Sincerely yours,

Donald F. Marion

DFM/ctj

Attachments

cc: J. Palmer
P. A. Goydan
T. McGuire
N. Wallis - Time Oil Company

61

STORAGE AND CONCENTRATE DILUTION AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____ _____19___, by and between TIME OIL CO. (hereinafter referred to as "Operator"), a corporation incorporated and existing under the laws of the State of Washington and KOPPERS COMPANY, INC. (hereinafter referred to as "Customer"), a corporation organized and existing under the laws of the State of Delaware.

WHEREAS, Operator is the owner of certain terminal facilities and whereas, Customer desires to obtain permission to place its hereinafter described products therein; the parties hereto agree as follows:

1. FACILITIES AND TERM: Operator does hereby agree to provide and Customer does hereby agree to accept certain terminal facilities and handling services, at 12005 North Burgard, Portland, Oregon as set forth in the schedule attached, and as hereinafter provided. This agreement shall be for a term of 3 years, beginning on the _____ of _____, 19___, and continuing through the _____ day of _____, 19___.

Operator reserves the right at any time or times during the term of this Agreement to substitute other suitable premises and facilities in lieu of those designated herein for the storage and handling of Customer's products upon Customer's mutual consent. Customer further warrants and represents that Customer shall be the sole owner of all products at any time delivered by Customer to the tanks, warehouse or other facilities herein provided for, and that all such products shall be free from all liens and encumbrances of any nature whatsoever until such products are delivered by Operator back to Customer from Operator's facilities hereunder.

2. PRODUCTS STORED: Customer shall use the facilities furnished hereunder for the storage and handling of only the products specified in the schedule attached hereto. Other products can be added to the attached schedule during the duration of this Agreement by mutual consent of the Operator and Customer.

3. SERVICES PROVIDED: Subject to the terms and conditions herein, Operator agrees to provide all labor and equipment necessary to receive the products specified in the attached schedule for storage and to remove them from storage for delivery as Customer may require. Provided that Operator shall not be obligated to provide equipment for receipt or delivery of products which is not already in place at the above described facility.

61

All services hereunder shall be provided as follows:

(a) Shipments to and from tank car and transport truck shall be performed during normal working hours; which shall be 8:00 a.m. to 4:30 p.m., Monday through Friday, holiday excepted. Tank cars and transport trucks shall be handled on a first arrival-first serve basis.

(b) There shall be no intra-terminal tank transfers (unless done for convenience of Operator pursuant to paragraph 1) and/or blending services performed by Operator other than that specifically provided for in the attached schedule unless mutually agreed to beforehand by the Operator and Customer.

Except as noted herein or in the attached schedule the services described shall be included in the facility fee set forth in the attached schedule, which fee shall be paid monthly in advance commencing on the first day of the term hereof unless otherwise provided in the schedule attached.

Only if the Customer requests services and the Operator is able to provide same at other than the hours provided above, Customer agrees to pay to Operator, in addition to the facility fee; 1) a labor charge, which shall be $18.63 per hour for normal working hours and $26.16 per hour for overtime hours for each such man hour worked by employees of Operator, and 2) an overhead charge calculated at 10% of the labor charge. In the event that Operator's actual labor costs, increase during the term of this contract, Operator shall have the right to adjust the above labor charge to cover those costs upon notice to Customer. The term "actual labor costs" as used in this paragraph shall include wages, overtime, contributions to Social Security, Unemployment and Workmen's Compensation, and employee benefits.

The minimum facility fee and all other charges set forth in the attached schedule shall be adjusted annually on the anniversary date of the effective date of this Agreement by multiplying the then current monthly facility fee and all other charges set forth in the attached schedule by a fraction of which the numerator is the U. S. Department of Labor's National Consumer Price Index for the month preceding the anniversary month and the denominator of which is the same index for the same month in the preceding year.

Operator shall perform the calculation necessary and determine any such increased fees and charges and shall notify Customer thereof. Until receipt of such notification from Operator and agreement by the Customer, Customer shall continue to pay the previously reflected monthly fees and charges. In the event that the U. S. Department of Labor's National Consumer Price Index

shall have declined for any given period, the minimum facility fee and all other charges set forth in the attached schedule shall be adjusted accordingly as noted above.

If for any reason, the U. S. Department of Labor shall discontinue publication of the National Consumer Price Index during the term of this Agreement, the Operator shall give 30 days written notice to the Customer, of the use of an alternate index of changes in the general economy which would be applicable. If the Customer delivers to Operator a notice of rejection of the Operator's choice of an alternate index of changes in the general economy within 30 days from receipt by Customer of Operator's written notice thereof, both parties herein shall be bound by an index to be applied to the formula herein as determined by an independent commercial appraiser selected by both parties, with the costs of such determination to be borne equally by both parties.

Customer asserts no claim for the use of Operator's facilities except as expressly provided in this Agreement. Customer will use the tank car and transport truck facilities as hereinabove provided only for loading or unloading product into Operator's facilities and will not utilize said tank car or transport truck space before or beyond the period reasonably required for actual loading or unloading. All other areas are closed to Customer except when accompanied by a representative of Operator and upon Customer's execution of a Hold Harmless Agreement acceptable to Operator.

Operator recognizes that Customer utilizes secret processes in its manufacturing and accordingly Operator agrees that it will not disclose or divulge, without the written consent of Customer, the identities or quantities of Products which are received, blended, handled or redelivered by Operator hereunder or the names of customers to whom delivery of such Products or other products is scheduled or made.

4. ACCOUNTING FOR PRODUCT: The quantity of product received into or withdrawn from storage tanks shall be determined by Operator's representatives, or at Operator's election, a licensed inspector, by checking and gauging said tanks at the time of receipt or withdrawal of said product, but not more often than once per day. Customer may participate, but in the absence of such participation, gauges taken by Operator shall be presumed to be correct, unless such gauges can be proved to be in error. However, quantities delivered to rail tank cars or transport trucks may be determined by reference to mutually agreed upon calibration charts of the rail car or truck tanks. In the event of any disagreement as to quantities of material received or withdrawn, the issue shall, upon written notice of either party to the other be submitted to one arbitrator to be appointed by the American Arbitration Association for hearing and decision, with the hearing to be held in Portland, Oregon, which decision shall be rendered within thirty (30) days from the date of the conclusion of the proceedings, and shall be final and binding upon the parties hereto. The cost and expense of the arbitrator shall be borne equally between the parties hereto.

If requested by Customer, Operator will take samples from rail tank cars, automotive tank trucks and storage tanks and make such samples available to Customer at Operator's facilities hereunder. The cost of containers for such samples and all other expenses suffered by Operator in connection with the taking and delivery of samples, shall be paid to Operator by customer each month upon receipt of invoice from Operator. Samples shall be taken in accordance with reasonable procedures specified by Customer.

All quantities of product delivered to or shipped from the terminal shall be calculated in gallons at sixty degrees fahrenheit (60°) in accordance with recognized temperature correction tables. The term "barrel" whenever used herein, means 42 U. S. gallons at sixty degrees fahrenheit.

5. PAYMENT AND INTEREST FEE: Customer agrees that fees and charges not paid within 45 days after presentation of Operator's invoice shall be subject to 5/6 of 1% interest charge on the outstanding invoice balance. This monthly 5/6 of 1% charge is an interest fee and is not a remedy of an item of liquidated damages. All payments hereunder shall be made to Operator at its office at P. O. Box 24447, Terminal Annex, Seattle, Washington 98124 or at such other place or places as Operator may notify Customer in writing.

6. TERMINATION: Either Party may terminate this Agreement twelve (12) months after formal written notice is provided to the other Party. Customer agrees upon expiration or termination of this Agreement to remove all of its material and equipment within a 90 day period of time, either bulk or packaged, from Operator's premises.

7. LOSSES: Operator shall not be liable for normal losses due to evaporation during normal handling of products. Operator shall not be liable for any delay or nonperformance hereunder or for evaporation, shrinkage, line loss, clingage, discoloration, contamination, bacterial action, destruction of the harbor or any of the facilities referred to herein when any of the foregoing is caused in whole or in part, by any act of God or public enemy, or by labor troubles, strikes, lockouts, nonavailability of labor, riots, fires, war, storms, explosions, breakdowns or machinery, railroad embargoes or interventions, failure or delay of manufacturers or of persons from whom Operator is obtaining machinery, equipment, materials or supplies to deliver the same, or other causes beyond its control, whether such other causes be the causes herein specifically provided for or not, and whether the cause is or is not existing on the date of this Agreement. Operator shall not, in any event, be liable for loss of or damage to Customer's property, except and only when caused by Operator's failure to use reasonable care in the safekeeping and handling of Customer's property. It is mutually understood that the Operator is not responsible for any changes in the quality of the product stored which might occur in storage due to the possible effect of air, light, temperature or other natural or chemical happenings.

Losses of any product for which Operator is responsible hereunder shall be determined annually at the end of each year, commencing with the date of

BZTO104(e)010928

the first receipt of such product by Operator hereunder, and also, at the time any abnormal loss occurs or is discovered. The extent of loss shall be computed by deducting the total withdrawals during the period for which the accounting is made, plus the stock on hand at the end of such period, from the sum of the total receipts during such period plus the stock on hand at the beginning of such period. Normal losses shall be presumed to be ½ of 1% per month of receipts plus maximum amounts in storage during the period for which accounting is made and such amounts shall be deducted from any claims for losses.

8. DEFAULT: Should Customer default at any time in the prompt payment of any of the monies due hereunder, or in the prompt performance and observance of any of the terms, or conditions of this Agreement, and should any such default, not relating to the payment of money, continue for thirty (30) days or more after written notice thereof by Operator to Customer, or should Customer go into bankruptcy voluntary, or involuntary, or be placed in the hands of a receiver, State or Federal, then, and in any such event, the minimum monthly fee for the whole unexpired term hereof together with all other accrued charges, shall, at the option of Operator, become immediately due and payable.

9. DAMAGES: In consideration of the rates for monthly fees and other charges set forth herein (it being recognized that higher charges would be made for the limitation of liability set forth in this paragraph) it is understood and agreed that Operator shall in no event be liable for more than actual cash value, for any product loss or damage. Operator shall not be liable for special or consequential damages, no matter how such loss or damage shall have occurred or been caused. Customer is not liable for operational loss or damage to the facility during the term of this Agreement.

10. ASSIGNMENT: This Agreement shall be binding upon and inure to the benefit of the successors and assigns of each of the parties hereto.

11. AGREEMENT: This Agreement including the attached Form PD-63 and Schedule, is complete and contains all warranties and representations which form the basis of this Agreement. There exist no other representations or warranties unless they are enumerated herein. No amendment or modification of this Agreement shall be effective or binding unless such modification is in a written form signed by both parties hereto.

Each numbered paragraph or clause herein to this Agreement stands on its own and if any numbered paragraph or clause is held to be invalid or unenforceable, such clause shall be held separated and severable from this Agreement and the remaining Agreement shall remain in full force and effect.

If a conflict arises between the specific meaning or application of a term, clause or paragraph of the Agreement language and the accompanying

schedule and Form PD-63; the language and specific meaning of the accompanying schedule and Form PD-63 shall control and be followed.

12. NOTICES: All notices from one party to the other shall be directed to the appropriate address below or such other address or addresses as either party shall notify the other in writing:

OPERATOR: Time Oil Co.
P. O. Box 24447, Terminal Annex, Seattle, WA 98124

CUSTOMER: Koppers Company, Inc.
5317 Southwest Avenue, St. Louis, Mo 63110

IN WITNESS WHEREOF, this Agreement has been made and executed by the parties hereto as of the day, month and year first hereinabove written.

Attest:

_____
Secretary

_____
Secretary

OPERATOR: TIME OIL CO.

By: _____
its _____

CUSTOMER: KOPPERS COMPANY, INC.

By: _____
its _____

SCHEDULE TO STORAGE AND CONCENTRATE DILUTION AGREEMENT

TERMINAL:	12005 North Burgard, Portland, Oregon
CUSTOMER:	Koppers Company, Inc.
COMMODITIES TO BE STORED:	Woodtox Concentrate, wax, mineral spirits for wood preservatives and the finished products for wood preservatives.
TERM:	3 years
STORAGE TANKS:	Mineral Spirits 38009 Woodtox Concentrate T-1-7 20001 Woodtox Preprime RTU 13001 Mix Tank Koppers - 3 - 8,000 1 - 6,000 1 - 3,000
FACILITY FEE:	$500/month
ADDITIONAL CHARGES:	$0.0500 per gallon for each gallon Woodtox Concentrate T-1-7 received in railcar. This includes adding the wax and mineral spirits to make Woodtox Preprime RTU. All blending is to be in accordance with Koppers specifications, which have been provided to the Operator. $0.0036 per gallon - bulk T/T loading of Woodtox Preprime RTU. $0.0730 per gallon - drum filling of Woodtox Preprime RTU. $0.7500 per drum in and $0.7500 per drum out for prepackaged finish goods products produced by Koppers.
SPECIAL PROVISIONS:	Operator shall blend or mix the above referenced products at temperatures not to exceed 180°F. Mineral Spirits - $0.0300 per gallon - total thru put charge. Covers unloading and reloading for shipment.

61

5/5/83 ✓

From the desk of
DONALD F. MARION

TO: JOHN PALMER
PAUL GOYDAN
KEN COGAN
BILL BALDWIN
TOM McGUIRE

Attached for your review is the final draft of the Time Oil Co. Storage and Concentrate Dilution Agreement. I discussed the Agreement with Neil Wallis of Time Oil today and told him I would forward it to him next week. Please review this final draft and advise your comments as soon as possible. I sincerely appreciate everyone's help on this Agreement.

(1) Incorporate PD-63 into agreement.

61

Don
Marion

BZTO104(e)010932

~~FINAL DRAFT~~

STORAGE AND CONCENTRATE DILUTION AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____ _____19___, by and between TIME OIL CO. (hereinafter referred to as "Operator"), a corporation incorporated and existing under the laws of the State of Washington and KOPPERS COMPANY, INC. (hereinafter referred to as "Customer"), a corporation organized and existing under the laws of the State of Delaware.

WHEREAS, Operator is the owner of certain terminal facilities and whereas, Customer desires to obtain permission to place its hereinafter described products therein; the parties hereto agree as follows:

1. FACILITIES AND TERM: Operator does hereby agree to provide and Customer does hereby agree to accept certain terminal facilities and handling services, at 12005 North Burgard, Portland, Oregon as set forth in the schedule attached, and as hereinafter provided. This agreement shall be for a term of 3 years, beginning on the _____ of _____, 19___, and continuing through the _____ day of _____, 19___.

Operator reserves the right at any time or times during the term of this Agreement to substitute other suitable premises and facilities in lieu of those designated herein for the storage and handling of Customer's products upon Customer's mutual consent. Customer further warrants and represents that Customer shall be the sole owner of all products at any time delivered by Customer to the tanks, warehouse or other facilities herein provided for, and that all such products shall be free from all liens and encumbrances of any nature whatsoever until such products are delivered by Operator back to Customer from Operator's facilities hereunder.

2. PRODUCTS STORED: Customer shall use the facilities furnished hereunder for the storage and handling of only the products specified in the schedule attached hereto. Other products can be added to the attached schedule during the duration of this ~~contract~~ AGREEMENT by mutual consent of the Operator and Customer.

3. SERVICES PROVIDED: Subject to the terms and conditions herein, Operator agrees to provide all labor and equipment necessary to receive the products specified in the attached schedule for storage and to remove them from storage for delivery as Customer may require. Provided that Operator shall not be obligated to provide equipment for receipt or delivery of products which is not already in place at the above described facility.

BZTO104(e)010933

All services hereunder shall be provided as follows:

(a) Shipments to and from tank car and transport truck shall be performed during normal working hours; which shall be 8:00 a.m. to 4:30 p.m., Monday through Friday, holiday excepted. Tank cars and transport trucks shall be handled on a first arrival-first serve basis.

(b) There shall be no intra-terminal tank transfers (unless done for convenience of Operator pursuant to paragraph 1) and/or blending services performed by Operator other than that specifically provided for in the attached schedule unless mutually agreed to beforehand by the Operator and Customer.

Except as noted herein or in the attached schedule the services described shall be included in the facility fee set forth in the attached schedule, which fee shall be paid monthly in advance commencing on the first day of the term hereof unless otherwise provided in the schedule attached.

Only if the Customer requests services and the Operator is able to provide same at other than the hours provided above, Customer agrees to pay to Operator, in addition to the facility fee; 1) a labor charge, which shall be $18.63 per hour for normal working hours and $26.16 per hour for overtime hours for each such man hour worked by employees of Operator, and 2) an overhead charge calculated at 10% of the labor charge. In the event that Operator's actual labor costs, increase during the term of this contract, Operator shall have the right to adjust the above labor charge to cover those costs upon notice to Customer. The term "actual labor costs" as used in this paragraph shall include wages, overtime, contributions to Social Security, Unemployment and Workmen's Compensation, and employee benefits.

The minimum facility fee and all other charges set forth in the attached schedule shall be adjusted annually on the anniversary date of the effective date of this Agreement by multiplying the then current monthly facility fee and all other charges set forth in the attached schedule by a fraction of which the numerator is the U. S. Department of Labor's National Consumer Price Index for the month preceding the anniversary month and the denominator of which is the same index for the same month in the preceding year.

Operator shall perform the calculation necessary and determine any such increased fees and charges and shall notify Customer thereof. Until receipt of such notification from Operator and agreement by the Customer, Customer shall continue to pay the previously reflected monthly fees and charges. In the event that the U. S. Department of Labor's National Consumer Price Index shall have declined for any given period, the minimum facility fee and all other charges set forth in the attached schedule shall be adjusted accordingly as noted above.

BZTO104(e)010934

If for any reason, the U. S. Department of Labor shall discontinue publication of the National Consumer Price Index during the term of this Agreement, the Operator shall give 30 days written notice to the Customer, of the use of an alternate index of changes in the general economy which would be applicable. If the Customer delivers to Operator a notice of rejection of the Operator's choice of an alternate index of changes in the general economy within 30 days from receipt by Customer of Operator's written notice thereof, both parties herein shall be bound by an index to be applied to the formula herein as determined by an independent commercial appraiser selected by both parties, with the costs of such determination to be borne equally by both parties.

Customer asserts no claim for the use of Operator's facilities except as expressly provided in this Agreement. Customer will use the tank car and transport truck facilities as hereinabove provided only for loading or unloading product into Operator's facilities and will not utilize said tank car or transport truck space before or beyond the period reasonably required for actual loading or unloading. All other areas are closed to Customer except when accompanied by a representative of Operator and upon Customer's execution of a Hold Harmless Agreement acceptable to Operator.

While on Operator's terminal premises, Customer will comply at all times with any and all rules established by Operator and with all governmental statues, ordinances, rules, regulations, orders or requirements concerning air quality, water quality, or waste standards or controls imposed on or relating to the operation and use of the terminal facilities.

Operator recognizes that Customer utilizes secret processes in its manufacturing and accordingly Operator agrees that it will not disclose or divulge, without the written consent of Customer, the identities or quantities of Products which are received, blended, handled or redelivered by Operator hereunder or the names of customers to whom delivery of such Products or other products is scheduled or made.

4. ACCOUNTING FOR PRODUCT: The quantity of product received into or withdrawn from storage tanks shall be determined by Operator's representatives, or at Operator's election, a licensed inspector, by checking and gauging said tanks at the time of receipt or withdrawal of said product, but not more often than once per day. Customer may participate, but in the absence of such participation, gauges taken by Operator shall be presumed to be correct, unless such gauges can be proved to be in error. However, quantities delivered to rail tank cars or transport trucks may be determined by reference to mutually agreed upon calibration charts of the rail car or truck tanks. In the event of any disagreement as to quantities of material received or withdrawn, the issue shall, upon written notice of either party to the other be submitted to one arbitrator to be appointed by the American Arbitration Association for hearing and decision, with the hearing to be held in Portland, Oregon, which decision shall be rendered within thirty (30) days from the date of the conclusion of the proceedings, and shall be final and binding upon the

61

BZTO104(e)010935

parties hereto. The cost and expense of the arbitrator shall be borne equally between the parties hereto.

If requested by Customer, Operator will take samples from rail tank cars, automotive tank trucks and storage tanks and make such samples available to Customer at Operator's facilities hereunder. The cost of containers for such samples and all other expenses suffered by Operator in connection with the taking and delivery of samples, shall be paid to Operator by customer each month upon receipt of invoice from Operator. Samples shall be taken in accordance with reasonable procedures specified by Customer.

All quantities of product delivered to or shipped from the terminal shall be calculated in gallons at sixty degrees fahrenheit (60°) in accordance with recognized temperature correction tables. The term "barrel" whenever used herein, means 42 U. S. gallons at sixty degrees fahrenheit.

~~5.~~ TERMINATION DUE TO GOVERNMENT REGULATION: Should the County or City, in which Operator's facilities are located, or any other Governmental entity, local or federal, prohibit operation of any then existing facilities used in performing this Agreement, or in any way deprive Operator of the right to use the modification of such facilities or the construction of additional facilities to be used in performing this Agreement, this Agreement shall terminate at the option of Operator, unless Customer shall agree in writing within 30 days after receipt of Operator's written election to terminate this Agreement to pay for the cost of replacing any such facilities or property of which Operator was deprived, or for the cost of construction of such additional facilities, or for any other expenses necessary to meet the requirements of such Governmental entity, on terms acceptable to Operator.

5. ~~X~~ PAYMENT AND INTEREST FEE: Customer agrees that fees and charges not paid within ~~30~~ 45 days after presentation of Operator's invoice shall be subject to 5/6 of 1% interest charge on the outstanding invoice balance. This monthly 5/6 of 1% charge is an interest fee and is not a remedy of an item of liquidated damages. All payments hereunder shall be made to Operator at its office at P. O. Box 24447, Terminal Annex, Seattle, Washington 98124 or at such other place or places as Operator may notify Customer in writing.

45 ✓

6. ~~X~~ TERMINATION: ~~Customer~~ either party may terminate this Agreement ~~six (6)~~ twelve (12) months after formal written notice is provided to the ~~Operator~~ other party. Customer agrees upon expiration or termination of this Agreement to remove all of its material and equip within ~~a reasonable~~ a 90 day period of time, either bulk or packaged, from Operator's premises.

Customer shall be responsible for any and all costs incurred by Operator at the expiration of the term hereof in removal and disposal of material and cleaning said storage tank/tanks and the related facilities. Customer shall pay Operator immediately after presentation to Customer of invoice for all such cleaning costs. Cost for cleaning said tank/tanks and related facilities shall include, but not be limited to costs related to supplies, permits, use

BZTO104(e)010936

of equipment, labor and supervision. Tank rentals hereunder shall continue until such cleaning and disposal is accomplished. Prior to any actual costs being incurred the Operator will provide a written estimate of costs to the Customer for approval prior to beginning the actual clean up work.

7. ~~8.~~ LOSSES: Operator shall not be liable for normal losses due to ~~spillage and~~ evaporation during normal handling of products. Operator shall not be liable for any delay or nonperformance hereunder or for evaporation, shrinkage, line loss, clingage, discoloration, contamination, bacterial action, destruction of the harbor or any of the facilities referred to herein when any of the foregoing is caused in whole or in part, by any act of God or public enemy, or by labor troubles, strikes, lockouts, nonavailability of labor, riots, fires, war, storms, explosions, breakdowns or machinery, railroad embargoes or interventions, failure or delay of manufacturers or of persons from whom Operator is obtaining machinery, equipment, materials or supplies to deliver the same, or other causes beyond its control, whether such other causes be the causes herein specifically provided for or not, and whether the cause is or is not existing on the date of this Agreement. Operator shall not, in any event, be liable for loss of or damage to Customer's property, except and only when caused by Operator's failure to use reasonable care in the safekeeping and handling of Customer's property~~, and further provide that claim is made in writing within 30 days after receipt of actual or constructive notice of any such loss or damages.~~ It is mutually understood that the Operator is not responsible for any changes in the quality of the product stored which might occur in storage due to the possible effect of air, light, temperature or other natural or chemical happenings.

Losses of any product for which Operator is responsible hereunder shall be determined annually at the end of each year, commencing with the date of the first receipt of such product by Operator hereunder, and also, at the time any abnormal loss occurs or is discovered. The extent of loss shall be computed by deducting the total withdrawals during the period for which the accounting is made, plus the stock on hand at the end of such period, from the sum of the total receipts during such period plus the stock on hand at the beginning of such period. Normal losses shall be presumed to be ~~3/4~~ 1/2 of 1% per month of receipts plus maximum amounts in storage during the period for which accounting is made and such amounts shall be deducted from any claims for losses.

9. ~~INSURANCE: Insurance, if any be desired by Customer, shall be carried by Customer at his own expense.~~

~~9.~~ 10. DEFAULT: Should Customer default at any time in the prompt payment of any of the monies due hereunder, or in the prompt performance and observance of any of the terms, or conditions of this Agreement, and should any such default, not relating to the payment of money, continue for thirty (30) days or more after written notice thereof by Operator to Customer, or should Customer go into bankruptcy, voluntary or involuntary, or be placed in the hands of a receiver, State or Federal, then, and in any such event, the minimum monthly fee for the whole unexpired term hereof together with all

BZTO104(e)010937

other accrued charges, shall, at the option of Operator, become immediately due and payable. ~~In any such event, Operator shall also have the right, at its option, to terminate this Agreement six (6) months after written notice to the Customer.~~

~~The failure by Operator at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by Customer at any time designated, shall not be a waiver of any such default or right to which Operator is entitled, nor shall it in any way affect the right of Operator to enforce such provisions thereafter.~~

9. ~~11.~~ DAMAGES: In consideration of the rates for monthly fees and other charges set forth herein (it being recognized that higher charges would be made for the limitation of liability set forth in this paragraph) it is understood and agreed that Operator shall in no event be liable for more than actual cash value, for any product loss or damage. Operator shall not be liable for special or consequential damages, no matter how such loss or damage shall have occurred or been caused. Customer is not liable for operational loss or damage to the facility during the term of this Agreement.

10. ~~12.~~ ASSIGNMENT: This Agreement shall be binding upon and inure to the benefit of the successors and assigns of each of the parties hereto~~; provided, however, that Customer shall not transfer or assign this Agreement, in whole or part, without the prior written consent of Operator, which will not be unreasonably withheld and any such transfer or assignment made in violation of this paragraph shall be null and void and of no force or effect whatsoever.~~

11. ~~13.~~ AGREEMENT: This Agreement, including the attached Form PD-63 and Schedule, is complete and contains all warranties and representations which form the basis of this Agreement. There exist no other representations or warranties unless they are enumerated herein. No amendment or modification of this Agreement shall be effective or binding unless such modification is in a written form signed by both parties hereto.

Each numbered paragraph or clause herein to this Agreement stands on its own and if any numbered paragraph or clause is held to be invalid or unenforceable, such clause shall be held separated and severable from this Agreement and the remaining Agreement shall remain in full force and effect.

If a conflict arises between the specific meaning or application of a term, clause or paragraph of the Agreement language and the accompanying schedule~~s~~ and Form PD-63, the language and specific meaning of the accompanying schedule~~s~~ and Form PD-63 shall control and be followed.

61

BZTO104(e)010938

12. ~~14.~~ NOTICES: All notices from one party to the other shall be directed to the appropriate address below or such other address or addresses as either party shall notify the other in writing:

OPERATOR: Time Oil Co.
P. O. Box 24447, Terminal Annex, Seattle, WA 98124

CUSTOMER: Koppers Company, Inc.
5317 Southwest Avenue, St. Louis, Mo 63110

IN WITNESS WHEREOF, this Agreement has been made and executed by the parties hereto as of the day, month and year first hereinabove written.

Attest:

_____
Secretary

OPERATOR: TIME OIL CO.

By: _____
its _____

CUSTOMER: KOPPERS COMPANY, INC.

_____
Secretary

By: _____
its _____

61

BZTO104(e)010939

SCHEDULE TO STORAGE AND CONCENTRATE DILUTION AGREEMENT

DATE

TERMINAL:	12005 North Burgard, Portland, Oregon
CUSTOMER:	Koppers Company, Inc.
COMMODITIES TO BE STORED:	Woodtox Concentrate, wax, mineral spirits for wood preservatives and the finished products for wood preservatives.
TERM:	3 years
STORAGE TANKS:	Mineral Spirits 38009 Woodtox Concentrate T-1-7 20001 Woodtox Preprime RTU 13001 MIX TANK Koppers - 3 - 8,000 1 - 6,000 1 - 3,000
FACILITY FEE:	#500 $700/month
ADDITIONAL CHARGES:	$0.0500 per gallon for each gallon Woodtox Concentrate T-1-7 received in railcar. This includes adding the wax and mineral spirits to make Woodtox Preprime RTU. All blending is to be in accordance with Koppers specifications, which have been provided to the Operator. $0.0036 per gallon - bulk T/T loading of Woodtox Preprime RTU. $0.0730 per gallon - drum filling of Woodtox Preprime RTU. $0.7500 per drum in and $0.7500 per drum out for prepackaged finish goods products produced by Koppers.
SPECIAL PROVISIONS:	Operator shall blend or mix the above referenced products at temperatures not to exceed 180°F. Mineral Spirits - $0.0300 per gallon - total thru put charge. Covers unloading and reloading for shipment.

61

FROM:

Donald F. Marion
Koppers Company, Inc.
724 Koppers Building
Pittsburgh, PA 15219

Customer Number, if any:

TO:

Mr. Robert D. Abendroth
Time Oil Company
P O Box 24447
Terminal Annex
Seattle, WA 98199

61

Label 11-B, Jan. 1983 ★ U.S.G.P.O. 1982-384-133

EXPRESS MAIL NEXT DAY SERVICE

POST OFFICE TO ADDRESSEE

UNITED STATES POSTAL SERVICE U.S. MAIL

ORIGIN:

Initials of Receiving Clerk: ST

P O ZIP Code: 15219

Date in: 5-20 | Time in: 16:00

Return Receipt Service
- [ ] To Whom & Date Del
- [ ] To Whom Date & Address of Del

Weight: 1 Lbs

Postage & Fees $ 9.35

B 11347294

SERVICE GUARANTEE:
Domestic mailings under this service made at designated USPS facilities on or before a specified deposit time will be accepted for express shipment to a designated USPS delivery area having Express Mail Service for next day delivery to an addressee or agent [illegible] before the time specified by the USPS at mailing. USPS will [illegible] upon application to originating office the postage for any shipments mailed under this service and not meeting the service standard except for those delayed by strike or work stoppage. See USPS [illegible] details.

INSURANCE COVERAGE:
[illegible] 63 for exclusions of coverage.
[illegible] Construction Insurance. Non negotiable documents are insured against loss, damage or rifling up to $50,000 per piece, subject to a limit of $500,000 per occurrence. [illegible] parcels are insured against loss, damage or rifling up to a maximum of $500.

- Signature is required upon delivery
- Claims for delay, loss, damage or rifling must be made within 90 days. Claim forms may be obtained at the post office of mailing
- This receipt must be presented when a claim is filed

EXPRESS MAIL SERVICE

Customer Receipt

REMOVE COPIES 1 & 2

BZTO104(e)010941

KOPPERS

Interoffice Correspondence

To Don Marion

Location K/7 - SWCD

Subject TIME OIL AGREEMENT

From Kenneth E. Cogan

Location K/700

Date May 13, 1983

Listed below are several comments concerning your May 5th memo on the Time Oil contract.

What impact does the indexing of facility fee to consumer price index have on our business? Maybe we should try to set a maximum annual adjustment that can be applied so that we tend to protect ourselves during times of unusual inflation.

On p. 4, Section 5 - Termination Due to Government Regulations - I feel that this should be modified to absolve us from problems associated with their operators' negligence.

On p. 4, Item 6 - We ought to see if we could insert our payment schedule since we both know that Koppers seldom pays within 30 days.

We should make some reference to proper handling and disposal of hazardous waste. We do not mind paying for the disposal of hazardous waste, however, we do not wish in any way to be held liable for their improper handling of these materials.

K. E. COGAN

KEC:m

61

K43-REV. 5 100M 9-80

BZTO104(e)010942

bcc: D. F. Marion

APR 8 1983

KOPPERS

Interoffice Correspondence

To SEE BELOW

From Paul A. Goydan

Location

Location k-750

Subject Pre-Prime Change
Notify All Customers!

Date 4/7/83

TO: D. Danka
J. Kusar
K. Luse
G. Mills
J. Palmer

We have all discussed our new relationship with Time Oil on the basis of manufacturing a Woodtox S Concentrate in St. Louis and rail shipping the product to Time for blending with wax and mineral spirits. My concern is that this new concentrate form might change or alter the final or RTU consumer product. Perhaps I'm mistaken, but I want George Mills' expert opinion on this. Since the mineral spirits, wax and penta remain unchanged, I doubt whether we have any real problem, but any quantity change in the penta co-solvent concentrate system shipped from St. Louis concerns me.

If George advises that our product might look, smell, dry, or color differently, we owe it to our customers to TELL THEM before shipping. If there is even a slight possibility for change, I would tell them. At least we will not make the age old problem Chapman and Roberts made in not advising customers of changes. Please, let's be very sensitive and remember this historical lesson.

Before we do anything, however, George will advise all concerned of his opinion and facts. We will hear from George and prepare our customers accordingly.

Personally, I'm excited about our new arrangement with Time and George Mills' new concentrate formula. We have George and John to thank for this product. It will keep us competitive for quite a while.

Paul A. Goydan

PAG:klc

Note to John Palmer & Don Marion:

John, I think it might be a good idea to have George spend three or four days at Time Oil to help them prepare the first few batches and for Q/C assistance. George should also write a formal procedure for Time. Samples should be passed back to St. Louis. You might also tell Time Oil to modify their piping now. Somebody also need to keep Chuck Vita hopping on locating a used wax melting kettle.

61

K-5 REV. 2

BZTO104(e)010943

KOPPERS

Interoffice Correspondence

To Paul Goydan | From J. D. Palmer

Location K-1001 | Location St. Louis

Subject TIME OIL CONTRACT | Date March 15, 1983

Attached are my corrections on the draft contract. Also attached are various formula sheets with costs for Woodtox Preprime Concentrate-T.

I have made the assumption that the facility rental is $800/mo. To arrive at a per gallon cost, I used 8,000/gal/mo and used a multiplier of 1.9 times that $0.10 as there is not an assigned overhead factor for St. Louis in any other calculation.

Formula Sheet #1 is Woodtox Preprime RTU made in Portland with raw materials using current costs from Time Oil (copy of March invoice attached).

Formula Sheet #2 is Woodtox Preprime Concentrate-T made in St. Louis and shipped to Portland by rail car.

Formula Sheet #3 is Woodtox Preprime-T RTU blended from #2 in Portland using the costs we discussed with Time Wednesday and Thursday.

Formula Sheet #4 is an idea George and I put together last year for Woodtox-S made so that it can be made into Woodtox Preprime-T RTU.

Formula Sheet #5 is Woodtox Preprime-T RTU blended from #4 using costs from #3.

This formula, #4 and #5 need further study. Please call and discuss.

John Palmer

JDP:jr
Attachments
cc: Don Marion - w/Attachments

K-5 REV. 2

61

(1)

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Wdtx PP-T RTU Lab. Book No. _____ Date 3/12/ 1985

Made ~~for~~ in Portland Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.20	.335	Penta	15.54	.4577	.02350	
.75	.100	wax	7.5	.4288	.00321	
15.00	2.069	OXO Bottoms	7.25	.2788	.04182	
0.5	.063	Na/co 2378	7.9	1.2800	.0064	
78.55	12.216	Mineral Sp.	6.47	.2115	.166133	
			6.765		.241363	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Bulk

RMC 1.633

Blend + Ship Labor .1058

OVH .19

1.9288

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

(2)

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox Preprime Conc. T Lab. Book No. _____ Date ~~November 20~~ 3-12 19 87

Made for ~~Time Oil Company — Portland, Oregon~~ in St L Chemist ~~G. B. Mills~~

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION
22.50	1.448	Penta	15.54	.4653	.104693
~~3.25~~	~~.433~~	~~125 mp Paraffin Wax~~	~~7.5~~	.46	.01495
64.95	8.959	Oxo Bottoms	7.25	.2369	.153867
~~4.00~~	~~.545~~	~~KB-3~~	~~7.34~~	.147	.00588
2.00	.253	Nalco ~~683 743~~ 2378	7.9	1.11	.0222
~~3.30~~	~~.513~~	~~Mineral Spirits (Quick Dry)~~	~~6.43~~	.188	.096204
100.0	12.151		8.230		.307793

DILUTION: ONE TO ____

REMARKS:

Blending Procedu

1. Meter in Oxo spirits and
2. Heat to 180°
3. Add wax and tion until c
4. Sample and s

Cost per Gallon: Bulk

Raw Material	2.533
~~Blend~~	
~~Drumming~~ Labor	.033
~~Container~~	
~~Overhead~~	2.566
Frt. to WC @ 9.494/cwt	.781
	3.347

61

DISTRIBU

BZTO104(e)010946

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product W Dtx 7P-T RTU Lab. Book No. _____ Date 3-12 1983

Made for from W Dtx PP-T - Conc. Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
	1.	W Dtx 7P Conc.		3.347	3.347	
	4.	Min Sp.		1.36	5.44	
					8.787	
					/	
					5	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

RMC 1.7574

RC Rec. Labor .0381

Blend Labor .005

Truck Loading .0027

OVH .19

1.9932

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

BZTO104(e)010947

(4)

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Woodtox S Conc. Lab. Book No. 34-59 Date Aug. 25 1988

Made for West Coast in St Louis Chemist Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	
25.5	1.641	Penta	15.54	.4653	.1186	
52.0	6.916	CXC	7.23	.2369	.1184	
3.0	0.402	Paraffin wax	7.5	.46	.0138	
1.5	0.189	Nalco Inhib 2378	7.9	1.11	.01665	
20.0	2.721	KB-3	7.35	.147	.0294	
100.0	11.867		8.43		.2961	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Bulk

KMC 2.503

L. .033

Frt to WC @ 9.494/cwt .80

3.336/gal blnd to WC.

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Sale File ..... Lab Group ..... Other .....

(5)

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.

5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Wdtx PP-T from Wdtx S Lab. Book No. _____ Date 3-12 1983

Made for Portland Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT Gal	EXTENSION	%
	1.00	Wdtx S		3.336	3.336	
	5.00	Mineral Spirits		1.36	6.80	
					10.136	
					6	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

RMC 1.689

RC. Rec. Labor .0381
Blend Labor .005
Truck loading .0027

OVH. .19
1.9248

@ 4800/mo

based on 8000 gal/mo x 2

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

cc: J. Busar
D. MacArthur
R. Stefanski
E. Yeadon

KOPPERS

MAR 1983

Interoffice Correspondence

To John D. Hite
Location K-1001
Subject February Monthly Report

From Paul A. Goydan
Location K-1001
Date March 1, 1983

CHEMICAL SALES HIGHLIGHTS
($ 000's)

	Month 1983 Actual	1982 Actual	1983 YTD	1982 YTD	YTD % Relative Performance
Formulated Products					
Millwork Solutions	74	51	131	86	52
Sawn Lumber Chemicals	54	40	86	54	59
Log Home Solutions	49	--	49	0	
Remedial Pole Treatments	23	4	50	6	733
All WTC Formulated Products	270	140	535	264	101
Pentachlorophenol					
Outside	22	24	22	99	(77)
Koppers Plants	108	141	264	179	47
Non-Trademark CCA					
Direct	144	152	435	125	248
Distributor	300	27	418	57	633
	444	179	858	282	204
Arsenic Products					
Acid-Merchant	0	54	44	109	(60)
Acid-KHC	86	138	136	246	(45)
	86	192	180	355	(49)
Chrome Products					
Acid-Merchant	0	0	0	0	
Acid-KHC	144	181	214	309	(31)
Sodium Bichromate	34	0	62	0	--
Copper Products					
Copper Sulphate	0	0	0	0	

5 REV. 2

BZTO104(e)010950

BUSINESS ACTIVITIES BY MARKET CENTER

Formulated Products - General

For the second month formulated product sales remained seasonally strong. This February's performance of $270,000 exceeded February 1982 by nearly 100%. This can largely be attributed to an upturn in our millwork and sapstain sales. Sales of our co-solvent KB-3 are also becoming more visible as Koppers' treating plants switch to our product from high penta solvency treating aids. Our gross profit margin on all petroleum based products has been creeping up due to the continued decline in crude oil pricing and the direct affect this has had on our raw material costs. We are maintaining minimal inventory levels of mineral spirits and fuel oil to take advantage of further pricing declines.

Millwork Solutions

Our millwork customers are reporting 20-35% increases over last year in order activity. Most of these firms, who normally operate at a minimal order backlog of 10 days to 2 weeks, are reporting backlogs slightly higher than normal.

During the past month we introduced Doug Myers to his millwork accounts in Minnesota and Wisconsin. We discussed with three firms their attitude on forming a licensing group behind a Koppers trademark that would be promoted to professionals and retailers as being representative of quality preservative - water repellency protection. Generally, their first reactions were positive, but as in the CCA pressure treating business, a great deal of competitive jealousy exists. Also, we know that quality control practices and physical means of preservative application differ widely. I will continue to pursue general discussions with other millwork firms and progress toward formulating a plan. We will require a common preservative to rally around and will need to resolve the considerable doubt surrounding waterbornes that exist today.

Our Woodtreat WB product is performing quite well at Crestline's plant in Wausau, however, I am concerned by the lack of a reliable analytical method to determine the pressure of the Troysan polyphase active in end grain. Product Development and Troy Chemical are continuing the search. We may need to add a tracer if an answer is not found very soon. We have a number of samples to test for Crestline which are important in demonstrating the performance of Woodtreat WB.

We still do not have final NWMA approval for Woodtreat WB because of a lack of our data on end grain preservative penetration. Jack Kozak is trying to communicate with NWMA staff in response to this question. I intend to take a more direct role and involvement in this communication with NWMA in the future.

Sawn Lumber Products

During the past month we learned about GP's mandate to all seven of their hardwood sawmills to begin using Sonford's sodium pentachlorophenate bagged powder. Unbelievably, this corporation has taken this environmental step backward. They have justified this unilateral decision based on stain problems experienced at "all of their mills." This included two mills we serviced. I am very dismayed that we did not know of these problems nor were our communications tuned into the mill managers to listen to their concerns or problems. We will attempt to get back not only our two old mills, but all seven mills. GP's managers in Atlanta have not expressed concern over possible worker problems and pressures with bagged penta.

On the bright side, our Sapstain Control T-1 product in the northwest is going over very well and we are now making product in St. Louis to introduce into the southeast. T-1 has greater buffering capacity than LN-1 for hardwoods and will be priced competitively with Chapman's product. We are still going for California registration. This is where T-1 may have the greatest sales impact. Acute toxicity tests should be complete within three weeks and submitted to the state.

One of Bob Stutz's old line distributor contacts, Al Sutherland, who operates a large sawmill product distributor company in Vancouver, has expressed a great deal of interest in T-1. Al estimates he has a 50% market share in British Columbia and currently distributes for VanWaters and Rogers. I plan to visit Al with Bob Stutz soon. We are currently pursuing registration of T-1 in Canada. There are no duties for fungicidal chemical imports in Canada.

Log Home Products

There is not much to report here. We have a customer prospect list developed for use once we have successfully concluded field testing on our new Bardac and Troysan product at New England Log Homes. I hope we can do this by April 1.

Remedial Pole Treatments

Corry Sanoian, owner of Quad Technologies ($500,000/year sales) and the inventor of a number of infrared analysis patents, approached us this past month as to the possibilities of Koppers and Quad Technologies teaming up to inspect utility poles using infrared scanning. The technology principles are still vague in my mind, but Jack Kozak and I are sufficiently interested to have asked Sanoian to submit written information on the technique and the current limited field work data completed on wood poles. We told Sanoian we want to see comparative testing done by his IR on a line of poles tested previously by sonic or conventional sounding methods. His interest lies primarily in inspection.

Jean Ake, Heath Energy, is attempting to secure a contract from one of three utilities to do both pole top and groundline inspections and treatments. If Jean is successful, we will help him establish himself as a remedial pole contractor using our product exclusively.

Asplundh is currently doing a large job for Houston Power and Light. Ken Cogan and I will be spending a day with their field crews in early March to discuss our new remedial bandage and to get some first hand exposure.

We should have sufficient sample bandages in five to six weeks for field testing. I want at least three utilities currently using bandages heavily to try our bandages. Asplundh will be asked as well. I plan to visit APS and Baltimore Gas & Electric soon for a preliminary discussion with key individuals involved in these utility remedial programs.

Phil Hall is hopefully close to cracking some first time remedial business with Mississippi Power & Light and Culman Electric. We have volunteered John Bridges to spend up to a week in the field educating their field crews on inspection techniques and groundline and fumigant product application.

I have spoken with Tom Storey about conducting four regional seminars for their salesmen. One will be conducted on the west coast. I want to do this by early

April in conjunction with the CCA pole market development education. If you have no objections, I will schedule dates now. Our field representatives will also be involved in their territory.

Pam Armbruster is scheduled to help man the TWPD booth at the upcoming Kentucky REA convention.

I plan to contact Jim Taylor on his possible role in our securing REA remedial pole business domestically.

We have asked Asplundh's assistance in identifying remedially treated poles 1, 2, 3, 4, 5, and 10 years of age in Wisconsin to develop field data sorely needed on our product. These poles will be identified the first week of April by which time Jack Kozak should have received a proposal from Madison FPL to do the inspection, borings and analysis work.

Osmose has introduced a non-penta containing grease product containing 2.4-dinitrophenol. It appears that they have just amended their penta-containing label. They are pushing hard in some of the export markets such as the Philippines. I am giving serious thought to going to an EPA conditional registration on the identical product as an alternative to our Tritox.

Herb Day, Stauffer Chemical, advised that his current pole market for fumigant is approximately 30,000 gallons or 250,000 poles. He advised that they are no closer to modifying their label, thus placing us no closer to conditional registration.

Jack Kozak is writing BASF for additional product data on Dazomet including their current EPA status.

Pentachlorophenol

In February we met with both Vulcan and Reichhold in Pittsburgh and broached the subject of toll blending for us. They both have a reluctant interest. A meeting is scheduled with Reichhold in Tacoma on March 10 to discuss this further. Reichhold was told we are desirous of a 5 year contract on tetrachlorophenol. They are agreeable to this. We have also asked Reichhold to begin LTL shipments of penta and tetra to Jones-Hamilton and Time Oil and to work split loads with our plants in the west. We may settle for extended terms. All of this will be done in an effort to reduce inventory positions at these plants.

Uniroyal is being approached on cost and availability of a liquid tetra formulation.

We have received word from IP that we will get 520,000 lbs. of penta volume in 1983. This represents 25% of their requirements. This was taken at a competitive price of $0.481/lb.

Our KB-3 co-solvent purchases ran 1.6 million pounds in 1982. This year we expect to require 2 million pounds. Unfortunately, there is only one source for this low priced, excellent co-solvent, Eastman Chemicals in Tennessee. All our competition buys from them. I might add Eastman has told us they will be hard pressed to supply more than 2 million pounds because of very curtailed ketone production. Other co-solvents we have found are 25% higher in price.

Koppers Gainesville continues to buy from Forshaw, and Florence also buys approximately 20% of their penta from Forshaw. Earl has stopped a conversion at Gainesville because of the fear that KB-3 will not be available. He is correct that it will be very tight and we will gamble somewhat. However, what Forshaw doesn't require, we will take, freeing it up for Gainesville. I will discuss this with Earl.

Pam Armbruster is holding her own in the penta RTU and concentrate business in the midwest. This business is generally still at 4-5% margins. We were successful in pushing our freight costs down a few weeks back. The net affect will be a lift in our margins on an average 1.5 - 2%.

We will thoroughly review our blending costs at Florence, Grenada, and North Little Rock for 5% and 7½% RTU and 40% Concentrate.

Non-Trademark CCA

We have roughed out the language for the Dan Graves agreement for distributing non-trademark CCA in the southeast. This has been passed to Ed Wood for his reworking and tieing it into a legitimate agreement. Ed has been busy the last two weeks, but I have once again called him. I expect the agreement in my hands shortly. The agreement will then be forwarded to Dan Graves for his approval.

I have been in regular communication with Dan. He reports that he is currently retaining his relative supply position with the regular accounts. It appears, however, that Dan will not get the Southern Wood Piedmont, Wilmington plant business. It is too early to tell whether Dan will retain the Baldwin plant, however, we are optimistic that he will retain both Augusta and Baldwin. Wilmington's annual volume is only 150,000 lbs. I do expect a portion of those sales where Dan was previously sharing business with Koppers to go to Mineral Research, Chemical Specialties, or possibly Bill Drinkert. A number of treaters have already looked at Dan Graves as being a part of Koppers and, therefore, representing only one source of supply. I have instructed John Lind and have discussed with Dan that it is to Dan's advantage to present himself as independent of Koppers as possible, especially to those accounts where we have shared business, including Weyerhaeuser, Quality Wood-Enfield, U.S. Lumber, etc.

Our February sales of non-trademark CCA totalled $444,000. This was up from $179,000 in 1982. Our YTD total for non-trademark CCA is 200% over 1982.

It is rumored that Allied Research Group, Charlotte, NC, will begin supplying concentrate to the market on April 1. They have basically taken the sales position of selling the cheapest and will give anybody the very best offer.

Cherokee Products, Jefferson City, TN, is now looking for components and thinking about blending their own CCA concentrate. This information came to us from PB&S Chemicals. We know nothing more about this firm at this time.

Osmose has apparently reduced their selling price to $1.32 on the high end to $1.22 on the low end. This is apparently a recent price reduction and was offered to Potomac Supply, one of their largest customers.

Mineral Research plans to present a literature and marketing promotional program to their customers. They have already offered a warranty program to a number of accounts. I have asked Gerry Wellner to search leading DIY magazines as to what is available on the market in the way of DIY plans employing wood. I expect to hear from Gerry soon and we will look at various options available in this area.

D. J. Lumber Company recently called and suggested that it would be to their interest to go generic. He claims that some of his customers are not requiring trademark material and that he is only involved in T.S.O. I tried to convince Jim that it was to his advantage to stay with the marketing program and to attempt to use it. Obviously, his financial resources have not allowed him to participate very greatly in the merchandising programs we have offered, however, he is expecting to work himself out of Chapter 11. I have asked Joe Kusar and Eric Yeadon to visit with Jim as soon as possible to convince him of the merits of the WOLMAN program.

Escambia, Pensacola, FL, as reported last month, continues to be interested in the treated lumber business as well as the piling business on the Gulf Coast. I have discussed this with Eric and Joe. I am certain that, should we offer a WOLMAN license to Escambia at Pensacola, it would be received with major objections from Bill Herndon. I believe, however, we should make a quick resolve of our position with regard to Escambia. If we want to talk them into a non-trademark program, I would like to take immediate action before they decide to go another direction.

I will be meeting with Ted Weir during my west coast trip the week of March 7. I think it is important that we attempt to conclude a supply arrangement with Weyerhaeuser at an early date.

ARSENIC PRODUCTS

Arsenic Acid

Although we had no sales of arsenic acid to the merchant market in February, we did receive a number of orders for March delivery. A trip will be scheduled soon to introduce Doug Myers to Salsbury Labs in Charles City, Iowa. Salsbury Labs continues to honor debt paying to Pennwalt for bailing them out during the shortage one and one-half years ago. They are currently giving us only one out of every four or five loads. I will attempt to improve our net position with them.

I have set a meeting with Nick Poletika, J. H. Baxter, during my west coast trip. I have broached the subject of our supplying arsenic acid to Baxter and their licensees on the west coast with Nick. He expressed a number of concerns with the longer term guarantee we would offer him on local distribution in California and in the northwest and the effect that our business volume with J. H. Baxter might have with Pennwalt's future supply on the west coast. I assured him that we can resolve these issues satisfactorily and he is interested in discussing this. I might further add that he expressed great disappointment over the inability to get together over DRICON and at least alluded to the fact that our lack of flexibility on DRICON will likely have a bearing on their decision on arsenic acid. I will pursue arsenic acid in an independent vein in an attempt to secure this large potential volume. Freight

rates and costs have been developed fully for acid car delivery to Jones-Hamilton. Should we distribute out of Jones-Hamilton, a larger storage tank would be necessary. Pennwalt is hauling truck load quantities direct from their Bryan operation to the various licensees on the west coast.

CHROME PRODUCTS

We have had a discussion with PB&S Chemicals regarding their chromic acid requirements. They distribute approximately 40,000 to 60,000 lbs. from three locations monthly. Most of the product is going to platers, however, they do blend chromic acid with various acids for special needs for people such as ALCOA in Henderson, Kentucky. Currently they are buying in the price range of $0.92 - $0.98/lb. delivered. They are supplied by three sources: Allied (major source), foreign and M&T. They have a monthly sodium bichromate requirement of 40,000 to 80,000 pounds per month for which they are currently paying $0.47/lb. delivered. I am putting together a package deal on bichromate and chromic acid with this firm.

We have met with Jack Bendheim, Phillip Brothers, to discuss chromic acid sales. They are currently supplying some firms in England and some platers in the New Jersey area. Allied and M&T are their main suppliers. We will attempt to work out supplying Phillip Brothers with chromic acid product soon and gradually build our way up in the market place.

I am interested in any overall concerns you might have with respect to it being known or recognized that we indirectly supply chrome to the plate and metal markets.

Overall, we are not receiving a great share of component business. With respect to arsenic acid this has largely been due to the fact that we have not been competitive with a few accounts. Most other treaters feel that this is an extremely temporary position on Koppers part and, therefore, will not sever ties with their historical suppliers, most prominently Chemical Specialties. A number of these treaters are bringing in foreign bichromate at the same prices we currently have it available to us. This is another large factor in our inability to cut into this market. Quite obviously, we have picked and chosen the treaters we would deal with in this market and a number of larger accounts, namely, Holly Hill Lumber Company and most of the Florida accounts have remained unpursued. I think it would be beneficial to visit Bill Traylor of Traylor Chemicals in Florida to explore what he is doing and how he is going about it. I would like to discuss the component business with you in greater detail.

MARKET/PRODUCT DEVELOPMENT

As a whole we are very limited with respect to the amount of time devoted to the development of new solutions for sapstain control, log homes, or travel stain products in Monroeville. After my last visit to the Research Center, I can comfortably say that, at most, we have one man that does everything from plotting the experiments, running them in the laboratory, and measuring the results. There is obviously limited time contributions put in by the other two individuals assigned to our development efforts at Monroeville, A portion of

time is also being devoted justifiably to our packaged stain business. The only product that has surfaced from Monroeville is the Bardac with Troysan Polyphase product. So far, it continues to test well with respect to log homes. I have not seen detailed research reports summarizing testing over the past month at Monroeville as of this writing. I will push for an early test date on this product with New England Log Homes.

This is the only combination of products that we have currently investigated to any degree that can be put in a water based system. Monroeville personnel have not had an opportunity to test the Amical 48 product in anything but mineral spirits. They have also not devoted any meaningful time toward finding an emulsifying system to produce a water based millwork solution and sapstain control product. I plan to visit the Research Center regularly to learn our progress on these various products and research items. This seems to be the most beneficial way of gaining knowledge and direct attention to these areas.

We will not move ahead with our lumber coating chemicals for paper wrap until sufficient market data is gathered through Ken Luse and Don Danka to justify this move at the research level. Both of these gentlemen have been written to and a number of questions have been addressed to them for surveying key lumber producing accounts in the northwest and California.

DSMA/MSMA

I am scheduling a trip to Diamond Shamrock to tour their chromium production facilities for insight and background into the DSMA/MSMA markets. Contact will be made with Chevron Oil Ortho Division who produces weed and grass killers containing sodium dimethyl arsenate.

I also plan to learn more about ASARCO's arsenic trioxide business and the potential for us to supply highly purified arsenic trioxide.

On April 1 I will contact Vertac to discuss their operating experience to date with their MSMA production.

Remedial Pole Treatment Bandage

Ken Cogan and Eric Gustafson recently visited a basic packaging firm of PVA in Avon Lake, Ohio. Although this was just a few days ago, preliminary expectations are that this firm will be able to produce PVA plastic sample rolls for us. Upon receiving the "bag" plastic, we will manually insert our Tritox, seal it manually, and prepare samples for distribution to three utilities and Asplundh for their comments. Ken Cogan is looking at filling machines and modifications to existing machine technology to meet our needs.

PLANT OPERATIONS

Valparaiso

PLANT OPERATIONS

Valparaiso

We still continue to have problems with American Cyanamid's dicy, however when American Cyanamid's product is mixed with British Oxygen 1:1, we seem to correct the solubility problem. We continue to experiment, however, it appears we will be increasingly dependent on BOC material.

The N&W Railroad has signed a contract on the Valpo side track. We have procedures established for obtaining refunds from the railroad over a 5 year period for the use of the side track. Refunds will be applied for every six months for a period of five years or until a $68,000 credit is obtained.

I have asked Glenn Schultz to review all accounting on the Valpo chromic acid AFE. Don Marion will also look at the final accounting summary and will take steps for closing out this AFE.

We will be arranging a presentation by Jim Woroniecki to our employees on their benefits. We will also take time with our employees this spring to present what we do with our DRICON and CCA product lines. This will be an affair to which spouses will be invited and will probably be scheduled some time in May.

We will be adding a safety review with all employees on emergency procedures to be taken in case of an accidental spill, emergency eye wash procedures, etc., every four to six weeks at the plant.

In February our mix variance was a positive $6,980 on CCA and $1,769 on DRICON.

Laurie Findling spent two days at a training course for A.A. analyses. We are still having some standard calibration problems with our A.A. in Valpo.

St. Louis

In general, we are reviewing our inventories of little used raw material items. We have a target set to reduce our investment for all WTC operations below $500,000 by June 1. I expect, with further refinements, we might be able to operate this business at the $450,000 to $475,000 average investment level. As reported earlier, all our organic petroleum based products are being held to minimal inventory levels at all locations in order to benefit to the maximum degree the continuing slide in petroleum pricing.

John Palmer has had conversations with the Fenton, Missouri office. It is my understanding that the Fenton office is currently paying $600/month lease for office space plus utilities. I suggested that we arrange for a rent transfer of $400/month to the ABP group and that we arrange to locate this group in St. Louis as soon as possible. We will have a total review of the economics associated with our current phone system and how the addition of the ABP group will allow better economics to be realized for all concerned.

The RainCoat machine continues to operate satisfactorily. A coder has been added to automatically stamp the cans as they are filled. We are currently studying the economics associated with buying cans that already have bails on them vs. adding approximately one-half man to take the time to put the bails on the cans.

On our best day we ran 1,944 gallons in an 8 hour shift. The actual men, however, worked slightly over 6 hours filling RainCoat materials. We would estimate, on this basis, that our current labor costs are $0.145/gallon. We expect to get this unit labor cost down and improve the overall efficiency of handling and moving our RainCoat product in St. Louis.

I have approved the tow motor overhaul which will cost $4,000. The tow motor is 30 years old.

Although we ran three Saturdays of overtime in December and January, we are now operating without overtime in St. Louis. This will be the rule and the exception to run overtime will be an extraordinary one.

Jones-Hamilton and Time Oil

We have still not finalized our contract with Time Oil. John Palmer and I will be visiting Time Oil the week of March 7 to bring this negotiation to a conclusion.

We have had complaints on two recent CCA shipments that truck drivers did not handle their responsibilities properly. In one case the driver was accused of letting the hose drain on unprotected soil. We are looking into these allegations now. I have instructed Don Danka to work with John Palmer to see that Jones-Hamilton has a monthly safety review and driver training sessions. I have also asked Harold Struessel to begin putting together a feasibility study on justification of our own tank truck on the west coast and our own driver. If we do get into the arsenic acid business on the west coast with J. H. Baxter, this will greatly swing the pendulum toward justifying our own truck and driver.

John Palmer's and Glenn Schultz's monthly reports were not available at the time of this writing, however, they are attached.

KOPPERS HICKSON CANADA

General Business Activity

We blended 224,000 oxide pounds of CCA for KHC in February versus 196,000 ox. lbs. in February 1982. Our YTD performance is flat compared with 1982. Canadian retailers committed heavily to treated lumber in January and February to take advantage of the relatively depressed white lumber prices. However, in the past three weeks as lumber prices began to rapidly increase, buying activity on the part of the retailer, and consequently licensee treating volumes, declined. We do not expect any significant rebound for another month when the retailer will have to commit for the spring and summer markets.

We just learned that Revelstoke, who buys three to four loads of concentrate per year primarily for treating fence posts, has decided to go out for open tender. They have asked for extended terms and are apparently shopping for the lowest pricing. We have just learned that we will not be honored with this business despite of reducing our price to nearly $1.20 FOB Valparaiso with 60 day terms. We are not sure whether Osmose or Great Western Chemical has obtained this business. We will attempt to learn more about this situation. This position on Revelstoke's part was apparently prompted by severe economic pressure within the corporation. It is being rumored that there are financial problems in the corporation.

We have recently had some general discussions with PDL Corporation, a large Osmose licensee in Toronto. PDL utilizes approximately 500,000 lbs. of CCA per year, 75% of which goes into utility poles. PDL did approach us. We are putting together a package deal to try to wrestle PDL away from the Osmose camp.

With respect to Goodfellow Company of Quebec, Keith was not successful in obtaining this large Osmose licensee primarily due to the fact the Goodfellow had 4-5 million board feet of Osmose branded lumber in his yard as well as extensive literature and promotional dollars tied up in Quebec with the Osmose trademark. We will continue to work hard to take this account away from Osmose. I believe that if we get in position this year, we will be able to have Goodfellow convert his inventory to WOLMAN in preparation for 1984 spring and summer markets.

With respect to DRICON market development, we have had discussions with Trent Timber and Pacific Wood Preservation to add small DRICON cylinders. Neither of these firms are interested in any substantial investment in adding DRICON to their existing operation. However, I have spoken with Frank Boge and we are preparing quotations for 6' x 30' plants for both of these WOLMAN licensees. We are planning to utilize Mark Schwartz to organize an architect and specifier seminar for the city of Toronto in the late spring. This will primarily be oriented to assist penetration into this market for the Biewer-Cambridge plant.

We are beginning to explore utilization of the Canadian Institute of Treated Wood to increase our penetration of fire retardant treated wood in Canada.

We are still sorting the best approach to take with respect to the ULI and ULC testing on the three species of primary interest to KHC. We are reviewing the current code opportunities for fire retardant treated wood and will emphasize those that give us the greatest volume entree.

Keith Knowling's sale of end cut solution is going over very well. Keith has an excellent formulator, Gibson Homans Company in Toronto, to produce the product. Keith's gross margin is about $2.00/liter. We are also talking to Gibson Homans about producing our RainCoat. Even though we are far behind in getting the RainCoat product set up and into production in Canada for this year, we will have the product to introduce at the Canadian Home Show in mid-April. I have communicated this goal fully with Wayne Simkins and we will be negotiating directly on a contract with Gibson Homans to begin the RainCoat production in Canada. We have little information on the Canada market due in part to the fact that little water repellent is currently being sold through the retail outlets. Thompson's Water Seal has been marketed for just over a year in Canada and is receiving $29-30 (Canadian) pricing on the retail shelves. Keith Knowling will have discussions with a few of the larger retailers to help us sort out the means to market the RainCoat product.

Keith is also interested in putting the WOLMANIZED brand name on a butyl caulking compound for the All Weather Wood Foundation. As you know, approximately 10% of the housing starts in Canada are now utilizing AWWF and quite a few of our licensee's main volumes are coming from supplying wood for the AWWF. I like Keith's idea, however, I have asked Keith to cool activity on the caulking compound until we have sorted out our product options here in the States.

Keith has expressed an interest in utilizing his western sales representative to represent Koppers in the sale of T-1 product to large sawmills such as Canfor in British Columbia. As mentioned earlier, we are also looking at possible distributor arrangements for our Sapstain T-1 in western Canada and

whether it makes any sense at all to use Keith in a distributor role is somewhat doubtful.

Wolman Pre-Stain is clearly having troubles in Canada. The only licensee doing any pre-stain work in Canada is John A. Biewer in Cambridge. Mike Hollick has switched from the product to a competitive product. Mike has complained since day one on everything from the machines to the quality of our product. Mike is currently complaining about the difficulty of cleaning the Pre-Stain product from the machine. He does have his own machine.

However, Kemptville, one of Keith's largest customers, is desirous of beginning pre-staining dimensional lumber and board siding. Keith's current pre-stain machines are not in any shape to be transferred to Kemptville and Kemptville, from what he has heard about pre-stain application problems, is not willing to invest in the machine until we prove to him it can be put on relatively trouble-free and economically. I will make arrangements to transfer the machine that is currently unused at our Orrville Product Development Laboratory. This will be on loan to KHC and will be used at Kemptville in an attempt to get them to utilize the product. If after a short time, the machine appears to be reasonably functional, I will ask Keith for compensation for the machine.

KHC is looking at establishing a rebate pricing system for round stock items such as CCA utility poles. I am helping Keith with this. New Brunswick Hydroelectric has continued to pressure Atlantic Pressure Treating on the corrosion issues surrounding CCA and ACA. We have had Jim Blizzard review some documents submitted by New Brunswick in an attempt to persuade them that CCA oxide formulation is not at fault in any corrosion he might be experiencing in what we believe to be ACA poles. We are attempting to arrange a visit to our research labs in Pittsburgh and then to one of the U.S. utility companies using CCA poles.

We are also looking at freight rates to establish a distribution point in either western Canada or northwest United States. With Osmose's new plant in Seattle, this will be necessary for Keith to avoid substantial freight costs in transporting out of Valparaiso.

Separate reporting on KHC monthly statistics will be reported to Don Hallahan for his report purposes.

KOPPERS HICKSON CANADA SALES HIGHLIGHTS
CANADIAN DOLLARS (000) - JANUARY

	1983 Actual	1982 Actual	1983 Program	1983 YTD	1982 YTD	% YTD Relative Performance
Net Sales	477	475	371	477	475	--
Pretax Profit	47	50	21	47	50	(6)
After Tax Profits	22	25	9	22	25	(12)

MISCELLANEOUS

I have finalized arrangements for our hospitality suite at the upcoming AWPA convention and have also written Hughes of Vulcan Materials that I will be making a presentation to the ITD committee on our new computer process making a presentation to the ITD committee on our new computer process controller. We have invited a number of our friends for the dinner on Sunday evening. Also, banquet tickets have been reserved. Eric Yeadon is familiar with the procedure to write our licensees asking them to join us for the Sunday private dinner as well as the Tuesday annual banquet.

Paul A. Goydan

PAG:klc

Attach.

FILE
TIME OIL

KOPPERS

Interoffice Correspondence

FEB 17 1983

To John D. Palmer

Location WTC - St. Louis

Subject Time Oil Company

From Paul A. Goydan

Location SWCD - Pittsburgh

Date 2/15/83

Regarding Time Oil's desire to clean out Tank 20001 and Tank 13001 that apparently have some settled sludge in them, I would like to advise that settled material in a tank that is being continuously used for operations is not considered hazardous waste. The only time something is considered hazardous waste is if the material is physically removed from an operating or working tank and put into separate containers purely for the purpose of holding or storing waste. If Neil Wallace of Time is concerned about having hazardous waste in a tank that is under operational or working control, he is in error and you should advise Neil.

The question I have is whether these tanks really need to be cleaned now or whether we can wait and continue to produce adequate and good product. Another question I have is whether we can try to redissolve some of the so-called sludge or solids on the bottom and recover some of this material.

I would appreciate your discussing with me what you think we can do to minimize our costs and expenses. I have a feeling that this is not as "sludgy" or as unusable as perhaps Neil Wallace believes. I would also be interested in knowing what George Mills' analysis has shown and your further thoughts on the matter.

Paul A. Goydan

PAG:klc

cc: K. E. Cogan
G. B. Mills

K 5 REV 2

BZTO104(e)010963

KOPPERS

Interoffice Correspondence

Trace 3/1/83

To John D. Palmer

Location St. Louis

Subject Time Oil

From K. E. Cogan

Location Pittsburgh

Date January 25, 1983

On January 19, Neil Wallace called and indicated that Time Oil was just getting into the RCRA program and tank Nos. 20001 and 13001 have sludge present. I have arranged for Neil Wallace to have samples taken and forwarded to St. Louis to determine if these materials can be reworked. If they can, we should institute a program to recover and reuse those solids. If they cannot be recovered, then it will be necessary to have Neil determine cleanout and disposal costs. Tank 20001 has 795 gallons and tank 13001 has 145 gallons. You indicated that this material is not in our inventory so that our cleaning costs will only include placing the material in drums and its subsequent disposal if necessary.

As soon as those samples come in, please arrange to have George Mills analyze them so that we can reach a decision early in the year on what to do with these two tanks.

K. E. Cogan

KEC:mtd

cc: P. A. Goydan

K43-REV. 5 100M 10-81

BZTO104(e)010964

TIME OIL CO.
Correspondence - 1987

M E M O R A N D U M

November 9, 1987

TO: Robert Abendroth — Seattle
John Luckovich — Seattle

FROM: John Denham — Seattle

SUBJECT: PENTACHLOROPHENOL CONTAMINATION - NORTHWEST TERMINAL

Today I contacted Jim Campbell of Keystone Environmental Resources Inc. (412-227-2689) regarding above subject. I again asked that Koppers provide two things:

a. The results of sample analysis accomplished in their laboratory, which was promised not later than June 1, 1987, plus Koppers recommended solution to the contamination problem and;

b. A check in the amount of $54,780.28 as their payment of half the costs incurred to date.

Campbell said they would do so.

Campbell expressed Koppers desire to do two things:

a. Pay us half the costs to date as requested.

b. Come to some agreement where Time Oil will accept all liability for site contamination and relieve Koppers completely. Koppers is willing to pay money for this status.

I plan to discuss b above with our attorneys as soon as possible. Will advise results for consideration.

JPD/ch

cc: B. Nolan - K-17

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

OCT 07 1987

RECEIVED

OCT 5 1987

Environmental Resources

October 2, 1987

Keystone Environmental Resources Inc.
Jim Campbell
436 7th Ave.
Pittsburg, PA 15219

Dear Mr. Campbell:

This is in reference to our discussion regarding clean up costs at 12005 North Burgard in Portland, Oregon.

Enclosed are copies of the documents you wish to review.

A. The Original invoice #091868 dated March 6, 1986 for $42,081.21.

B. A complete list of expenditures as of April 1, 1987.

C. Billing for the additional charges of $12,699.07 for expenses after the date of the original invoice.

Your cost for half the expenditure, per mutual agreement is $54,780.28.

We appreciate your working with us and look forward to hearing from you at your earliest convenience.

Yours Truly,

TIME OIL CO.

John Luckovich

John E. Luckovich
Credit Manager

JEL:ltd

Enclosures

00028

TIME OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 091868

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

657 60 123 27831.21
120 9 . 14250.00

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS (LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE (RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS (RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES (OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES (PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43

50% = 42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIVA

As of 04/01/87

TIME OIL CO. EXPENDITURES IN REFERENCE TO PENTACHLOROPHENOL CLEAN UP COSTS AT 12005 NORTH BURGARD, PORTLAND, OR.

04/26/85	Chem-Security Systems (Laboratory analysis of soil sample)	$ 150.00
07/10/85	Northwest Vacuum Truck Service (Relocating 242.76 tons of soil to Arlington)	$ 9,000.00
07/29/85	Chem-Security Systems (Receiving 243.30 tons of soil at Arlington)	$ 27,270.88
08/08/85	Environmental Emergency Services (Sampling and analysis)	$ 500.00
12/05/85	Environmental Emergency Services (Well drilling, sampling & analysis)	$ 18,741.55
03/24/86	Environmental Emergency Services (Sandblast and demolish wall; install wells)	$ 17,252.67
05/16/86	Instrumentation Northwest (Monitoring well materials)	$ 3,702.66
06/11/86	Century West Engineering (Develop and sample wells)	$ 2,739.50
06/11/86	Department of Environmental Quality (Per OAR 240-102-065)	$ 3,500.00
07/08/86	Century Environmental Sciences (sampling wells)	$ 1,800.00
08/03/86	Riedel Environmental Services, Inc. (Sampling and analysis)	$ 4,452.81
08/25/86	Jack Eatch Construction Co. (Relocate soil and dispose of concrete wall)	$ 1,465.00
09/10/86	Concrete Coring Co. (Cut holes through concrete floor of warehouse)	$ 390.00
10/24/86	SRH Associates, Inc. Investigation of pentachlorophenol as per contract dated 08/14/86	$ 18,465.00
01/26/87	Century West Engineering (Well sampling and analysis)	$ 130.50
		$109,560.57
	Koppers Company share of costs = 50% =	$ 54,780.28
	TOTAL DUE FROM KOPPERS =	$ 54,780.28

Encl. 2

TIME OIL CO.
P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091363 DATED 12,699.07
MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR
HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN
REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD
PORTLAND, OREGON.

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21)
AND THE UPDATED CHARGES FOR $ 54730.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

Encl. 3

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS

ORIGINAL

BZTO104(e)010970

M E M O R A N D U M

August 14, 1987

TO: Robert Abendroth — Seattle
John Luckovich — Seattle

FROM: John Denham — Seattle

SUBJECT: PENTACHLOROPHENOL CONTAMINATION - NORTHWEST TERMINAL

Jim Campbell from Koppers Co. called at 9:20 a.m. on August 13, 1987 (as a result of contact efforts by John Luckovich), advising that he has now been assigned to handle our situation at Portland and that a Billy Nolan (new attorney) has also been assigned for legal purposes.

I asked that Koppers provide two things:

a. The results of sample analysis accomplished in their laboratory, which was promised not later than June 1, 1987, plus Koppers recommended solution to the contamination problem and;

b. A check in the amount of $54,780.28 as their payment of half the costs incurred to date.

As usual, Campbell said he would get back to us.

JPD/ch

MAY 05 1987

4/24/87

Bill Baldwin
K-1350

Sorry for the confusion, we goofed?

As a follow-up to our discussion earlier in the week, we have not yet evaluated the soil received from the Time O-I site.

Dr Fu has initiated our preliminary evaluation consistent with my 13 March letter. The results of this evaluation should be available within 2 weeks.

At that time I would like to meet with you to review the data and to determine the next appropriate step.

Jack Adams

BZTO104(e)010972

KEYSTONE
ENVIRONMENTAL RESOURCES, INC.

MAR 13 1987

Interoffice Correspondence

To	J. K. Fu	From	J. W. Adams
Location	Monroeville	Location	Monroeville
Subject	Time Oil Soil Washing	Date	March 13, 1987

I had a brief discussion with Bill Baldwin of Koppers' Protection Products Group today, regarding the potential for soil washing of material from the Time Oil site. Based upon this discussion, Bill is having a 5-gallon sample of soil, from the site, sent to your attention at the Monroeville Center.

I offered to evaluate this sample with a single 'go/no go' test to determine the potential for a soil washing process at this site. Keystone will provide this test (phase 1), along with the grease and oil analysis and pentachlorophenol analysis, at no cost to Protection Products Group.

Please notify me when you have received the sample and are ready to begin the test. The appropriate project number is BSOP-00-WOOD0023.

J. W. Adams/pb
J. W. Adams

JWA/pb

cc: B.Baldwin

→ Jack Adams Monroeville

Jack —

How do you explain the attached in view of the above?

Bill Baldwin
4/21/87

BZTO104(e)010973

KEYSTONE
ENVIRONMENTAL RESOURCES, INC.

APR 21 1987

Interoffice Correspondence

To	Bill Baldwin	From	Jack Adams
Location	Koppers - Pittsburgh	Location	Monroeville
Subject	Time Oil Soil Evaporation	Date	April 20, 1987

Attached is our proposal to conduct the soil washing evaluation of the Time Oil material. As we discussed, Keystone has already demonstrated this technology and it is, therefore, not necessary to "develop" the technology. Further, our treatment of the wash liquor results in a permanent solution, not just the transfer of the penta from soil to carbon.

To accept, simply sign both copies of the attached proposals and return one to me. If you have any questions, please don't hesitate to call J. K. Fu or myself.

J. W. Adams/pb

J. W. Adams

JWA:da
Attachment
cc: J. K. Fu
M. J. Dvorsky

001150

BZTO104(e)010974

KEYSTONE
ENVIRONMENTAL RESOURCES, INC.

440 College Park Dr., Monroeville, PA 15146

PROPOSAL SUMMARY

Proposal Number: BSOP-00-WOOD23 **Date:** April 13, 1987

Client: Bill Baldwin
Protection Products - Wolman Department

Re: Time Oil Company
12005 N. Burgard Street
Portland, Oregon 97203

Subject: Environmental Evaluation of Pentachlorophenol Contaminated Soil for the Time Oil Company, Portland, Oregon

Objective: The objective of this laboratory investigation is to evaluate the technical feasibility of decontaminating pentachlorophenol contaminated soil.

Scope: Information generated from this laboratory study will be used to:

- Determine the effectiveness of soil washing for the removal of pentachlorophenol from contaminated soil.
- Examine the feasibility of using UV/03 treatment for the destruction of pentachlorophenol collected in the washing solution.

Deliverables: A recommendation which will include the following:

- A brief discussion of laboratory processes.
- Results illustrating the potential of soil washing for pentachlorophenol removal.
- Results of UV/03 treatment for degradation of collected pentachlorophenol.

Schedule: Laboratory work will begin within one week of approval of this proposal. Analytical analysis will be completed within four weeks of laboratory work completion. After all analytical data has been compiled, the recommendation will be completed within one week.

001151

BZTO104(e)010975

Bill Baldwin
Protection Products - Wolman Dept.
April 13, 1987

Budget: These services will be provided on a time and material basis for a not to exceed without prior authorization budget of $3,099. See attached table for make up of this budget.

Proposal Expiration: This proposal expires on May 13, 1987.

Respectfully Submitted,

J. K. Fu

Accepted by: _____
Signature

Title:

Date:

COST ESTIMATE 15-Apr-87

TIME OIL

PROPOSAL BSOP-00-WOOD0023

LABOR

POSITION	LAB WORK	RECOMMENDATION	TOTAL HOURS	RATE	COST
SENIOR ENGINEER/SCIENTIST	1	1	2	66	132
STAFF ENGINEER/SCIENTIST	3	8	11	55	605
SENIOR ENGINEERING/LABORATORY TECHNICIAN	24		24	36	864
SECRETARY	2	4	6	20	120
SUB-TOTAL LABOR (HOURS)	30	13	43		$1,721
SUB-TOTAL LABOR ($)	$1,135	$586			

EXPENSES

ANALYSIS ($)	1,056				1,056
EQUIPMENT ($)	255				255
WORD PROCESSOR (HOURS)	2	4	6	2.5	15
DUPLICATION ($)	4				4
PROJECT COST CONTROL ($)	33	15			48
SUB-TOTAL EXPENSES ($)	$1,353	$25			$1,378
TOTAL ($)					$3,099

APPROVED BY John W. Adams

PREPARED BY: R. KEFFER

001153

BZTO104(e)010977

KOPPERS

Interoffice Correspondence

To	W. J. Baldwin	**From**	J. S. Sebbens, Jr.
Location	K-1350	**Location**	K-750
Subject	TIME OIL	**Date**	April 24, 1987

I've just received the attached letter from Mr. John Denham requesting payment from Koppers to Time Oil in the amount of $54,780.28 for clean-up costs at Portland, OR. The original invoice #091868 was provided to Koppers at an earlier date, however, the attachment does contain the original of invoice #020190 in supplemental charges. Please add this information to your file to the resolution of this agreement that is in progress. Thank you.

Jay Sebbens

JSS:vtw

61

K-5 REV. 2

APR 23 1987

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

April 20, 1987

Koppers Company Inc.
Attn: Jay Sebbins
Koppers Building, Room 750
Pittsburgh, PA 15219

Dear Mr. Sebbins:

This refers to our previous telecon regarding clean-up of Koppers pentachlorophenol at 12005 North Burgard, Portland, OR and Time Oil invoice 091868 dated 03/06/86, which you agreed to look into and give me a call back regarding payment.

To my knowledge, there has been no call hence this letter as a reminder. Since invoice 091868 was forwarded, those items shown on invoice as "COMMITMENTS" became a reality and have been paid by Time Oil. In addition, other essentials have been accomplished and fees for those services have been also paid by Time. The net result is an increase to Koppers share of costs by $12,699.07.

Enclosed is copy of original invoice, a listing of expenditures to date and an invoice for one-half the cost of those expenditures incurred since original invoice. This package reflects total costs as of 04/01/87.

Your processing of these invoices for prompt payment is truly appreciated.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Encl. a/s

JPD/jam

61

TIME OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 091868

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

657 60 123 27831.21
120 9 14250.00

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS (LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE (RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS (RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES (OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES (PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43
50% =	42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

61

Encl. 1

ACCOUNTS RECEIVABLE

BZTO104(e)010980

As of 04/01/87

TIME OIL CO. EXPENDITURES IN REFERENCE TO PENTACHLOROPHENOL CLEAN UP COSTS AT 12005 NORTH BURGARD, PORTLAND, OR.

04/26/85	Chem-Security Systems (Laboratory analysis of soil sample)	$ 150.00
07/10/85	Northwest Vacuum Truck Service (Relocating 242.76 tons of soil to Arlington)	$ 9,000.00
07/29/85	Chem-Security Systems (Receiving 243.30 tons of soil at Arlington)	$ 27,270.88
08/08/85	Environmental Emergency Services (Sampling and analysis)	$ 500.00
12/05/85	Environmental Emergency Services (Well drilling, sampling & analysis)	$ 18,741.55
03/24/86	Environmental Emergency Services (Sandblast and demolish wall; install wells)	$ 17,252.67
05/16/86	Instrumentation Northwest (Monitoring well materials)	$ 3,702.66
06/11/86	Century West Engineering (Develop and sample wells)	$ 2,739.50
06/11/86	Department of Environmental Quality (Per OAR 240-102-065)	$ 3,500.00
07/08/86	Century Environmental Sciences (sampling wells)	$ 1,800.00
08/08/86	Riedel Environmental Services, Inc. (Sampling and analysis)	$ 4,452.81
08/25/86	Jack Eatch Construction Co. (Relocate soil and dispose of concrete wall)	$ 1,465.00
09/10/86	Concrete Coring Co. (Cut holes through concrete floor of warehouse)	$ 390.00
10/24/86	SRH Associates, Inc. Investigation of pentachlorophenol as per contract dated 08/14/86	$ 18,465.00
01/26/87	Century West Engineering (Well sampling and analysis)	$ 130.50
		$109,560.57
	Koppers Company share of costs = 50% =	$ 54,780.28
	TOTAL DUE FROM KOPPERS =	$ 54,780.28

Encl. 2

61

TIME OIL CO.
P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091863 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54780.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

61

Encl. 3

ORIGINAL

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TEN TO ONE IT'S TIME

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

April 20, 1987

Koppers Company Inc.
Attn: Jay Sebbins
Koppers Building, Room 750
Pittsburgh, PA 15219

Dear Mr. Sebbins:

This refers to our previous telecon regarding clean-up of Koppers pentachlorophenol at 12005 North Burgard, Portland, OR and Time Oil invoice 091868 dated 03/06/86, which you agreed to look into and give me a call back regarding payment.

To my knowledge, there has been no call hence this letter as a reminder. Since invoice 091868 was forwarded, those items shown on invoice as "COMMITMENTS" became a reality and have been paid by Time Oil. In addition, other essentials have been accomplished and fees for those services have been also paid by Time. The net result is an increase to Koppers share of costs by $12,699.07.

Enclosed is copy of original invoice, a listing of expenditures to date and an invoice for one-half the cost of those expenditures incurred since original invoice. This package reflects total costs as of 04/01/87.

Your processing of these invoices for prompt payment is truly appreciated.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Encl. a/s

JPD/jam

TIME OIL CO.

INVOICE 091868

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

657	60	123	27831.21
120	9		14250.00

- -

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS	
(LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE	
(RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS	
(RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES	
(OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES	
(PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43

50% = 42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIVABL

BZTO104(e)010984

As of 04/01/87

TIME OIL CO. EXPENDITURES IN REFERENCE TO PENTACHLOROPHENOL CLEAN UP COSTS AT 12005 NORTH BURGARD, PORTLAND, OR.

04/26/85	Chem-Security Systems (Laboratory analysis of soil sample)	$ 150.00
07/10/85	Northwest Vacuum Truck Service (Relocating 242.76 tons of soil to Arlington)	$ 9,000.00
07/29/85	Chem-Security Systems (Receiving 243.30 tons of soil at Arlington)	$ 27,270.88
08/08/85	Environmental Emergency Services (Sampling and analysis)	$ 500.00
12/05/85	Environmental Emergency Services (Well drilling, sampling & analysis)	$ 18,741.55
03/24/86	Environmental Emergency Services (Sandblast and demolish wall; install wells)	$ 17,252.67
05/16/86	Instrumentation Northwest (Monitoring well materials)	$ 3,702.66
06/11/86	Century West Engineering (Develop and sample wells)	$ 2,739.50
06/11/86	Department of Environmental Quality (Per OAR 240-102-065)	$ 3,500.00
07/08/86	Century Environmental Sciences (sampling wells)	$ 1,800.00
08/08/86	Riedel Environmental Services, Inc. (Sampling and analysis)	$ 4,452.81
08/25/86	Jack Eatch Construction Co. (Relocate soil and dispose of concrete wall)	$ 1,465.00
09/10/86	Concrete Coring Co. (Cut holes through concrete floor of warehouse)	$ 390.00
10/24/86	SRH Associates, Inc. Investigation of pentachlorophenol as per contract dated 08/14/86	$ 18,465.00
01/26/87	Century West Engineering (Well sampling and analysis)	$ 130.50
		$109,560.57
	Koppers Company share of costs = 50% =	$ 54,780.28
	TOTAL DUE FROM KOPPERS =	$ 54,780.28

Encl. 2

TIME OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091863 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091368, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54780.23 ARE ATTACHED.

INVOICE TOTAL $12,699.07

Encl. 3

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS
TOP 190 REV. 8/82

ORIGINAL

M E M O R A N D U M

February 17, 1987

TO: Robert Abendroth Seattle

FROM: John Denham Seattle

SUBJECT: PENTACHLOROPHENOL CONTAMINATION - NORTHWEST TERMINAL

Bill Baldwin (Koppers Co.) called at 3:00 p.m. today, advising that he had received copy of data dispatched from this office January 14, 1987 and that he would get back to us in two weeks regarding the SRH proposal on bench scale studies.

JPD/ch

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME — TEN TO ONE IT'S TIME — PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

January 14, 1987

Koppers Company Inc.
Attn: J. Sebbens
Koppers Building
Pittsburg, PA 15219

Dear Mr. Sebbens:

Enclosed is copy of the latest (October 1, 1986) update regarding Time/Koppers voluntary efforts to clean up the pentachlorophenol contamination at our Northwest Terminal in Portland, Oregon. The purpose of this paper, in addition to serving as an update for Koppers, is to have data documented by a third party which is suitable to gain approval from necessary regulatory agencies for acceptable remedial actions as next step accomplishment.

Also enclosed is copy of December 19, 1986 proposal and cost estimate by SRH for performance of bench scale evaluations of recommended "soil washing" technique. Request your comments on this matter as soon as possible.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Enclosures a/s

JPD/ch

KEYSTONE
ENVIRONMENTAL RESOURCES, INC.

FEB 09 1987

Interoffice Correspondence

To	W.J. Baldwin	From	M.J. Dvorsky
Location	K-1350	Location	K-1940
Subject	Time Oil - 460100	Date	February 6, 1987

The correspondence dated January 14, 1987, on the Time Oil Company has been forwarded for review to the Environmental Engineering Group of Keystone as per your request of February 3, 1987. We have set up project number 460100 under the Protection Products section of the Building Products Sector to track costs of this review.

In a quick review of the information, nothing is said of how the effluent streams from the various process streams would be rendered non-toxic. Dilution below toxic levels and discharge to a POTW may not be acceptable to the regulatory authorities. Should the liquid stream be passed through activated charcoal, what is to be done with the spent charcoal? It cannot be classified K001.

These are a few preliminary comments. Once all the reviews, both technical and regulatorial, have been accomplished, a meeting will be scheduled to discuss our comments with you.

Mike

MD/smg

cc: J. Sebbens
J. Smith
J. Fu

Jack Adams 5 gal dirt
soil wash
RRC do - out analytical only

KOPPERS

INTEROFFICE CORRESPONDENCE

TO:	Mike Dvorsky	FROM:	William J. Baldwin
LOCATION:	K - 19	LOCATION:	K - 1350
SUBJECT:	Time Oil Project 1221	DATE:	February 3, 1987

I am attaching correspondence dated January 14, 1987 from John Denham to Jay Sebbens which includes an update (October 1, 1986) on the above subject site as well as a proposal and cost estimate dated December 19, 1986 for bench scale evaluation of remedial work. After you have the opportunity to review the attached, let's discuss.

William J. Baldwin

William J. Baldwin

WJB/bml

Attachment

cc: J. Sebbens (Without Attachment)

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED
TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

JAN 2[illegible]7

January 14, 1987

Koppers Company Inc.
Attn: J. Sebbens
Koppers Building
Pittsburg, PA 15219

Dear Mr. Sebbens:

Enclosed is copy of the latest (October 1, 1986) update regarding Time/Koppers voluntary efforts to clean up the pentachlorophenol contamination at our Northwest Terminal in Portland, Oregon. The purpose of this paper, in addition to serving as an update for Koppers, is to have data documented by a third party which is suitable to gain approval from necessary regulatory agencies for acceptable remedial actions as next step accomplishment.

Also enclosed is copy of December 19, 1986 proposal and cost estimate by SRH for performance of bench scale evaluations of recommended "soil washing" technique. Request your comments on this matter as soon as possible.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Enclosures a/s

JPD/ch

BZTO104(e)010991

M E M O R A N D U M

January 14, 1987

TO: Robert Abendroth Seattle

FROM: John Denham Seattle

SUBJECT: KOPPERS CO.

Don Marion is no longer with Koppers. A Jay Sebbens has assumed some of Don's responsibilities so I asked him for money. He said he would check on it since he knows nothing about the Time/Koppers agreement.

I sent the two (October 1 and December 19, 1986) documents from SRH to Jay Sebbens, copy attached.

Attachment a/s

JPD/ch

TIME OIL CO.
Correspondence - 1988

BZTO104(e)010993

Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, PA 15219
Telephone 412-227-2000

Bob Shoptaw

KOPPERS

December 21, 1988

Terrill Henderson, Esq.
Time Oil Company
2737 West Commodore Way
P.O. Box 24447
Terminal Station
Seattle, Washington 98124-0047

Re: ~~Northwest~~ Terminal

Dear Mr. Henderson:

This will confirm our conversation of last week in which I informed you that Koppers Company has reviewed your letter of September 19, 1988 and decided how to proceed with respect to the proposal you described.

In our past conversations and your letter of September 19, 1988 you indicated that on January 23, 1986 Koppers agreed to pay one-half of the costs for the cleanup and related work on the above property. After our conversation we reviewed our files, both in the Law Department and in our environmental subsidiary, in an effort to confirm that statement.

We were unable to find anything indicating an agreement as broad as the agreement you describe. We did, however, find a letter dated February 19, 1986 from Robert D. Abendroth of Time Oil which indicated that Koppers and Time had reached a more limited agreement. Mr. Abendroth's letter states:

> "During our January 23, 1986 meeting at your offices in Pittsburgh, you mentioned that Koppers would agree to pay one-half the cleanup costs incurred/committed to date and that further coordination between Koppers and Time would be appropriate for future commitments. Time concurs with this approach."

Mr. Abendroth's letter convincingly evidences Time's understanding of this more limited agreement between Koppers and Time, and nothing in our file indicates that any Koppers' personnel took exception to Mr. Abendroth's characterization of the agreement.

It seems clear, then, that Koppers did not make a blanket agreement to share all costs of cleanup for the site. The agreement between Koppers and Time was that Koppers would share equally the cost of cleanup and related work which Time incurred or to which Time committed by February 19, 1986. Commitments for additional cost sharing were clearly deferred pending "further coordination" between Koppers and Time.

In light of this agreement to share past costs, Koppers will reimburse Time Oil for one-half of the investigation and cleanup costs referenced in your letter of September 19, 1988. I have requested that a check be issued to Time in the amount of $59,185.55.

With respect to the future costs, the same turnover in personnel which required first hand research into the details of any agreement between our companies now requires an explanation of why Koppers should agree to pay one-half of all the cleanup costs for the Northwest Terminal site. As I told you in our conversation, the current Koppers' management personnel responsible for such costs would like to meet with Time Oil personnel in order to hear Time Oil's views on this subject, and to discuss the issue generally. I will contact you following our next Environmental Claim Review Meeting in order to schedule a meeting between our companies to discuss "future commitments".

Several weeks ago I received a copy of a letter from Mr. Abendroth to Koppers Company's President, Frederick Moore. Mr. Abendroth stated that Koppers Company appeared to be ignoring Time's communications during the last year. Much has happened here at Koppers Company in the last year, including a lengthy takeover battle, a subsequent merger, a divestiture of business units representing almost one-half of the company, and reductions in staff. The level of activity and the turnover in personnel have made communications difficult. My expectation is that future events here at Koppers Company will allow for smoother communications.

(Ironically, Mr. Abendroth's letter also asserted that Koppers had entered into a blanket cost sharing agreement, an assertion contradicted by Mr. Abendroth's February 19, 1988 letter.)

Please feel free to call me if you have any questions or comments concerning the above.

Very truly yours,

William F. Giarla

William F. Giarla
412-227-2635

WFG:km

cc: R. Abendroth

Pittsburgh, PA 15219
Telephone 412-227-2000

KOPPERS

December 21, 1988

Terrill Henderson, Esq.
Time Oil Company
2737 West Commodore Way
P.O. Box 24447
Terminal Station
Seattle, Washington 98124-0047

Re: Northwest Terminal

Dear Mr. Henderson:

This will confirm our conversation of last week in which I informed you that Koppers Company has reviewed your letter of September 19, 1988 and decided how to proceed with respect to the proposal you described.

In our past conversations and your letter of September 19, 1988 you indicated that on January 23, 1986 Koppers agreed to pay one-half of the costs for the cleanup and related work on the above property. After our conversation we reviewed our files, both in the Law Department and in our environmental subsidiary, in an effort to confirm that statement.

We were unable to find anything indicating an agreement as broad as the agreement you describe. We did, however, find a letter dated February 19, 1986 from Robert D. Abendroth of Time Oil which indicated that Koppers and Time had reached a more limited agreement. Mr. Abendroth's letter states:

> "During our January 23, 1986 meeting at your offices in Pittsburgh, you mentioned that Koppers would agree to pay one-half the cleanup costs incurred/committed to date and that further coordination between Koppers and Time would be appropriate for future commitments. Time concurs with this approach."

Mr. Abendroth's letter convincingly evidences Time's understanding of this more limited agreement between Koppers and Time, and nothing in our file indicates that any Koppers' personnel took exception to Mr. Abendroth's characterization of the agreement.

It seems clear, then, that Koppers did not make a blanket agreement to share all costs of cleanup for the site. The agreement between Koppers and Time was that Koppers would share equally the cost of cleanup and related work which Time incurred or to which Time committed by February 19, 1986. Commitments for additional cost sharing were clearly deferred pending "further coordination" between Koppers and Time.

In light of this agreement to share past costs, Koppers will reimburse Time Oil for one-half of the investigation and cleanup costs referenced in your letter of September 19, 1988. I have requested that a check be issued to Time in the amount of $59,185.55.

With respect to the future costs, the same turnover in personnel which required first hand research into the details of any agreement between our companies now requires an explanation of why Koppers should agree to pay one-half of all the cleanup costs for the Northwest Terminal site. As I told you in our conversation, the current Koppers' management personnel responsible for such costs would like to meet with Time Oil personnel in order to hear Time Oil's views on this subject, and to discuss the issue generally. I will contact you following our next Environmental Claim Review Meeting in order to schedule a meeting between our companies to discuss "future commitments".

Several weeks ago I received a copy of a letter from Mr. Abendroth to Koppers Company's President, Frederick Moore. Mr. Abendroth stated that Koppers Company appeared to be ignoring Time's communications during the last year. Much has happened here at Koppers Company in the last year, including a lengthy takeover battle, a subsequent merger, a divestiture of business units representing almost one-half of the company, and reductions in staff. The level of activity and the turnover in personnel have made communications difficult. My expectation is that future events here at Koppers Company will allow for smoother communications.

(Ironically, Mr. Abendroth's letter also asserted that Koppers had entered into a blanket cost sharing agreement, an assertion contradicted by Mr. Abendroth's February 19, 1988 letter.)

Please feel free to call me if you have any questions or comments concerning the above.

Very truly yours,

William F. Giarla

William F. Giarla
412-227-2635

WFG:km

cc: R. Abendroth
F. Moore

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TEN TO ONE IT'S TIME

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson
Corporate Counsel

TLH:pjv

Enclosures

0297C

TIDE OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 091868

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

	657	60	123	27831.21
	120	9	.	14250.00

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS (LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE (RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS (RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES (OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES (PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAK 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43

50% = 42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIVA

TIME OIL CO.
BOX 24447 TERM. STATION SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091363 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54780.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

ORIGINAL

BZTO104(e)011002

TIME OIL C

.O. BOX 24447 TERM. STATION SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 056677

DATE 09/21/88
REF. 09-03116 CJC

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
KOPPERS BUILDING ROOM 750
ATTN: BILL GIARLA
PITTSBURGH PA 15219

657 60 123 4405.27

TO CHARGE YOU FOR 1/2 THE FOLLOWING PWR MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N BURGARD RD, PORTLAND OREGON

EXPENDITURES

11/9/87	SRH-COLLECT AND ANALIZE WATER SAMPLES	2810.53	
8/31/88	ECOVA-PREPARE PENTA CLEANUP WORK PLAN	6000.00	
		8810.53	
	50%=	4405.27	4,405.27

INVOICE TOTAL $4,405.27

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS
OP 190 REV. 8/82

ORIGINAL

BZTO104(e)011003

To Bill

Date DEC 1 1988 Time 1:00

WHILE YOU WERE OUT

M Terry Henderson

of

Phone 206 285 2400

Area Code Number Extension

TELEPHONED	✓	PLEASE CALL	✓
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	
RETURNED YOUR CALL			

Message

Operator

AMPAD EFFICIENCY®

23-000 50 SHT. PAD
23-001 250 SHT. DISPENSER BOX

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

11/30 called T. Henderson wcb
12/1 Called T. Henderson wcb
12/2 called T. Henderson wcb
12/8 called T. Henderson wcb

November 17, 1988

Mr. Frederick C. Moore
President
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Moore:

I am writing to you in hopes of resolving a situation that exists between Time Oil Co. and Koppers before it develops into a needless and costly dispute.

Briefly, the situation arises out of an agreement dated March 1, 1967 under which Time Oil agreed to provide certain labor and services to store and blend wood preservatives containing pentachloraphenol belonging to Koppers Company at our Portland, Oregon terminal. After the agreement was terminated in 1982 it was discovered that the ground at the terminal contains substantial quantities of the product belonging to Koppers. As you know pentachloraphenol is a hazardous substance under federal and state law and gives rise to authority by the federal and state governments to compel cleanup of the product by responsible parties including the owner of the product.

Since the problem first materialized Time Oil has been in contact with Koppers Company and initially there appeared to be willingness on the part of Koppers to work with Time to resolve this problem as inexpensively as possible and without exciting the interest of the federal and state authorities. To that end we met with Koppers personnel on January 23, 1986 in Pittsburgh where an agreement in principle was reached under which the cost of resolving this problem would be shared on a fifty fifty basis.

It is not my purpose here to detail the efforts that Time Oil has undertaken to resolve this environmental problem nor the efforts it has taken to obtain the continued cooperation of Koppers. Suffice it to say here that within the last year and half Koppers Company appears to be simply ignoring the problem and our communications.

0297C

I would appreciate anything you might be able to do to advise us as to how this matter may be resolved. My telephone number is (206) 285-2400.

Very truly yours,

TIME OIL CO.

Robert D. Abendroth
Vice President

RDA:TLH:pjv

cc Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburgh, Pennsylvania 15219

0297C

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

November 17, 1988

Mr. Frederick C. Moore
President
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Moore:

I am writing to you in hopes of resolving a situation that exists between Time Oil Co. and Koppers before it develops into a needless and costly dispute.

Briefly, the situation arises out of an agreement dated March 1, 1967 under which Time Oil agreed to provide certain labor and services to store and blend wood preservatives containing pentachloraphenol belonging to Koppers Company at our Portland, Oregon terminal. After the agreement was terminated in 1982 it was discovered that the ground at the terminal contains substantial quantities of the product belonging to Koppers. As you know pentachloraphenol is a hazardous substance under federal and state law and gives rise to authority by the federal and state governments to compel cleanup of the product by responsible parties including the owner of the product.

Since the problem first materialized Time Oil has been in contact with Koppers Company and initially there appeared to be willingness on the part of Koppers to work with Time to resolve this problem as inexpensively as possible and without exciting the interest of the federal and state authorities. To that end we met with Koppers personnel on January 23, 1986 in Pittsburgh where an agreement in principle was reached under which the cost of resolving this problem would be shared on a fifty fifty basis.

It is not my purpose here to detail the efforts that Time Oil has undertaken to resolve this environmental problem nor the efforts it has taken to obtain the continued cooperation of Koppers. Suffice it to say here that within the last year and half Koppers Company appears to be simply ignoring the problem and our communications.

0297C

I would appreciate anything you might be able to do to advise us as to how this matter may be resolved. My telephone number is (206) 285-2400.

Very truly yours,

TIME OIL CO.

Robert D. Abendroth
Vice President

RDA:TLH:pjv

cc Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburgh, Pennsylvania 15219

0297C

86-10

To Bill

Date 10/28 Time 1:55

WHILE YOU WERE OUT

M Terry Henderson

Of

Phone (206) 285-2400

Telephoned	✓	Please Call	✓
Called To See You		Will Call Again	
Wants To See You		Returned Your Call	

Message Re: Time Oil

~~Karen - Pls ask B. Hamilton to bear this guy out re his letter of 9/19/88.~~

K-56
Printed in U.S.A.

Karen

(1) review Agmt [illegible] Time re Cost Sharing
(2) have Mike review bills

M. Heerling (10/20)
and Mike
orig. Work Plan

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED
TEN TO ONE IT'S TIME

TIME OIL COMPANY

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

(3) decide how much to pay if any
Don Marian - Jim Campbell

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

$59,185.55

Very truly yours,

TIME OIL CO.

Terrill L. Henderson

Terrill L. Henderson
Corporate Counsel

TLH:pjv

Enclosures

0297C

TIME OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 091868

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT: 657 60 123 27831.21
120 9 14250.00

KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS (LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE (RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS (RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES (OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES (PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43
50% =	42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIVA

TIME OIL CO.
BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091363 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54730.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

ORIGINAL

BZTO104(e)011012

TIME OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 056677

DATE 09/21/88
REF. 09-03116 CJC

CUSTOMER #: 03/05505623

ACCOUNT: 657 60 123 4405.27
KOPPERS COMPANY INC
KOPPERS BUILDING ROOM 750
ATTN: BILL GIARLA
PITTSBURGH PA 15219

TO CHARGE YOU FOR 1/2 THE FOLLOWING PWR MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N BURGARD RD, PORTLAND OREGON

	EXPENDITURES		
11/9/87	SRH-COLLECT AND ANALIZE WATER SAMPLES	2810.53	
8/31/88	ECOVA-PREPARE PENTA CLEANUP WORK PLAN	6000.00	
		8810.53	
	50%=	4405.27	4,405.27

INVOICE TOTAL $4,405.27

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS
TDP 190 REV. 8/82

ORIGINAL

To Bill

Date OCT 11 [illegible] Time 11:02

WHILE YOU WERE OUT

M Terry Henderson

Of Time Oil

Phone 206-285-2408

Telephoned	✓	Please Call	✓
Called		Again	
Wants		Your Call	

Message

Babette-

Here's the # of the Time Oil guy who's been calling. I believe he sent a work plan for what Time proposes to do + that I forwarded it to H. Helbling.

Let's bring this up at tomorrow's meeting

K-56
Printe

BZTO104(e)011014

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson

Terrill L. Henderson
Corporate Counsel

Janet
Please find me a copy of this thanks

TLH:pjv

Enclosures

0297C

TI E OIL CO.

INVOICE 091868

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-04-/
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

	657	60	123	27831.21
	120	9	.	14250.00

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS	
(LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE	
(RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS	
(RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES	
(OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES	
(PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43
50% =	42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIVA

TIME OIL CO.
P.O. BOX 24447 TERM. STATION · SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091363 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54730.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

ORIGINAL

TIME OIL C
P.O.BOX 24447 TERM. STATION SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 056677

DATE 09/21/88
REF. 09-03116 CJC

CUSTOMER #: 03/05505623

ACCOUNT: 657 60 123 4405.27

KOPPERS COMPANY INC
KOPPERS BUILDING ROOM 750
ATTN: BILL GIARLA
PITTSBURGH PA 15219

- -

TO CHARGE YOU FOR 1/2 THE FOLLOWING PWR MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N BURGARD RD, PORTLAND OREGON

EXPENDITURES

11/9/87	SRH-COLLECT AND ANALIZE WATER SAMPLES	2810.53	
8/31/88	ECOVA-PREPARE PENTA CLEANUP WORK PLAN	6000.00	
		8810.53	
	50%=	4405.27	4,405.27

INVOICE TOTAL $4,405.27

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS
TDP 190 REV. 8/82

ORIGINAL

BZTO104(e)011018

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TEN TO ONE IT'S TIME

PRODUCTS TIME TESTED

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson
Corporate Counsel

TLH:pjv

Enclosures

0297C

BZTO104(e)011019

TIME OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 091868

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

657 60 123 27831.21
120 9 14250.00

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS (LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE (RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS (RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES (OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES (PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43

50% = 42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIV

TIME OI CO.
BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190
DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07
KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219
ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091363 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54730.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

ORIGINAL

BZTO104(e)011021

TIME OIL CO.
P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 056677

DATE 09/21/88
REF. 09-03116 CJC

CUSTOMER #: 03/05505623

ACCOUNT: 657 60 123 4405.27

KOPPERS COMPANY INC
KOPPERS BUILDING ROOM 750
ATTN: BILL GIARLA
PITTSBURGH PA 15219

- -

TO CHARGE YOU FOR 1/2 THE FOLLOWING PWR MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N BURGARD RD, PORTLAND OREGON

EXPENDITURES

11/9/87	SRH-COLLECT AND ANALIZE WATER SAMPLES		2810.53	
3/31/88	ECOVA-PREPARE PENTA CLEANUP WORK PLAN		6000.00	
			8310.53	
		50%=	4405.27	4,405.27

INVOICE TOTAL $4,405.27

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS
TDP 190 REV. 8/82

ORIGINAL

BZTO104(e)011022

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson

Terrill L. Henderson
Corporate Counsel

Jmet

Please find me a copy of this thanks

TLH:pjv

Enclosures

0297C

TI E OIL CO.

P.O.BOX 24447 TERM. STATION - SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 091868

DATE 03/06/86
REF. 03-03028 JKJ

CUSTOMER #: 03/05505623

ACCOUNT:
KOPPERS COMPANY INC
ATTN: DONALD F. MARION
KOPPERS BUILDING ROOM 750
PITTSBURGH PA 15219

	657	60	123	27831.21
	120	9	.	14250.00

TO CHARGE YOU FOR 1/2 OF THE FOLLOWING PER MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N. BURGARD RD., PORTLAND, OREGON.

EXPENDITURES

4/26/85 CHEM-SECURITY SYSTEMS (LABORATORY ANALYSIS OF SOIL SAMPLES)	150.00
7/10/85 NORTHWEST VACUUM TRUCK SERVICE (RELOCATING 242.76 TONS OF SOIL TO ARLINGTON)	9,000.00
7/29/85 CHEM-SECURITY SYSTEMS (RECEIVING 243.30 TONS OF SOIL AT ARLINGTON)	27,270.88
8/8/85 ENVIRONMENTAL EMERGENCY SERVICES (OBTAIN AND ANALYZE 3 COMPOSITE SAMPLES)	
12/31/85 ENVIRONMENTAL EMERGENCY SERVICES (PRIMARY SAMPLING AND ANALYSIS PLUS REPORT)	18,741.55
	55,662.43

COMMITTMENTS

DEQ PER OAR 240-102-065	3,500.00
*RIEDEL ENVIRONMENTAL SERVICES (ADMENDMENT 2)	25,000.00+
	84,162.43

50% = 42,081.21

*NAME CHANGE FROM ENVIRONMENTAL EMERGENCY SERVICES

INVOICE TOTAL $42,081.21

Encl. 1

ACCOUNTS RECEIVA

TIME OIL CO.
P.O. BOX 24447 TERM. STATIO · SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY SEATTLE WA 98199-1233
PHONE (206) 285-2400

DEBIT MEMO 020190

DATE 04/17/87
REF. 04-03131 FER

CUSTOMER #: 03/05505623

ACCOUNT: 120 9 12699.07

KOPPERS COMPANY
Koppers Building - Room 750
Pittsburgh, PA 15219

ATTN: JAY STEBBINS

- -

THIS IS AN ADDITION TO INVOICE # 091363 DATED MARCH 6, 1986 FOR $ 42,081.21 TO CHARGE YOU FOR HALF OF EXPENDITURES, PER MUTUTAL AGREEMENT, IN REFERENCE TO CLEAN UP COSTS AT 12005 NORTH BURGARD PORTLAND, OREGON. 12,699.07

COPIES OF THE ORIGINAL INVOICE (#091363, 3/6/86, $42081.21) AND THE UPDATED CHARGES FOR $ 54730.28 ARE ATTACHED.

INVOICE TOTAL $12,699.07

ORIGINAL

BZTO104(e)011025

TIME OIL C
P.O.BOX 24447 TERM. STATION SEATTLE WA 98124-0447
2737 WEST COMMODORE WAY - SEATTLE WA 98199-1233
PHONE (206) 285-2400

INVOICE 056677

DATE 09/21/88
REF. 09-03116 CJC

CUSTOMER #: 03/05505623

ACCOUNT: 657 60 123 4405.27

KOPPERS COMPANY INC
KOPPERS BUILDING ROOM 750
ATTN: BILL GIARLA
PITTSBURGH PA 15219

TO CHARGE YOU FOR 1/2 THE FOLLOWING PWR MUTUAL AGREEMENT IN REFERENCE TO CLEAN UP COSTS AT 12005 N BURGARD RD, PORTLAND OREGON

EXPENDITURES

11/9/87	SRH-COLLECT AND ANALIZE WATER SAMPLES	2810.53	
8/31/88	ECOVA-PREPARE PENTA CLEANUP WORK PLAN	6000.00	
		8810.53	
	50%=	4405.27	4,405.27

INVOICE TOTAL $4,405.27

SEE REVERSE SIDE FOR GENERAL TERMS AND CONDITIONS
TDP 190 REV. 8/82

ORIGINAL

BZTO104(e)011026

TIME OIL CO.
Correspondence - 1989

BZTO104(e)011027

M E M O R A N D U M

July 7, 1989

TO: File

FROM: Kevin Murphy Seattle

SUBJECT: NORTHWEST TERMINAL SITE INVESTIGATION, ECOVA OPERATION

On June 28 we were informed that contaminated soil had been encountered in one of the "borrow" excavations being utilized in the Pentachlorophenol remediation being performed by Ecova. In excavating borrow pit #2 contaminated soil was unearthed at a depth of six and one half feet. At that time the excavation was halted and a TOC representative was contacted. Excavation to determine the extent of the contamination was supervised by this office on June 29 through 30. Fourteen observation pits were excavated and sampled. Visual and olfactory observation indicate that the contamination was present in two locations within these borrow areas. These areas did not appear to be directly connected to the penta cleanup area to the southwest. Contamination was not evident in the excavations between the existing Penta cleanup area and the newly discovered contamination.

The purpose of the fourteen excavations was to determine the extent of the contamination located in the borrow pit. The initial discovery area in borrow pit number two was excavated down to groundwater. This hole, labled #1, was sampled and analyzed for soil and/or groundwater contamination. Immediately to the southwest hole #6 contained strong evidence of contamination. The water and soil samples from each of these holes were analyzed for total petroleum hydrocarbon. The most contaminated sample was from hole #6 which contained 2000 ppm TPH. Mass spectrum analysis gave no indication of chlorinated chemicals, and indicated that the constituents of the product in the sample were straight chain hydrocarbons, probably mineral spirits. Excavations #2 through #14 were performed to delineate the extent of the contamination. From these exploratory excavations it is presumed that the contamination encountered is from an area used for dumping and it is not a migration of of the contaminents encountered in the Penta clean-up operation. Analysis will be performed on all of the samples collected during this reconnaissance and the results will be interpretted upon completion of the analysis by Ecova's lab.

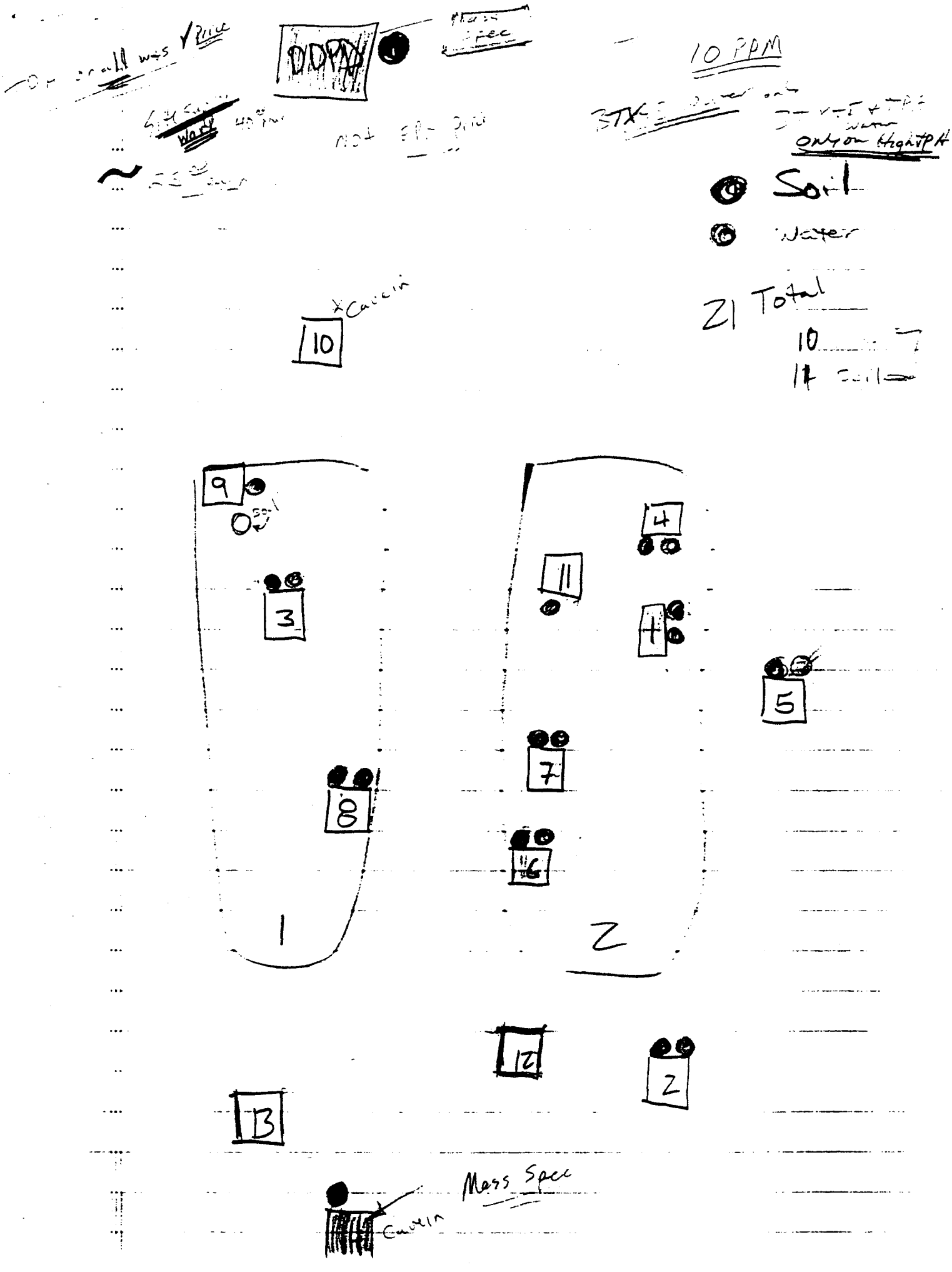
In the excavation of hole #3 an unknown chemical odor was encountered that was not immediately recognized, a sample was taken for further analysis. In the excavation of hole #14, the top 14 inches of the soil were found to be saturated with very heavy black product. These samples will also be analyzed to determine the nature of the contaminents.

A fourth area of contamination was unearthed in the excavation of additional fill material in the far northwest corner of the property. A sample of this contaminated soil has been retained for analysis.

JEM — Ask Jay Kraft

Bench mark 4.49'

Hole #	Side of excavation before Excavation	Base of Hole	GW Level	1st Clay layer	Encountered Grey Sand	2nd Clay layer
1	9.54'/16.10' in the sump pit		18.60'			
2	10.39'	19.8'	Cave in			
3			18.15'			15.84
4	11.08'		18.20'			17.7
5	10.42'		19.60' water Running in			
6	12.23' in Excavation		Clay running in from above & sloughing in		15.31	
7			18.44'			
8			18.33'			
9			18.79'	11.27		
10	10.59'		18.23			
11	13.44		18.31			
12	10.04					
13			Caved in	15.29		19.30
14			Caved in			



10 PPM
Soil
Water
21 Total
10
11 Soil
Cavein
10
9
Soil
3
8
1
4
11
1
5
7
6
2
12
2
13
Mass Spec
Cavein

7/3 883-1900

John Ennis — Ecosa Quick - Dirty

TPH IntRed - 6 Samples 2000 ppm

Mass spec. — No Chlorinated
Straight Chain Hydrocarbons

Probably Mineral Spirits

Water + Soil → 5 samples (Holes 1-6

TPHER

Mass spec work up → Volatiles in water BTXE
→ BNA Search —

7 1 Soil + Water
8 1 Soil 1 Water
9 1 Water sample taken -
10 No Samples
11 1 water sample taken -
12 1 Water & 1 Soil ?
13 - 1 Water 1 Soil ?
14A - 1 Soil - Surface
DDPD 1 Soil

c:RG Hamilton ✓
(1/30/89)

86-102

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

January 27, 1989

William F. Giarla
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, PA 15219

Re: Meeting - Portland, Oregon
March 1, 1989

Dear Bill:

This is to confirm our discussion yesterday in which we agreed that March 1, 1989 would be an agreeable date to meet at Time Oil Co.'s facility at 12005 North Burgard, Portland, Oregon. The purpose of the meeting to be for us to review the remedial measures that have been and will be taken at the facility in order to remove the pentachlorophenol in the soil surrounding the tanks that had been used to store Koppers' products and to resolve the division of responsibility for the costs being incurred in this cleanup.

Please let me know what time would be most convenient for you to meet. We look forward to meeting you and working with Koppers to resolve this matter in a manner that will be fair to both companies.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson

Terrill L. Henderson
Corporate Counsel

TLH:mw

cc: Robert D. Abendroth
Fred Proby

0063C

cc: RG Hamilton (1/30/89)

86-102

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED
TEN TO ONE IT'S TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

January 27, 1989

William F. Giarla
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, PA 15219

Re: Meeting - Portland, Oregon
March 1, 1989

Dear Bill:

This is to confirm our discussion yesterday in which we agreed that March 1, 1989 would be an agreeable date to meet at Time Oil Co.'s facility at 12005 North Burgard, Portland, Oregon. The purpose of the meeting to be for us to review the remedial measures that have been and will be taken at the facility in order to remove the pentachlorophenol in the soil surrounding the tanks that had been used to store Koppers' products and to resolve the division of responsibility for the costs being incurred in this cleanup.

Please let me know what time would be most convenient for you to meet. We look forward to meeting you and working with Koppers to resolve this matter in a manner that will be fair to both companies.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson
Corporate Counsel

TLH:mw

cc: Robert D. Abendroth
Fred Proby

0063C

Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, PA 15219
Telephone 412-227-2000

86-117

KOPPERS

January 13, 1989

Mr. Terrill L. Henderson
Corporate Counsel
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

Re: Northwest ~~Terminal~~ Property Time Oil

Dear Terry:

Enclosed please find a check from Koppers Company in the amount of $59,185.55. This represents Koppers' share of the costs incurred through September 19, 1988 for the investigation and cleanup of the above site.

I look forward to talking with you soon concerning the scheduling of a meeting to discuss the allocation of responsibility for the remaining work Time Oil plans for the property.

Very truly yours,

Bill Giarla

William F. Giarla
412-227-2635

Enclosure

Beazer erials and Services, Inc./Koppers-Pittsb. , PA 15219

Spec Cd	Vendor No.	Div.	Our Audit No.	Your Invoice No.	Inv. Date Mo.	Inv. Date Day	Invoice Amt.	Discount	Net Amt. Payable	Cr.
7	125619011	100	10090100280		01	09	59185.55	0.00	59185.55	

Detach Before Depositing

BZTO104(e)011035

Beazer Materials and Services, Inc./Koppers-Pittsburgh, PA 15219

Sec Code	Vendor No.	Div.	Our Audit No.	Your Invoice No.	Inv. Date Mo.	Inv. Date Day	Invoice Amt.	Discount	Net Amt. Payable
7	125619011	100	10090100280		01	09	59185.55	0.00	59185.5

Detach Before Depositing

BEAZER MATERIALS AND SERVICES, INC./KOPPERS
PITTSBURGH, Pa. 15219

80-28
815

No. 0607809

PAY
FIFTY NINE THOUSAND ONE HUNDRED EIGHTY FIVE AND 55/100 ONLY

To the order of

Date JANUARY 11 1989

Pay this amount $59185.55

TIME OIL CO
BOX 24447 TERM ANNEX
SEATTLE WA 98124-0447

CENTERRE BANK
ROLLA, MD

AD-396 9/88

⑈0607809⑈ ⑆081502899⑆ 09 9789 ⑈ Dean McAllister

#80-102

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

PHONE 285-2400
CABLE ADDRESS: TIMOIL

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

Emily Muich

January 13, 1989

William F. Giarla
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, PA 15219

Re: Northwest Terminal

Dear Mr. Giarla:

Thank you for your letter of December 21, 1988. I look forward to hearing from you on the matter of setting up a meeting between Koppers and Time Oil management personnel to resolve the question of payment for the cleanup costs associated with storage and blending of Koppers Company's penta at our Portland facility. In fact, our facility in Portland may be an appropriate place for such a meeting.

As of this Friday we have not yet received Koppers check for $59,185.55 you referred to in your letter.

Thank you for your assistance and I look forward to hearing from you soon.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson
Corporate Counsel

TLH:m

0047C

BZTO104(e)011037

TIME OIL CO.
Correspondence - 1985

BZTO104(e)011038

KOPPERS

Interoffice Correspondence

To M. R. Urbassik — From D. R. Kerschner

Location K-1201 — Location K-1940

Subject Monthly Update - November, 1985 — Date December 6, 1985

Galesburg RI/FS

Work is progressing on the RI report. A revised draft version of the first three chapters has been submitted to the State in an attempt to reduce the time period for review of the final product. IEPA has finally commented on the proposed schedule revision submitted in early October; this extends the submittal of the final RI report to the end of January, 1986, and the submittal of the final FS report to the end of June, 1986. Temp Smith will be submitting this proposal for revision of the Consent Agreement.

IEPA is now "strongly recommending" that the lime sludge in the stockpile (approximately 3,000 cu. yards) be disposed of off-site as soon as possible. We have responded that we are unwilling to do this in advance of the FS, since there may be another alternative which is more efficient. Temp Smith has been in touch with Jim Frank (IEPA) concerning this, and is apparently making some headway. As of now, we are planning to go ahead and cover the lime sludge stockpile with an impermeable liner - Mark Franck has located a vinyl-coated tarp which he feels is cost-effective and will last for several years.

A meeting is scheduled for December 3 between Koppers and ESE to work out the final details concerning the revised project cost estimate.

Denver, Colorado

Larry McShea reports that the wastewater treatment plant was up and running on November 23. A permit has not been issued for POTW discharge; the sewer people have indicated that they will issue a temporary permit for batch discharge of the water which is now being held in storage, and that the hold-up on the permit is an office problem, and not a technical problem.

Work is progressing according to the schedule and cost estimate for the Phase I RI. I will be requesting Monroeville to prepare a monthly update concerning this project.

I am in the process of completing the revision to the SPCC plan. I am also assisting when needed in any waste disposal actions. The plant is currently backing approximately 40 drums of drip track, etc. clean-up soil which had been labeled as K001 out of RCRA, and is investigating the disposal possibilities for this material.

4999

Carbondale RI/FS

We appear to be within one telephone call of having a mutually-agreeable Consent Agreement and Statement of Work with IEPA. Temp Smith and I have reservations about the USEPA Consent Agreement, and plan on approaching EPA with a request to have that document more closely resemble the IEPA document. Temp has reservations about signing with IEPA without an agreement with US EPA in hand.

Woodward-Clyde is progressing with the various work plans; the present strategy is to submit these plans to Koppers for rapid review, then informally submitting the plans to the agencies for preliminary review. The actual submittal will then hopefully require very little review time.

W-C also prepared and submitted a revised Groundwater Quality Assessment Plan to US EPA, reflecting the changes insisted on by that agency. Because of an increase in the number of stainless steel wells required for the GWQAP, it is now cheaper to install all stainless steel wells for the concurrent RI than install, sample, and analyze redundant stainless wells at all PVC well nests.

Woodward-Clyde has promised a revised RI/FS cost estimate shortly; this will allow us to finalize a purchase order. Currently, W-C is working on and billing RI/FS activities under a blanket Order for Carbondale consulting. We also need to get together with W-C concerning Monroeville WQE's involvement as a subcontractor in the RI/FS.

Feather River

Dames and Moore is presently finalizing the RI/FS work plan, and expects to submit it in early December. I expect an updated cost estimate for the RI/FS within the next couple of days; this will probably result in a meeting between Koppers and D&M. I am also in the proccess of better-defining Koppers WQE's role in the RI/FS project.

To date, we have not received a draft of the proposed Consent Agreement from US EPA, nor have we heard what the hold-up is.

The State Attorney General's office has informed us that Koppers is potentially liable for failure to report the three-wheeler fire near the Cellon blowdown sump to the DHS under the Interim Status Document. This fire was apparently caused by an explosion of the ether in the sump.

The plant and I are working on waste disposal alternatives; rumor has it that CWM is accepting penta at Kettleman Hills again. The shipment of waste to Grenada is being examined as a first alternative, however.

4999 4999

Heath, Ohio

Ashland Oil apparently will not indemnify us from groundwater problems under the proposed lease land - they claim it is the former owner's problem, and not in their power to idemnify us. Building Products management and the plant are deciding our next move.

Morgan, PA

There has not been a resolution to the problems of drum disposal. I will be contacting CWM again concerning this. Tom Izaj has informed me that everything needs to be out by December 20.

Newark, NJ

I am working with Legal concerning the claim by SRS of New Jersey. I also gave Legal my files pertaining to former haulers and disposal sites for Newark and Garwood.

Garwood, NJ

The plant has plans to remove 5 unused underground tanks, and has received a local permit to do so. I am working with them on this.

Raleigh, NC

I am preparing a RFP for RI/FS work at Raleigh. This work will most likely be done in-house. I will be visiting the site on December 4, along with Monroeville WQE personnel.

Time Oil

Reviewed the files in preparation of meeting to discuss our future involvement in investigative/remedial activities. This meeting should occur in early December.

Houston/Guthrie

Assisting and reviewing as necessary, due to my past involvement in these projects.

4999

Parr - Cleveland East

Was informed by a third party that the plant has drums of asbestos and has reportedly been "getting no help from Pittsburgh" for disposal. Contacted the plant; my call has not been returned. I will follow up.

Also want to attempt, at Jordan Dern's suggestion, to merge RCRA storage into one facility between Cleveland East and Cleveland West, or do away with RCRA storage altogether. I will get with Beth on this.

Dave

David R. Kerschner

DRK/mas

cc: J. Dern
E. Kerschner
M. Dvorsky
C. Markle
J. Quagliotti
J. Smith
R. Hepner
M. Morris
R. Ohlis
R. Wagner
W. Baldwin
R. Hamilton
T. Smith
T. Hays
J. Blundon
P. Sawchuck

BZTO104(e)011042

KOPPERS

Interoffice Correspondence

DEC 5 1985

To J. Kusar

From D. F. Marion

Location K-750

Location K-750

Subject Monthly Report - November 1985

Date December 3, 1985

Listed below are the major items covering the month of November 1985.

RAW MATERIALS ACTIVITY:

1. During November we transferred 722,980 pounds of arsenic acid to Valparaiso only, utilizing railcars UTLX-79403 and UTLX-79404, and three truckloads at rates equal to or below the railcar freight rate. At the end of fiscal November, we had 1,168,132 pounds of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 pounds and 493,167 pounds either in transit or at Jones-Hamilton with a storage capacity of 314,000 pounds. Our total inventory of 75% technical grade arsenic acid at the end of November was 3,632,556 pounds, while our total inventory of 75% high purity arsenic acid was 282,875 pounds, for a Wolman Department grand total of 3,915,431 pounds. On November 27, we sent railcar UTLX-78581 to the repair shop for maintenance and lining checks. This begins our normal maintenance and lining check program prior to the resumption of our busy season in 1986. I intend to have all five cars rotated through the shop by the end of the first quarter 1986.

2. During November, we shipped 60,040 pounds of 75% high purity arsenic acid in bulk to Corning's plant in Danville, VA and GTE's plant in Central Falls, RI. In addition, we shipped 1,758 pounds of 75% high purity arsenic acid in drums to Corning's plant at Harrodsburg, KY. In addition, we shipped 43,960 pounds of 75% technical grade arsenic acid in bulk to Culpepper's plant in Tomah, WI and 4,500 pounds in drums to PB&S. During November we also received orders for 75% high purity arsenic acid for Corning's plants in Martinsburg, WV, Charleroi, PA, and Harrodsburg, KY for shipment in fiscal December.

   I am still waiting to hear from John Copley, of Corning Glass Works, on the visit of Corning personnel to the Conley, GA plant as part of Corning's quality control program. John indicated that personnel from Corning, NY, as

BZTO104(e)011043

well as Martinsburg, WV and possibly Charleroi, PA, would be traveling to the Conley plant in the near future as part of their quality control program. I will coordinate this visit with Frank Klasnick at Conley and Steve Snyder, along with the field sales reps, as soon as John advises the details of his itinerary.

3. During November we received and nearly consumed five full 65 ton railcars from Asarco in Tacoma and one 70 metric ton railcar of 95% As_2O_3 from Minera Mexico in Mexico. At the end of fiscal November, we had approximately 1,173 tons of arsenic trioxide remaining on the existing contract with Asarco. In addition, on 11-19-85 I talked to Jerry Cohen regarding the quantity of arsenic trioxide physically in Tacoma. Jerry indicated that as of 11-1-85 they were still producing and they had approximately 1,163 tons of material in storage. Therefore, I would expect that based on our current consumption of 400-500 tons per month we have approximately four months of production material from Asarco's Tacoma facilities. Thus, we will be out of Asarco material by the end of March 1986. In early December, I antitipate visiting with Jerry Cohen and Lou Fitzgerald at the Asarco offices in New York to discuss the amount of material remaining at the end of 1985 to insure that we make plans accordingly for 1986 and the ultimate consumption of the remaining material at Tacoma.

   As noted above, we consumed railcar ACFX-26613 containing 154,324 pounds of 95% As_2O_3 from Minera Mexico, during November in the new arsenic acid plant. This material was run with no major problems and a second car (ACFX-26189) containing 99% material was spotted for running in the new arsenic acid plant at the beginning of December. As soon as the results are finalized from the production of both cars, I will finalize a contract for 1,800 metric tons of 95% material in bulk railcars for 1986 at a price of $.30/pound delivered through March 31, 1986. In addition, I plan on meeting with Gary Lamb, of Minera Mexico, in New York during my visit with Asarco to discuss the possibility of contracting for 500-700 metric tons of 99% material in bulk railcars for 1986. In addition, I will update the status of Minera Mexico's processing of high antimony material to determine if they can produce a 95% arsenic trioxide with low enough antimony levels to allow us to run this material direct in the new arsenic acid plant. As soon as samples are available, I will see to it that these are forwarded to Orrville and Conley for analysis.

   As soon as the new rotary valves from Sprout Waldron are received and installed, which is anticipated by the end of December, we will make arrangements to run the one container

BZTO104(e)011044

of 95% arsenic trioxide from St. Joe's at El Indio, Chile. The results of these tests will be necessary before we can finalize St. Joe's proposed contract for 2,400-3,000 metric tons of material at a price of $.28/pound on a 100% contained As_2O_3 basis C.I.F. Charleston, SC. I have talked with Jim Derby, of St. Joe's, and he anticipates visiting Conley during the test run of the production container to get firsthand results of our ability to handle this material. The two major problems remain the bulk density and the carbon content, and both must be resolved before finalizing this contract.

In addition to the Chilean material, we will run the LePanto material from the Philippines to determine if this material can be handled in the new arsenic acid plant as soon as the valves are installed. In the meantime, we have in Conley 99% material from Minera Mexico in Mexico, 97% material from LePanto in the Philippines, 99% material from Japan, 99% material from Salsigne in France, 99% material from Penarroya in France, 97% and 99% material from South Africa, 99% material from Portugal, and 99% material from Boliden in Sweden for testing in the new arsenic acid plant.

On November 19, 1985, I received a contract from Leonard J. Buck and Co. covering Boliden's 99% arsenic trioxide at a delivered price of $.4165/pound. This contract covers 2,000 metric tons of material for shipment in 1986 at equal monthly increments. As soon as I receive comments regarding this contract, I anticipate finalizing it for 1986. In addition, Murray Ornstein of Afrimet Indussa has offered 200 metric tons of 99% As_2O_3 from Metallurgie-Hoboken-Overpelt at $.40/pound C.I.F. Charleston, SC price. I would anticipate receiving a contract in early December and will undoubtedly finalize this contract, since this material will be equal in quality to the Boliden material.

In summary, our arsenic trioxide sources for 1986 will consist of the following, it appears, at this point:

Bulk:

1. Asarco - 500-1,000 tons-97% As_2O_3 at $.30/pound delivered.

2. Minera Mexico - 1,984 tons-95% As_2O_3 at $.30/pound delivered.

Drums:

1. Boliden - 2,205 tons-99% As_2O_3 at $.4165/pound delivered.

2. North American Minerals - 551 tons-97%, 99% As_2O_3 at $.32/pound delivered.

BZTO104(e)011045

3. Metallurgie-Hoboken-Overpelt - 220 tons-99% As_2O_3 at $.42/pound delivered.

4. St. Joe's - 3,307 tons-95% As_2O_3 at $.30/pound delivered.

In addition, I expect to have the opportunity to purchase 1,000-2,000 tons of 99% As_2O_3 from Salsigne in France, pending the outcome of the test container which is currently in Conley.

As soon as I have the results from the production runs of the Minera Mexico material, both 95% and 99%, I intend to finalize visits to Minera Mexico in Mexico, LePanto in the Philippines, Western Mining in Australia and Boliden in Sweden. If necessary, follow-up trips will also be made to Salsigne in France, Metallurgie-Hoboken-Overpelt in Belgium and El Indio in Chile to insure a smooth shipping schedule pending the outcome of finalization of the contracts. These visits will be necessary to insure a smooth transition in our arsenic trioxide supplies at the conclusion of the first quarter after all Asarco material has been shipped. During December an arsenic trioxide strategy meeting will be convened in Conley or Pittsburgh to review exactly where we stand with our arsenic trioxide requirements for 1986 as noted above and also to review exactly where we stand with the arsenic purification plant in order to insure an adequate supply of material from Giant Yellowknife and ultimately the processing of the Western Mining and Eldorado material.

4. During November regular shipments of Giant Yellowknife crude arsenic trioxide continued with Conley receiving three truckloads per week. Currently, Trimac is utilizing five of their trailers and two of Koppers trailers to move this material from Giant Yellowknife to Conley. Giant Yellowknife has asked that we speed this delivery schedule up to four truckloads per week since they have to put approximately 60 tons of material underground with the current schedule. I have reviewed this situation with Wayne Peddie of Trimac and with Bob Gruber and Frank Klasnick, and we should have no difficulties taking this additional material and Wayne is expecting to put another trailer on in the very near future. During early December a telex will be sent to Tony Desanti of Falconbridge answering all of Tony's concerns about residue handling, freight costs, liabilities and other subjects which were discussed in Toronto during our last visit to Falconbridge. I will also propose a meeting in December to discuss the status of first quarter shipments of crude arsenic trioxide to Conley from Yellowknife. This meeting will be held either in Pittsburgh, Toronto or Conley at the convenience of Falconbridge and Giant Yellowknife personnel.

BZTO104(e)011046

5. As noted in my October report, Eldorado Gold Mines has agreed not to ship any additional drums of crude arsenic trioxide to Conley until after May 31, 1986. It is imperative that we install the ammonia still to allow us to handle some of this material in the first quarter of 1986 in order that we may meet with the Eldorado personnel to determine exactly where we stand on additional material and the material still in concrete bunker #1. Mark Smerchanski, President of Eldorado Gold Mines, has indicated that he would like to visit Conley when we are in a position to handle his material in the arsenic purification plant. I will coordinate this visit with Frank Klasnick as soon as this equipment is installed and operating.

   In addition, Bill Cunningham of Western Mining in Australia is very anxious to begin moving additional containers of crude arsenic trioxide to Conley. During our arsenic trioxide strategy meeting in December, we will have to make a decision on running this material direct in the new arsenic acid plant or bringing it in for use in the arsenic purification plant. In the meantime, 68,141 pounds of the original material will need to be run in the purification plant at a later date.

6. At the end of fiscal November, our closing chromic acid inventories were approximately 201,218 pounds ($158,000) and our closing black copper oxide inventories were approximately 160,104 pounds ($120,366). Our arsenic trioxide inventories were approximately 4,855,175 pounds ($1,099,849), and our arsenic acid inventories were approximately 3,915,431 pounds ($1,709,613). The amount of refined arsenic trioxide in the above number was 584,656 pounds ($244,929) consisting of Boliden, Mexican, Salsigne, Penarroya, LePanto, Japanese, Portuguese, South African, El Indio and Koppers refined material. The balance of 4,270,519 pounds ($855,920) was in the form of Giant Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were 0 pounds of chromic acid and arsenic acid, 48,186 pounds of black copper oxide and 70,791 pounds of CCA-C. Our domesic total inventories, including chrome ore, were approximately $4,122,649 at the end of fiscal November. This amounted to an increase of $93,041 (2.3%) from the October levels.

7. During November we received 1,125,460 pounds of chromic acid from Diamond Shamrock, and our ending inventory was 201,218 pounds. Through the first 11 months of 1985, we have received 18,524,288 pounds (9,262 tons) of chromic acid from Diamond Shamrock.

BZTO104(e)011047

During November I met with Miguel Hernandez, of Quimica of Mexico, to discuss chromic acid for 1986. Mr. Hernandez quoted a price of approximately $.725/pound F.O.B. Laredo, Texas for drummed material. Samples of his current production are being sent to Orrville, Ohio for analysis currently. However, previous samples were found to be unacceptable due to flocing in the CCA. Mr. Hernandez advised that they still had not installed their titanium lined reactor and therefore I would expect that this material is still unacceptable. In addition, I received word from Jack McMahon, of Mobay, concerning Bayer's pricing for 1986. Jack advised that Bayer was willing to supply between 400 and 500 metric tons to an East Coast port at a price of $.75/pound C.I.F. duty paid in 200 kilogram drums unpalletized. I am awaiting a confirming letter and/or contract from Mobay in the near future. In addition, arrangements were made for the first container of Chinese material to be shipped to Jones-Hamilton in Newark, CA at a price of $.75/pound C.I.F. San Francisco, CA duty paid. This material will be tested immediately upon receipt for use in the Jones-Hamilton facility. In both cases (Chinese and West German), we will be provided documents to obtain the duty drawback which represents 4.2% of the FAS price for this material.

During December I will finalize a program with Peter Denning of Metal Products in Baltimore for chromic acid in drums for their facilities in Gainesville, GA and Baltimore, MD for 1986. In addition, we will begin taking chromic acid solution from their plating operation in Baltimore on backhauls to our Conley, GA facility for use in our CCA production. In the past several months we have received two truckloads yielding approximately 7,700 pounds of chromic acid and we will continue to work closely with Metal Products to insure that this material will not have to be sent to a landfill for disposal.

8. During early December our duty drawback claim #18 which covered the exports for the third quarter of 1985 should be submitted to the U.S. Treasury Department for liquidation. This claim should be worth approximately $10-$12,000 and our check should be received by the end of December. Through the first 17 claims, our duty drawback dollars have amounted to $285,471.91.

9. During December a system will be finalized to handle the billing and orders for Kathon 18500 from Rohm and Haas. To date we have shipped material to Houston Chemical and Tolleson, as well as one drum to Ferris Broxton in Conley. In addition, we have material in St. Louis for immediate shipment to the licensees. My intentions are to have these orders processed in St. Louis and billing to be submitted from there.

BZTO104(e)011048

10. During November pricing was received from Monsanto and Albright Wilson on phosphoric acid for Valparaiso, Florence and Oroville. All proposals received, including FMC's, will be at pricing that is firm for the entire year of 1986 at a level equal to or below our current pricing. During early December I will meet with Murray Bock and Jack Bendheim, of Phillip Brothers, to review pricing for BOC dicyandiamide for Valparaiso. In addition, I am awaiting pricing from SKW in West Germany on their dicyandiamide. Currently, Canadian Cyanamid has announced a price increase effective January 1 of $.05/pound. I hope to avoid this entire increase with the help of both BOC and SKW. In addition, a sample of boric acid used at OMNI Fiberglass from U.S. Borax has been sent by Leighton Smith to Orrville, OH for testing to insure its compatibility with our DRICON production. I would hope to have all DRICON raw material blanket orders finalized by the latter part of December and issued by early January.

11. During December a meeting will be necessary to finalize standard costs for 1986 in conjunction with all raw material contracts having been finalized and blanket orders issued. In addition, discussions will need to be held on the inventories and the costing of chrome ore. I would hope that a meeting can be held in Pittsburgh in early December to finalize all standard costs in order that these may be issued prior to the beginning to 1986.

12. I am currently awaiting word from Time Oil on removal of additional soil from their facility in Portland prior to holding a meeting with Temp Smith, Dave Kerschner and Bill Baldwin in Pittsburgh. After our review meeting internally, I intend to set up a meeting with Bob Abbendroth, Neil Wallis and John Denham of Time Oil in Pittsburgh to resolve the clean-up and cost issues at Time Oil's terminal in Portland, OR.

13. I have received a letter from Dan Gilbert, Executive Vice President of Jones-Hamilton, commenting on my visit the week of October 7 and my letter of October 30. This letter will be circulated for everyone's review and comments. As soon as possible, I plan on finalizing a lease agreement for a new trailer to be used at Jones-Hamilton on the West Coast, and a follow-up visit will be made in the early first quarter to insure that all items covered in Mr. Gilbert's letter of November 26 and this new bulk trailer are finalized.

14. During November I continued to work with George Sofronis, of IBM, and Phillip Eschenasy, President of Trade Consultants

BZTO104(e)011049

International, on a method of purchasing the arsenic trioxide from El Indio in Chilean pesos and having these pesos provided by IBM through countertrade or barter agreement. Discussions were held with the Central Bank of Chile by Mr. Sofronis, and all indications would seem that this arrangement between IBM and Koppers to facilitate the purchase of arsenic trioxide from El Indio in Chile with pesos is a very real possibility. As soon as we know we can use this material in our new arsenic acid plant in Conley, a meeting will be held with IBM and Koppers, along with Mr. Eschenasy, to review our next steps. In addition, I am waiting for the results of testing on Israeli phosphoric acid, as this may be another potential for countertrade since Rockwell International has substantial investments in Israel and would be willing to work with us for the purchase of this phosphoric acid.

15. I am working with Geoff Gill and Don Hallahan, of the International Department, on an inquiry for borax in Columbia and the shipment of arsenic acid to England via bulk containers. Information is being obtained on both requests to provide answers to both gentlemen in early December.

16. Currently, I am working with our flatbed trailers in Valparaiso to set up movements of insulation products from Oak Creek into the Cleveland/Pittsburgh area and movements back of roofing, pitch, glass facers and other material. In addition, I hope to add a used bulk trailer to the Valparaiso fleet for handling CCA prior to the resumption of our busy season in the second quarter of 1986. A used trailer has been located in Chicago and an AFE will be prepared for this unit during December. In addition, in December I will begin looking at the possibility of moving bitumen in bulk from Follansbee to Youngstown which would involve approximately 1,400 truck movements per year.

VALPARAISO ACITIVITY:

See Glenn Schultz' report of November 25, 1985, which is attached.

ST. LOUIS ACTIVITY:

See Jim Garrity's report of November 27, 1985, which is attached.

30

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM/jls

Attachments

cc: W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
J. D. Hite
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
Dr. C. R. McIntyre
W. A. Meisinger
R. R. Moran
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

NOV 19 1985

KOPPERS

Interoffice Correspondence

To J. Kusar

Location K-750

Subject Monthly Report - October 1985

From D. F. Marion

Location K-750

Date November 13, 1985

Listed below are the major items covering the month of October 1985.

RAW MATERIALS ACTIVITY:

1. During October we transferred 1,051,000 pounds of arsenic acid to Valparaiso and to Jones-Hamilton utilizing railcars UTLX-78581, UTLX-85653 and GATX 74970 for Jones-Hamilton, and UTLX-79403 and UTLX-79404 for Valparaiso. At the end of October we had 832,052 lbs. of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 lbs., and 634,382 lbs. either in transit or at Jones-Hamilton with a storage capacity of 314,000 lbs. Our total inventory of 75% technical grade arsenic acid at the end of October was 2,877,054 lbs., while our total inventory of 75% high purity arsenic acid was 281,310 lbs. for a Wolman Department grand total of 3,158,364 lbs. During November we anticipate utilizing all railcars to their maximum to fill up all four tanks at Valparaiso and both tanks at Jones-Hamilton in order to allow us to begin removing one railcar at a time for maintenance and lining checks prior to the resumption of our busy season in 1986. We will begin this maintenance program with railcar UTLX-78581 which should arrive in Conley for cleaning prior to shipment to the repair shop by the end of November.

2. During October we shipped 39,609 lbs. of 75% high purity arsenic acid to GTE's plant in Central Falls, RI, and we have on the books an order to be shipped in early November to Corning's plant in Martinsburg, WV. We also shipped 476 lbs. of 75% high purity arsenic acid in drums to U. S. Agri-Chem in Decatur, GA. In addition, we shipped 45,020 lbs. of technical grade arsenic acid to Langdale. During October we also received orders for high purity arsenic acid for Corning's plant in Danville, VA and an order for technical grade arsenic acid for Culpepper's plant in Tomah, WI. These two orders will be shipped along with the orders to

303

K-5 REV. 2

BZTO104(e)011052

Corning's plant in Martinsburg, WV and Langdale's plant in Valdosta, GA. We also received our first orders for drummed arsenic acid to Corning's plant in Harrodsburg, KY.

On October 2, I visited with John Copley and Dave Anderson of Corning Glass in Corning, NY to review our 1986 program for 75% high purity arsenic acid. We reviewed the availability of high purity arsenic acid, the availability of arsenic trioxide, the status of our new arsenic acid plant and costs for 1986. Both Dave and John were extremely pleased with the fact that Koppers would maintain their pricing at $.55 F.O.B. Conley, GA for 75% high purity arsenic acid. We will, therefore, continue to receive the majority of Corning's business which covers plants at Martinsburg, WV, Charleroi, PA, Danville, VA, and Harrodsburg, KY. In addition, we discussed the visit of Corning personnel to Conley, GA as part of Corning's quality control program. John indicated that personnel from Corning, NY as well as Martinsburg, WV would be traveling to the Corning plant in the near future as part of their quality control program. I will coordinate this visit with Frank Klasnick at Conley as soon as John advises the details of his itinerary.

3. During October we received, and nearly consumed, seven full 65 ton railcars from Asarco in Tacoma. At the end of fiscal October, we had approximately 1508 tons of arsenic trioxide remaining on the existing contract with Asarco. In addition to this 1508 tons, Asarco feels they will have approximately 500 to 1000 tons of material remaining in storage in Tacoma which can be contracted for at a later date. At that point, Tacoma will be totally cleaned out of arsenic trioxide. I would expect that based on our current consumption of 400 - 500 tons per month, we will have approximately five months of production material from Asarco's Tacoma facilities. Thus, we will out of Asarco material by the end of March 1986.

On October 16, 1985, I met with Gary Lamb of Minera Mexico to discuss contracts for 1986 covering 95% and 99% arsenic trioxide in bulk from Minera Mexico. During October one railcar of 95% arsenic trioxide and one railcar of 99% arsenic trioxide were shipped from San Luis Potosi, Mexico, to Conley, GA for running in the new arsenic acid plant. In addition, I received a contract for 1800 metric tons of 95% material in bulk railcars for 1986 at a price of $.30 per pound delivered through March 31, 1986. In addition, Gary Lamb and I discussed the shipment of 99% refined white arsenic trioxide to Conley in bulk railcars during 1986. Gary indicated that Minera Mexico might have 500 - 700 metric tons of this material available for Koppers in 1986. We also discussed the production of high antimony material and Gary indicated that Minera Mexico should have answers in

BZTO104(e)011053

early November regarding their abilities to handle this material and produce a 95% arsenic trioxide. As soon as samples are available, they will be sent to Orrville and Conley for analysis prior to any shipments of bulk material for use in our new arsenic acid plant.

During October we received a container of 95% arsenic trioxide from St. Joe's at El Indio, Chile. This container will be run in the new arsenic acid plant in order that we may know the results prior to finalizing St. Joe's proposed contract for 2400 - 3000 metric tons of material at a price of $.28 per pound on a 100% contained As_2O_3 basis C.I.F. Charleston, SC. I will coordinate a visit to the Conley facility with Jim Derby of St. Joe's as soon as we are in a position to run this container of material through the new arsenic acid plant.

In addition, we received one container of Portuguese material from Amula International Ltd. and four containers of South African material from North American Minerals. Therefore, we now have in Conley 95% and 99% material from Minera Mexico in Mexico, 97% material from LePanto in the Philippines, 99% material from Japan, 99% material from Salsigne in France, 99% material from Penarroya in France, 97% and 99% material from South Africa, and 99% material from Boliden in Sweden for testing in the new arsenic acid plant. This material is in drums and will supplement the material in bulk from Minera Mexico and Asarco for production in the new arsenic acid plant during 1986. As soon as I have the results from the production runs of the Minera Mexico material (both 95% and 99%), I intend to finalize visits to Minera Mexico in Mexico, LePanto in the Philippines, Western Mining in Australia and Boliden in Sweden. These visits are necessary to complete my Arsenic Trioxide Strategy Booklet and allow us to make our final decisions on arsenic trioxide suppliers for the future.

On October 22 and 23, I met with Walter Wimer and Joe Quemeneur of Salsigne at our Conley plant to discuss 1986 arsenic trioxide supplies from Salsigne in France. In addition, on October 3 I met with Murray Ornstein and Ron Menzes of Afrimet Indussa and Metallurgie-Hoboken-Overpelt to discuss the supply of arsenic trioxide in 1986 from Belgium. Both Salsigne and Metallurgie-Hoboken-Overpelt have indicated they will advise the quantities of material to be shipped and the prices for material going to the United States. I also met with John O'Callaghan of L. J. Buck and Gunnar Jonsson of Boliden on November 1, 1985 to discuss 1986 arsenic trioxide supplies from Boliden in Sweden.

During November an arsenic trioxide strategy meeting will be set up in Conley, GA to review exactly where we stand with arsenic trioxide requirements for 1986, since by the end of the first quarter of 1986 there will not be any Asarco material available and contracts will have had to be finalized with Minera Mexico, Boliden, El Indio and any other sources of 1986 supplies of arsenic trioxide.

4. During October regular shipments of Giant Yellowknife crude arsenic trioxide continued, with Conley receiving three truckloads per week. Currently, Trimac is utilizing five of their trailers and two of Koppers trailers to move this material from Giant Yellowknife to Conley. Giant Yellowknife has asked that we speed this delivery schedule up to four truckloads per week, since they have to put approximately 60 tons of material under ground with the new schedule. I reviewed this situation with Wayne Peddie and additional trailers are being looked for at this time. However, Wayne indicated that there may be a two or three week interruption in shipments due to the low water level of the McKenzie River and difficulties with the ferry moving back and forth. In addition, a telex has been received from Tony Desanti at Falconbridge which has been circulated for everyone's review. Tony is concerned about residue handling, freight cost and other subjects which were discussed in Toronto during our last visit to Falconbridge. It is imperative that we review the status of each item and advise Tony the answers to his questions in his recent telex.

5. On November 4, I met with Mark Smerchanski and Dolores Daniels of Eldorado Gold Mines in Toronto, Ontario, Canada to resolve the issues with moving approximately 2500 drums of crude arsenic trioxide from Duparquet, Quebec, Canada to Conley, GA. We were able to resolve the issues to everyone's satisfaction in that the 245 drums originally shipped will be the only ones shipped to Conley for the remainder of 1985 and through the first five months of 1986. Approximately 1662 drums will remain in Duparquet, Quebec, Canada and 500 drums will remain in Toronto, Ontario, Canada until after May 31, 1986. In addition, the #1 concrete bin will remain sealed and this bin contains approximately 2200 tons of additional contained arsenic trioxide. This would approximate 10,000 drums, however, this bin will not be opened until directed by Koppers in the future.

As soon as the drum handling system and the new arsenic acid plant in Conley are performing satisfactorily, we need to advise Bill Cunningham of Western Mining in Australia the status of moving additional containers of crude arsenic trioxide from his facility. We also need to evaluate the running of this material direct in the new arsenic acid

plant. In the meantime, the 68,141 lbs. of original material must be run in the purification plant at a later date.

6. At the end of fiscal October, our closing chromic acid inventories were approximately 248,900 lbs. ($186,628) and our closing black copper oxide inventories were approximately 108,418 lbs. ($81,509). Our arsenic trioxide inventories were approximately 5,328,331 lbs. ($1,182,735) and our arsenic acid inventories were approximately 3,158,364 lbs. ($1,401,141). The amount of refined arsenic trioxide in the above number was 629,965 lbs. ($247,663) consisting of Boliden, Mexican, Salsigne, Penarroya, LePanto, Japanese, Portuguese and Koppers refined material. The balance of 4,698,366 lbs. ($935,072) was in the form of Giant Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were 0 pounds of chromic acid and arsenic acid, 59,386 lbs. of black copper oxide and 57,440 lbs. of CCA-C. Our domestic total inventories including chrome ore were approximately $4,029,608 at the end of fiscal October. This amounted to an increase of $265,961 (7.1%) from the September level.

7. During October we received 1,560,600 lbs. of chromic acid from Diamond Shamrock and our ending inventory was 248,900 lbs. Through the first ten months of 1985, we have received 17,398,828 lbs. (8,699 tons) of chromic acid from Diamond Shamrock. During October I sent telexes to Stoppani in Italy, Quimica in Mexico, Bayer in West Germany for chromic acid pricing and availability for 1986. In addition, I requested itineraries regarding visits to the U.S. in the near future. In addition, I spoke with Walter Wimer and Barbara Miller of C. Withington on Chinese chromic acid. Currently, one container of material is enroute to Jones-Hamilton in Newark, California, at a price of $.75 per pound C.I.F. San Francisco, California, duty paid. We will be provided documents to obtain the duty drawback, so our net delivered price will be approximately $.73 - $.74 per pound for this material. I am currently awaiting word from C. Withington on the quantity for 1986 that will be available from China.

In early November I will provide Peter Denning, of Metal Products in Baltimore, a quotation on chromic acid in drums for their facility in Gainesville, Georgia and Baltimore, Maryland for 1986. In addition, we are working closely with Metal Products and MacDermid on chromic acid containing solutions that could possibly be used in Conley in the Wolman mix plant. Currently, Metal Products has approximately 15,000 gallons of solution containing chromic acid that must be moved either to a disposal site or to Conley for use in our CCA production.

BZTO104(e)011056

8. During October we finalized our duty drawback claim #18 which covered the exports for the third quarter of 1985 and this claim should be submitted to the U.S. Treasury Department in early November. We are currently completely up to date on our duty drawback claims and have recovered $285,471.91 since the initiation of this program.

9. During early November I need to finalize a system to handle the billing and orders for Kathon 18500 from Rohm and Haas. To date, we have shipped material to Houston Chemical and Tolleson, as well as one drum to Ferris Broxton in Conley. My intentions are to have these orders processed in St. Louis and billing to be submitted from there. However, I will discuss this situation with you in advance prior to setting up this system.

10. During October I met with FMC and finalized a contract for our 1986 phosphoric acid requirements at Valparaiso, along with Florence, SC and Oroville, CA with them. I was able to negotiate a firm price for the entire year of 1986 with a maximum cap for 1987 below our current pricing. Formal confirmations will be received in November and blanket orders issued to cover our requirements at all three facilities for 1986. I also met with Canadian Cyanamid on October 29 and they indicated that they would be increasing their pricing effective January 1 by $.05 per pound. Therefore, it is crucial that we insure our abilities to use both BOC material and SKW material in supersacks at Valparaiso. Currently, one supersack of BOC material with anticaking agent is being tested in Valparaiso while samples of SKW material have been sent to Orrville for testing prior to shipment to Valparaiso for production use.

11. During October we finalized the standard cost sheets for the new arsenic acid plant in Conley, GA. In addition, our internal audit department (Don Davies and Mike Rosswog) conducted their internal audit the week of October 21 in Conley, GA. I am anxiously awaiting their final report as everything seemed to go quite well during their visit to the plant.

12. During the week of October 7, I visited Southern California Chemical in Sante Fe Springs, California, Exterior Wood Preservatives in Washougal, Washington, Time Oil in Portland, Oregon, J. H. Baxter in San Francisco, California and Jones-Hamilton in Newark, California. During early November, a meeting will be set up with Dave Kerschner, Bill Baldwin, Jim Garrity, Temp Smith and myself to review our position with the clean-up and splitting of costs 50/50 at Time Oil's terminal in Portland, Oregon. Bob Abendroth, Neil Wallace and John Denham plan on visiting to resolve these issues in early December. Separate reports were issued on my West Coast trips to Jones-Hamilton and Exterior.

13. During November or early December, I hope to finalize a lease agreement for a new trailer to be used at Jones-Hamilton on the West Coast, as well as finalize the purchase of one used bulk trailer for Valparaiso. While visiting Jones-Hamilton, I discussed the use of this leased trailer with Ron Plough and we agreed that this would help immensely in the deliveries of CCA and arsenic acid on the West Coast. We will need the help of Denise Burrell to coordinate deliveries to West Coast licensees to ensure maximum utilization of this piece of equipment on the West Coast.

14. During October I continued to work closely with George Sofronis, of IBM, and Phillip Eschenasy, President of Trade Consultants International, on a method of purchasing the arsenic trioxide from El Indio in Chilean pesos and having these pesos provided by IBM through a countertrade or barter agreement. Discussions were held with the Central Bank of Chile by Mr. Sofronis, and all indications would seem that this arrangement between IBM and Koppers to facilitate the purchase of arsenic trioxide from El Indio in Chile with Pesos is a very real possibility. As soon as we know if we can use this material in our new arsenic acid plant, a meeting with IBM and Koppers, along with Phillip Eschenasy will be held to review our next step. In addition, samples of phosphoric acid from Israel are being examined at Orrville in conjunction with the use of this material at Valparaiso. Currently, Rockwell International has substantial investments that could help us in setting up a countertrade agreement with them in conjunction with the purchase of this phosphoric acid direct from the Israelis.

15. On November 5, 1985, Kathleen Vidic and I visited Soabar in Philadelphia to finalize our 1986 label program. Final prices were negotiated for 1986 and discussions were held to review the status of all labels, plates and all other aspects of our program. It was an extremely worthwhile visit and welcomed by all people at Soabar, particularly in lieu of our new lifetime warranty. We were warmly received as always and this visit continues to enhance the performance of Soabar for our label program.

VALPARAISO ACTIVITY:

See Glenn Schultz' report of October 25, 1985, which is attached.

ST. LOUIS ACTIVITY:

See Jim Garrity's report of October 30, 1985, which is attached.

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM/jls

Attachments

cc: W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
J. D. Hite
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
Dr. C. R. McIntyre
W. A. Meisinger
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

BZTO104(e)011059

T. Smith
File

KOPPERS

Interoffice Correspondence

To R. C. Conner

Location K-2322

Subject Time Oil Company

From George E. Tannehill

Location K-1400

Date October 25, 1985

Your inquiry requesting information on the Time Oil Site has been given to me for response. The answer to questions Number 1 thru 5 are included in an Interoffice memo, dated December 12, 1983, from Mr. C. P. Brush to John Palmer.

Interoffice correspondence, dated December 5, 1984, Temp Smith to William J. Baldwin; January 18, 1985, Temp Smith to Andy Middleton; and October 14, 1985, D. F. Marion to W. J. Baldwin; outlines clean-up activities, environmental obligations, and cost data. Copies of mentioned memos are attached.

We trust this information is sufficient for your insurance purposes. Mr. Temp Smith handles this matter for the Legal Services Group.

George E. Tannehill/rmh
George E. Tannehill
Legal Assistant

GET/rmh

Attachments

K-5 REV. 2

BZTO104(e)011060

KOPPERS

Interoffice Correspondence

To W. J. Baldwin — From D. F. Marion

Location K-1350 — Location K-750

Subject Time Oil Visit - October 9, 1985 — Date October 14, 1985

On October 9, 1985, Jim Garrity, Denise Burrell and I visited with Neil Wallis at Time Oil Company's terminal in Portland, Oregon. We discussed the clean-up efforts at the Portland terminal to date and reviewed where we would go in the future. At this time, Time Oil has disposed of nine truckloads of soil and incurred costs of $55,000 - $60,000. While visiting Neil Wallis, he made copies of the pentachlorophenol sampling and analysis report prepared by Riedel Environmental Services which is attached for everyone's review and comments. Neil indicated that a meeting with John Denham and John Ruddick of Riedel Environmental Services was to be held on Thursday, October 10, in Portland. After this meeting, Neil Wallis, John Denham and Bob Abbendroth would like to get together to determine the next steps in meeting allowable limits of PCP at the Portland Terminal. In addition, Bob Abbendroth would like to set up a meeting to finalize Koppers portion of the payment for services to clean up the Portland Terminal.

After you have had an opportunity to review the attached report, please give me a call to determine our options at this point in time. If you have any questions regarding the above information or attached report, please call me immediately.

Donald F. Marion

DFM/jls

Attachment

cc: J. F. Garrity
R. G. Hamilton
J. D. Hite
J. Kusar
R. J. Parry
T. Smith
M. R. Urbassik
A. S. Wells

K-5 REV. 2

SEP 11 1985

KOPPERS

Interoffice Correspondence

To R. G. Hamilton — From D. F. Marion

Location K-750 — Location K-750

Subject Monthly Report August 1985 — Date September 9, 1985

Listed below are the major items covering the month of August 1985:

RAW MATERIALS ACTIVITY:

1. During August, we tranferred 876,960 pounds of arsenic acid to Valparaiso and to Jones-Hamilton utilizing railcars UTLX-78581, UTLX-79403 and UTLX-79404 for Valparaiso, and UTLX-85653 and GATX-74970 for Jones-Hamilton. In addition, we used Aero Truck Lines to transfer arsenic acid to Valparaiso during the month of August. The truck rate was actually below the rail rate on a backhaul basis. At the end of August we had 634,611 pounds of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 pounds and 369,742 pounds either in transit or at Jones-Hamilton with a storage capacity of 314,000 pounds. Our total inventory of 75% technical grade arsenic acid at the end of August was 1,939,632 pounds while our total inventory of 75% high purity arsenic acid was 262,375 pounds, for an SWCD grand total of 2,202,007 pounds.

2. During August, we had no shipments of 75% high purity arsenic acid to Corning's plants. However, we do have an order on the books for late August shipment which will be in September's fiscal month. This load will be shipped to Cornings plant at Martinsburg, WV. We shipped 88,020 pounds of 75% technical grade arsenic acid to PB&S and Langdale during August and 1,426 pounds of drummed high purity arsenic acid to USS Agrichem. During September, I plan on visiting with John Copley of Corning in Corning, NY to discuss the availability of high purity arsenic acid and costs for 1986. At that time, I will coordinate with John the status of their visit to Conley for there quality control program. John had indicated that not only the Corning, NY personnel but also the Martinsburg, WV plant personnel would be traveling to our plant in conjunction with their quality control program in the very near future.

303

K-5 REV. 2

BZTO104(e)011062

During early September I will get in contact with Mr. Richard A. Daniele, Senior Vice President, of W. R. Metals Industries, Incorporated regarding the manufacture of arsenic acid at their Laramie, WY plant. I hope to get as much detail as possible about the capacity of this facility as well as the pricing for this material.

3. During August, we received and consumed six (6) full 65-ton railcars from Asarco in Tacoma. At the end of fiscal August, we had approximately 2,381 tons of arsenic trioxide remaining on the contract with Asarco. In addition to this 2,381 tons, Asarco feels they will handle 500 to 1,000 tons of materials remaining in Tacoma which can be contracted for at a later date. At that point, Tacoma will be totally cleaned out of arsenic trioxide.

During August, I received a proposed contract from St. Joe's Minerals for 2,400 to 3,000 metric tons of arsenic trioxide at a price of $.28 per pound for 100% contained As_2O_3, CIF Charleston, SC. The two exhibits A and B for this contract will be sent to me in early September for our review. In addition, I was advised that St. Joe's at El Indio in Chile had gone on strike effective September 2, however, the strike ended and the contract with the union has been signed for two years and the miners have returned to work.

During August, Minera Mexico's railcar ACFX-25923 containing 95% black arsenic trioxide was received at Conley. One batch was run from this material, however, due to the shutdown of the acid plant for tying in the conveying system with the new arsenic acid plant this car was side tracked and the material will not be run until early September, after our inventory of arsenic acid has been replenished. This material was shipped to us at a cost of $.33 per pound delivered. In addition, Gary Lamb of Minera Mexico indicated that they would be willing to contract for 1,800 metric tons of this material for 1986 in bulk railcars from San Luis Potosi if the material is acceptable to us. However, Minera Mexico continues to have difficulty running the high antimony material and to date have

BZTO104(e)011063

been unable to get enough of this material to ship us a railcar. However, samples will be sent to Conley and to Orrville as soon as they are available. In the mean time we received railcar ACFX-26189 with 99% refined arsenic trioxide and ran it in the arsenic acid plant during August. Four additional cars of bulk 99% refined white arsenic trioxide will be shipped from Minera Mexico between now and the end of the year and this material will be evaluated for its performance in the new arsenic plant as soon as possible.

In addition, to the two railcars from Minera Mexico, we received one container of 99% AS_2O_3, from the Japanese and one container of 99% AS_2O_3, from Salsigne in France during the month of August. We also had shipped two containers of 99% material and two containers of 97% material from the Barberton Mines in South Africa and one container from El Indio in Chile during August. By mid to late September, we will have in Conley material from Minera Mexico, in Mexico, LePanto in the Philippines, Japanese material, Salsigne material, Pennaroya material and Boliden material for testing in the new arsenic acid plant. This material will be in drums and will supplement the material in bulk from Minera Mexico and Asarco for production purposes in the new arsenic acid plant. As soon as I hear back from Minera Mexico, I intend to finalize visits to LePanto in the Philippines, Western Mining in Australia, Boliden in Sweden and Giant Yellowknife, Campbell Redlake, Trimac and Cominco in Canada. These visits are necessary to complete my Arsenic Trioxide Strategy Booklet and allow us to make our final decisions on arsenic trioxide suppliers for the future. On August 16 we met in Conley, GA, to update our arsenic trioxide strategy. During late September or early October after the new arsenic acid plant has started up and the drum handling system is in operation, a follow up meeting will be conducted in Conley to review the status of all sources of arsenic trioxide and the performance of these trioxides in the new plant.

BZTO104(e)011064

4. During August, regular shipments of Giant Yellowknife crude arsenic trioxide continued, with Conley receiving two truckloads per week. As we proceed into the month of September, this rate will be upped to three truckloads per week in conjunction with the productions situation in Giant Yellowknife at this time. We need to take as much material out of there in anticipation of the formation of the ice bridge in December, in order to keep the plant running uninterrupted during the fourth quarter of 1985 and the first quarter of 1986. On August 28 we meet with Pat Raleigh, Tony Desanti of Falconbridge and Dave Emery of Giant Yellowknife in Toronto to review the overall situation with crude arsenic trioxide from Giant Yellowknife. A proposed visit to review residue handling equipment will be made in mid-September with Simon Fekete of Giant Yellowknife. In addition, Tony Desanti will review the pricing structure with Dave Emery and advise what price they feel their material should get, beginning in January, 1986.

   During our meeting, we were advised that Giant Yellowknife is running the roaster seven days a week and producing approximately 300 tons of product (approximately 255 tons of contained AS_2O_3) per month and we have taken everything out of Yellowknife since June. However, Giant Yellowknife has undertaken the construction of a underground stope to hold approximately 10,000 tons since their other stope are virtually filled at this time. They are in hopes, however, that Koppers can take the entire tonnage of production for the remainder of 1985 and 1986 and they will be testing equipment to bring material up from underground, so they will be in a position to do this during 1986, should we need additional material.

5. Mark Smerchanski, of Eldorado Gold Mines, has indicated that he must move 2,000 drums of crude arsenic trioxide from Duparquet, Quebec, Canada by the end of 1985. This has been mandated by the Quebec government and Mark has been forced to take out a bond to insure that this material is infact removed from the site prior to the end of this year.

The remaining material will be placed in a concrete bunker and sealed until such time as Conley would be in a position to take that material. Mark feels that Caral Minor Metals will not be in a position to take any material until mid-1986 and therefore the 2,000 drums must be moved to Conley as quickly as possible.

As soon as the drum handling system in Conley is operational, we need to advise Bill Cunningham, of Western Mining, the status of moving additional containers of crude arsenic trioxide from his facility. We also need to evaluate the running of this material direct in the new arsenic acid plant. In the meantime, the 68,141 pounds of original material are being stored for ultimate processing in the purification plant at a later date.

6. At the end of fiscal August, our closing chromic acid inventories were approximately 112,215 pounds ($83,961) and our closing black copper oxide inventories were approximately 32,266 pounds ($24,258). Our arsenic trioxide inventories were approximately 4,734,570 pounds ($1,070,846) and our arsenic acid inventories were approximately 2,202,007 pounds ($1,016,625). The amount of refined arsenic trioxide in the above number was 516,552 pounds ($224,639) consisting of Boliden, Salsigne, Mexican, LePanto, Japanese and Penarroya material. The balance of 4,218,018 pounds ($846,207) was in the form of Giant Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were 0 pounds of chromic acid and arsenic acid, 13,523 pounds of black copper oxide and 37,692 pounds of CCAC. Our domestic total inventories, including chrome ore, were approximately $3,685,637 at the end of fiscal August. This amounted to an increase of $348,379 (10.4%) from the July levels.

7. During July, we received 2,021,508 pounds of chromic acid from Diamond Shamrock and our ending August inventory was 112,215 pounds. Through the first eight months of 1985, we've received 14,149,728 pounds ($7,075 tons) of chromic acid from Diamond Shamrock.

BZTO104(e)011066

During August, we sent a blanket purchase order to American Chrome for 1,000 tons of chromic acid flake in 400 pound drums palletized and banded for shipment to Jones-Hamilton in Newark, CA over the next 12 months. This material will be priced at $.75 per pouund, F.O.B. Corpus Christi, Texas and releases will be made either by piggyback or truck shipments beginning in September. In addition, I am awaiting responses to telexes from Stoppani in Italy and Quimica in Mexico for drum chromic acid from these two sources.

In September, I will be providing Peter Denning, of Metal Products in Baltimore, a proposal for chromic acid for plants in Baltimore and Gainesville, Georgia. Mr. Denning is ready to buy their requirements from us for the piston ring plants, however, he has indicated that he will maintain M&T Chemical as a second source for a small amount of material in 1986.

8. Our Duty Drawback Claim No. 17 was submitted in August to the U.S. Treasury Department and we should receive a check for $13,329.92 in early September. This will bring our grand total of duty drawback dollars recovered since the initiation of the program to $285,471.91. At this point in time, we are completely current with all exports in recovery of our duty drawback claims. Claim No. 18 will cover the exports of the third quarter and will be submitted in early October.

9. During early September, we need to set up a system to handle the billing and the processing of orders for Kathon 18500 from Rolm & Hass which will be shipped direct to our licensees. To date, we have shipped to Houston Chemical and Tolleson, as well as one drum to Ferris Broxton in Conley for his use in designing and building the equipment to handle this material.

10. During August, I was able to get FMC to maintain their hydrogen peroxide price at $.40 per pound F.O.B. shipping point for 70% material through December 31, 1985. In addition, I finalized the orders for nitric acid from Columbia Nitrogen, potassium iodide from Thompson Hayward and liquid oxygen from Airco for use in the new arsenic acid plant. Releases to all three suppliers were made by the Conley plant for use in start up of the new arsenic acid plant. All the blanket orders have been issued and the pricing established for these new commodities for the new arsenic acid plant.

BZTO104(e)011067

During September, standard costs sheets will be prepared for use by our accounting people as soon as unit consumptions are know in the new arsenic acid plant.

11. During August, I continued to try to reach Bob Koch of Glidden, however, was unsuccessful but did talk with Jim Sainesbury who had received the labels, the samples, and the data packages as well as a copy of my pricing letter for private labeling our Wolman® Clear, Wolman® Green and RainCoat® for Glidden. In early September, I hope to visit with Bob in Cleveland along with Alan Ross to discuss our proposal and finalize a program so shipments can begin in the fourth quarter of 1985 for Glidden's 1986 season.

12. During mid-September, I plan on visiting Tim Oil in Portland, OR to discuss the clean up efforts at their terminal in Portland. Currently Bob Abbendroth, Vice President of Time Oil, is awaiting Koppers response to his proposal for splitting the cost 50/50 for this clean-up. A follow-up meeting after my visit to Time Oil will be held with Bill Baldwin, Temp Smith, Jim Garrity and myself. During my trip to the West Coast, I will also be meeting with Jones-Hamilton to review the overall program with blending CCA on the West Coast.

13. I am continuing to evaluate the proposals on three used CCA bulk tankers for Conley and Valparaiso and a fourth new trailer for lease to be used by Jones-Hamilton on the West Coast. During September, I should finalize the lease agreement for one unit for the West Coast and decide regarding the purchasing of one unit for Valpariaso and two units for Conley. During my visit to Jones-Hamilton in September I intend to finalize a system to handle this trailer with either an owner/operator or a leasing company to provide driver and tractor. I will also coordinate with Denise Burrell to determine if a visit to J. H. Baxter and Exterior would be of benefit while visiting the West Coast.

BZTO104(e)011068

14. During August, I continued on-going conversations with Phillip Eschenasy, President of Trade Consultants International, on bartering and counter-trade arrangements to improve our export business. Mr. Eschenasy put me in touch with IBM regarding monies that they have available from shipments of equipment to Chile in the past. A meeting with the IBM people will be arranged in early September to determine if we can set up a system to purchase the arsenic trioxide from El Indio in Chilian pesos and have these pesos provided by IBM through a countertrade or barter arrangement. Mr. Eschenasy is looking at other countries such as Mexico to determine if barter or countertrade arrangements can be made in the acquisition of raw materials such as arsenic trioxide. We are looking at phosphoric acid from Isreal in which Rockwell International has substantial military parts that could help assist in setting up a countertrade arrangement with them. These countertrade arrangements will have to be discussed at length to insure their mutual benefit to both Koppers and IBM or Rockwell International.

15. During the week of September 9, product development meetings will be held to review the current status and priority of existing projects and to discuss technical plans for future work and support of the commerical departments. I intend to attend the meetings on the protection products, insulation products and Wolman® Department during that week.

16. On Tuesday, September 17, I will attend the first meeting of the International Executive's Program of the World Affairs Council of Pittsburgh with Cliff Taylor. The guest speaker will be Simon D. Straus, Consultant on Metal Markets and former Vice President of Asarco who will discuss (Mineral Resources: Step Child of the Economy). I am looking forward to attending this World Affairs Council meeting with Cliff on the 17th of September.

17. On August 20 and 21, Glenn Schultz and I visited the Monsanto phosphoric acid plant in Trenton, Michigan with Don Sturniolo the local sales representative. Both Glenn and I were impressed with the facilities in Trenton as well as with the quality control program which has been established by Monsanto at this time. The trip proved, not only, enjoyable but very interesting and worthwhile to both of us.

VALPARAISO ACTIVITY:

See Glenn Schultz' report of August 29, 1985, which is attached.

ST. LOUIS ACITIVTY:

See Jim Garrity's report of September 3, 1985, which is attached.

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM/pe

Attachments

cc: W. J. Baldwin
F. E. Boge
W. M. Clausen
K. E. Cogan
J. F. Garrity
J. D. Hite
Dr. J. J. Kozak
F. M. Klasnick
J. Kusar
R. Lattanzi
Dr. C. R. McIntyre
W. M. Meisinger
P. V. Morse
F. W. Neville
G. A. Schultz
R. K. Shapard
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

Koppers Company, Inc.
Pittsburgh, Pa. 15219

KOPPERS

8-26
430

Location No. 476-730 Date 7/31/85 No 751343

Pay
to the order of Three hundred fifty and 00/100

$ 350.00

Department of Environmental Quality
Attention: Fiscal Office
P. O. Box 1760
Portland, Oregon 97207

COPY
NOT NEGOTIABLE

Mellon Bank N. A.
Pittsburgh, Pa

ADS 179 REV 10

General Ledger	Detail	Sub Detail	Location or Contract	Dept. or Orig. Loc.	Tax Codes	Emp. No.	Purchase Order No. Rec. Id.	Itr.	or P.O. No.	P.O. Add.	P.O. Add or Resource	Quantity	Unit Code	Amount Distributed Dollars	Cents
318	391		730		0362									350	

Vendor No. 61

Description

Payment in full of your invoice number HW86-191.
EPA ID: ORP000008000
Hazardous Waste Generator Fee

PLANT COPY

Remit and Make Checks Payable to:

Department of Environmental Quality
Attn: Fiscal Office
P.O. Box 1760
Portland, Oregon 97207

JUL 08 1985

FOR DEQ USE ONLY

Date Received: _____

Amount Received: _____

Bank No.: _____

TO: Koppers Company Inc
The Koppers Building
Pittsburg, PA 15219
Attn: William J Baldwin

INVOICE

Number: HW86-191

Date: 06/27/85

PERMIT NUMBER	ITEM OR REFERENCE	AMOUNT DUE	DATE DUE
	EPA ID: ORP000008000 Cubic Feet Generated in 1984: 406.10 Location: 12005 N Butgard Portland, OR 97203 Hazardous Waste Generator Fee For July 1, 1985 To June 30, 1986	$350	08/01/'85

NOTE: Please return pink copy of this invoice with your remittance to ensure proper credit.

DEQ 55

Don —

This represents the tank bottoms that were disposed of in Arlington OR.

Jim

61

M E M O R A N D U M

June 11, 1985

TO:	Robert Abendroth	Seattle
	Bill Baldwin	Pittsburgh
	Don Marion	Pittsburgh
	Neil Wallis	Portland
FROM:	John Denham	Seattle

SUBJECT: NORTHWEST TERMINAL WOODTREATING SITE

This is a status update regarding cleanup of soil at our Portland Oregon terminal where the Pentachlorophenol operation existed.

Following Don Marion and Bill Baldwin's March 13, 1985 visit, the following occurred:

a. On April 2, Bill B called to coordinate results of his contact with Koppers geologists. Bill requested sampling per enclosure 1. On April 4, Robert A agreed with this action. On April 5, Neil W was tasked to locate a firm to accomplish soil sampling and a laboratory which could handle this sizable soil analysis within a reasonable time frame at the lowest possible costs.

b. After a diligent search, it was learned there was only one firm in the area that had the capability to do this job - Riedel Environmental Services, Inc. On April 25, Riedel submitted their cost of $18,600 (enclosure 2). I asked for a cost breakdown. Riedel submitted it on May 18 (enclosure 3). Drilling cost of $7,544 is actual fee of drilling contractor Sweet and Edwards out of Kelso (I verified this). Analytical cost of $4,956 is strictly the laboratory charge for processing 96 samples from 16 holes at 6 six samples per hole. (Note this is 7 less holes than Bill B requested but covers a larger 80' x 80' area). Method of analysis is GC/MS, which is the only one allowed by EPA/DEQ. Cost to analyze each sample is $51.63. Labor cost of $3,985 includes taking nine additional composite surface samples (3 on northeast, 3 on east and 3 on south) outside bermed area to determine soil contamination boundaries, taking the 96 samples mentioned above, drawing the drilling plan, preparing the contour map which shows location of contamination at the various depths, supervision of entire job on site by a qualified hydrologist and writing the report. Other direct costs of $2,115 cover decontamination of equipment between the taking of each sample, sample jars, safety gear used, drums for and disposal of decontamination solvent used for all equipment decontamination and the bentonite used to plug all holes drilled.

c. Contract with Northwest Vacuum Truck Service was negotiated (enclosure 4). Certificate of insurance coverage (enclosure 5) and contract bond (enclosure 6) were obtained from contractor. An "approved" transporter was obtained (Gresham Transfer Service).

d. Disposal request for contaminated soil was approved by DEQ (Enclosure 7).

e. Hazardous Waste Manifests with appropriate instructions were obtained (enclosure 8).

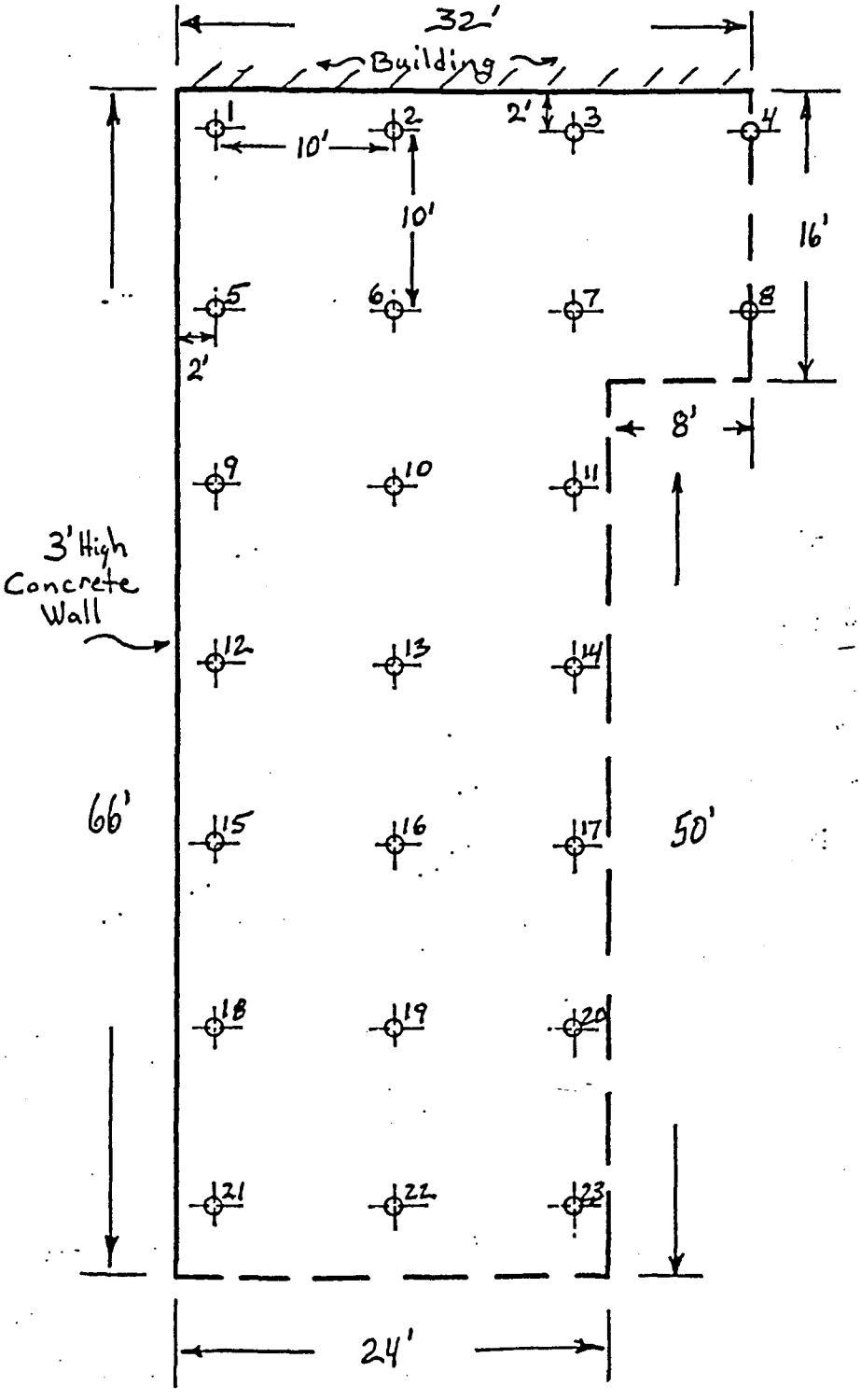
f. The required "Waste Transportation and Disposal Agreement" was obtained from Chem-Security Systems, operators of the Arlington disposal facility (enclosure 9). I disagreed with item 2(b) on page 17 (in that it limited disposal on this tender to only one movement) and item 10(c) on page 20 (in that there was no price break after 250 tons as was originally quoted). Telecon contact with their offices resulted in satisfactorily worded replacement pages for agreement, which arrived today and are included in enclosure 9.

At this point in time, everything seems to be "go". All arrangements have been made to start the first phase of digging, hauling and disposing on June 24, 1985. I will be on site. Plan is to remove and dispose of several truck loads of soil, stop, have sampling and analyses done, then repeat as needed. This approach takes advantage of lower disposal costs (prior to July 1) and the conduct of the expensive sampling and analysis only one time. Current known costs for first phase are $53,000 plus $18,600 = $71,600.

JPD/ch

NORTHWEST TERMINAL WOODTREATING SOIL SAMPLING PLAN

Scale: 1" = 10'



1. Drill 23 holes and obtain samples from each.

2. On holes 2, 3, 4, 6 & 7:
   a. Sample at 6", 1', 2', 3', 5', 10' and 15' levels.
   b. Analyze samples at 1', 2', 3', 5' & 10' levels (25 analyses). Also analyze holes 2,3 & 6 at 15' level.
   c. Hold remaining samples at 40 degrees F.

3. On all other holes:
   a. Sample at 6", 1', 2', 3', 5' and 10' levels.
   b. Analyze samples at 6", 1', 2' & 3' levels (72 analyses).
   c. Hold remaining samples at 40 degrees F.

Encl. 1

M E M O R A N D U M

March 5, 1985

TO: Robert Abendroth Seattle

FROM: John Denham Seattle

SUBJECT: PENTACHLOROPHENOL OPERATION

Reference my memo of February 22nd, copy attached.

Don Marion called today to advise that he and Bill Baldwin will visit the Northwest Terminal on March 13, 1985.

Attachment a/s

JPD/ch

M E M O R A N D U M

February 22, 1985

TO: Robert Abendroth — Seattle
Neil Wallis — Portland

FROM: John Denham — Seattle

SUBJECT: PENTACHLOROPHENOL OPERATION

Per incoming telecon with Bill Baldwin, this date, he and Don Marion from Koppers Co. will be coming out here in early March. Don Marion is to call soon with finalized date of arrival.

The thought occurs that this may be an opportunity to agree on cost sharing arrangements as we should be in a better position to have actual costs by that time.

JPD/ch

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

CABLE ADDRESS TIME

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

February 4, 1985

Department of Environmental Quality
Attn: Janet Gillaspie, Northwest Region Manager
522 S.W. 5th Avenue, P.O. Box 1760
Portland, Oregon 97207

Dear Ms. Gillaspie:

This pertains to our Northwest Terminal location at 12005 North Burgard in Portland, Oregon and the bulk pentachlorophenol operation at that site. The purpose of this letter is to acquaint you with concurrent actions being taken by two companies to voluntarily correct what both felt may become a problem.

BACKGROUND

In March of 1982, a potential problem with the ground surrounding the pentachlorophenol operation was determined. Contract between Koppers Co. (product owner) and Time Oil Co. (land owner) was cancelled. Product phaseout and clean-up actions were jointly agreed upon by both companies. Accomplishments to date have been:

a. Bulk pentachlorophenol operations ceased.

b. On hand product inventory blended off and shipped out.

c. All tanks and piping cleaned.

d. Waste from cleaning shipped to Arlington.

e. Piping removed and scrapped.

f. Time Oil Co. tanks removed and scrapped.

Remaining to be accomplished are:

a. Removal of Koppers owned tanks (scheduled for week of February 4, 1985).

b. Contaminated soil removal and replacement.

BZTO104(e)011078

On December 12, 1984, Messrs. John Smits and Rick Gates of your office conducted soil sampling activities at the site. Twelve samples were taken inside diked areas. Split samples were provided Time Oil Co. DEQ laboratory test results (49 pages) were received here on February 1, 1985. Telecon with Messrs. Smits and Gates on that date revealed the following:

a. All samples were tested for lead content. None were found to be above normal limits (page 1).

b. All samples were tested for fourteen different pesticides. None were found to be above normal limits (pages 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36).

c. All samples were scanned for organic chemicals other than priority pollutants (pages 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37). No unknowns were identified above detection limits on nine of these samples. On three sample, (pages 13, 28, 31), the compounds tentatively identified were those petroleum residues normally expected to be found in a tank farm. Estimated concentrations were so low that none were at all significant, simply present.

d. All samples were tested for priority pollutant chemicals (pages 2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35). No unknowns were identified above detection limits on eight of these samples. On one sample (page 11), only two trace elements were found. Both were in the 1 ppm quantity, which is not considered significant and certainly cannot be classed as a problem. On one sample (page 23), three residues of polynuclear aeromatics were found, again insignificant in quantity. On one sample (page 26), one more polynuclear aeromatic of insignificant quantity was found along with a small quantity (515 ppm) of pentachlorophenol and 12 ppm of tetrachlorophenol. It is my understanding that since this quantity (515 ppm) of pentachlorophenol is below 1000 ppm, it falls in the gray area of consideration regarding significance. The tetrachlorophenol is a part of commercial pentachlorophenol so its presense would naturally be expected. On one sample (page 29), pentachlorophenol (1820 ppm) and tetrachlorophenol (71 ppm) were found. This latter finding confirms our unitedly expressed (Koppers and Time Oil) concern and substantiates the need for corrective action as we had previously planned.

CURRENT

As of today, it appears that our (Koppers and Time Oil) initial plan of action remains valid. Progress has been made. Time and more favorable weather conditions should result in the contaminated soil being removed, necessary second soil tests being conducted and new soil being put in place without difficulty.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

JPD/ch

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

February 4, 1985

Department of Environmental Quality
Attn: Janet Gillaspie, Northwest Region Manager
522 S.W. 5th Avenue, P.O. Box 1760
Portland, Oregon 97207

Dear Ms. Gillaspie:

This pertains to our Northwest Terminal location at 12005 North Burgard in Portland, Oregon and the bulk pentachlorophenol operation at that site. The purpose of this letter is to acquaint you with concurrent actions being taken by two companies to voluntarily correct what both felt may become a problem.

BACKGROUND

In March of 1982, a potential problem with the ground surrounding the pentachlorophenol operation was determined. Contract between Koppers Co. (product owner) and Time Oil Co. (land owner) was cancelled. Product phaseout and clean-up actions were jointly agreed upon by both companies. Accomplishments to date have been:

a. Bulk pentachlorophenol operations ceased.

b. On hand product inventory blended off and shipped out.

c. All tanks and piping cleaned.

d. Waste from cleaning shipped to Arlington.

e. Piping removed and scrapped.

f. Time Oil Co. tanks removed and scrapped.

Remaining to be accomplished are:

a. Removal of Koppers owned tanks (scheduled for week of February 4, 1985).

b. Contaminated soil removal and replacement.

BZTO104(e)011080

On December 12, 1984, Messrs. John Smits and Rick Gates of your office conducted soil sampling activities at the site. Twelve samples were taken inside diked areas. Split samples were provided Time Oil Co. DEQ laboratory test results (49 pages) were received here on February 1, 1985. Telecon with Messrs. Smits and Gates on that date revealed the following:

a. All samples were tested for lead content. None were found to be above normal limits (page 1).

b. All samples were tested for fourteen different pesticides. None were found to be above normal limits (pages 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36).

c. All samples were scanned for organic chemicals other than priority pollutants (pages 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37). No unknowns were identified above detection limits on nine of these samples. On three sample, (pages 13, 28, 31), the compounds tentatively identified were those petroleum residues normally expected to be found in a tank farm. Estimated concentrations were so low that none were at all significant, simply present.

d. All samples were tested for priority pollutant chemicals (pages 2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35). No unknowns were identified above detection limits on eight of these samples. On one sample (page 11), only two trace elements were found. Both were in the 1 ppm quantity, which is not considered significant and certainly cannot be classed as a problem. On one sample (page 23), three residues of polynuclear aeromatics were found, again insignificant in quantity. On one sample (page 26), one more polynuclear aeromatic of insignificant quantity was found along with a small quantity (515 ppm) of pentachlorophenol and 12 ppm of tetrachlorophenol. It is my understanding that since this quantity (515 ppm) of pentachlorophenol is below 1000 ppm, it falls in the gray area of consideration regarding significance. The tetrachlorophenol is a part of commercial pentachlorophenol so its presense would naturally be expected. On one sample (page 29), pentachlorophenol (1820 ppm) and tetrachlorophenol (71 ppm) were found. This latter finding confirms our unitedly expressed (Koppers and Time Oil) concern and substantiates the need for corrective action as we had previously planned.

CURRENT

As of today, it appears that our (Koppers and Time Oil) initial plan of action remains valid. Progress has been made. Time and more favorable weather conditions should result in the contaminated soil being removed, necessary second soil tests being conducted and new soil being put in place without difficulty.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

JPD/ch

Portland operation

January 24, 1985

Mr. Gary Calaba
Environmental Analyst
Hazardous Waste Operations
Solid Waste Division
Department of Environmental Quality
522 Southwest Fifth Avenue
Box 1760
Portland, Oregon 97207

Subject: HW7.20
Koppers Storage Tanks
Located at 1200
North Burgard
Portland, Oregon

Dear Mr. Calaba:

Per our discussion of your December 18, 1984 correspondence to Mr. Jim Garrity of Koppers' St. Louis Office, we wish to advise that the material manifested under the provisional EPA Identification Number ORP 000008000 was generated from the cleanout of storage tanks no longer in use at the above referenced location. Since this cleanout is complete, I do not anticipate further use of this number.

Sincerely,

William J. Baldwin

WJB/bml

cc: Jim Garrity
bcc: ✔Templeton Smith- w/copy of Mr. Calaba's letter.
D. Marion

BZTO104(e)011082

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

December 18, 1984

CERTIFIED MAIL NO. P 497 014 602

Jim Garrity
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, MO 63110

Re: HW 7.20
Koppers Storage Tanks
Located at 1200 N. Burgard
Portland, Oregon

Dear Mr. Garrity:

On December 6, 1984, the Department assigned your company the provisional EPA Identification No. ORP 000008000 to allow you to move hazardous waste from your site at 12005 N. Burgard Street, Portland, OR 97203. This provisional number is only for this particular shipment and will be cancelled once the waste is accepted by the designated disposal facility, in this instance Chem-Security Systems at Arlington, Oregon.

For your permanent EPA I.D. No., please complete the blank form 8700-12 (enclosed) and return it to us within 10 calendar days of receipt of this letter. Please call me at area code (503) 229-6534 if you have questions.

Sincerely,

Gary Calaba
Environmental Analyst
Hazardous Waste Operations
Solid Waste Division

GJC:b
ZB4060
Enclosure(s)
cc: Northwest Region, DEQ
Al Goodman, EPA
Joyce Nunley, CSSI

i/ Temp

DEQ 1

BZTO104(e)011083

Portland operation

January 24, 1985

Mr. Gary Calaba
Environmental Analyst
Hazardous Waste Operations
Solid Waste Division
Department of Environmental Quality
522 Southwest Fifth Avenue
Box 1760
Portland, Oregon 97207

Subject: HW7.20
Koppers Storage Tanks
Located at 1200
North Burgard
Portland, Oregon

Dear Mr. Calaba:

Per our discussion of your December 18, 1984 correspondence to Mr. Jim Garrity of Koppers' St. Louis Office, we wish to advise that the material manifested under the provisional EPA Identification Number ORP 000008000 was generated from the cleanout of storage tanks no longer in use at the above referenced location. Since this cleanout is complete, I do not anticipate further use of this number.

Sincerely,

William J. Baldwin

WJB/bml

cc: Jim Garrity
bcc: ✔Templeton Smith- w/copy of Mr. Calaba's letter.
D. Marion

BZTO104(e)011084

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

December 18, 1984

CERTIFIED MAIL NO. P 497 014 602

Jim Garrity
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, MO 63110

Re: HW 7.20
Koppers Storage Tanks
Located at 1200 N. Burgard
Portland, Oregon

Dear Mr. Garrity:

On December 6, 1984, the Department assigned your company the provisional EPA Identification No. ORP 000008000 to allow you to move hazardous waste from your site at 12005 N. Burgard Street, Portland, OR 97203. This provisional number is only for this particular shipment and will be cancelled once the waste is accepted by the designated disposal facility, in this instance Chem-Security Systems at Arlington, Oregon.

For your permanent EPA I.D. No., please complete the blank form 8700-12 (enclosed) and return it to us within 10 calendar days of receipt of this letter. Please call me at area code (503) 229-6534 if you have questions.

Sincerely,

Gary Calaba
Environmental Analyst
Hazardous Waste Operations
Solid Waste Division

GJC:b
ZB4060
Enclosure(s)
cc: Northwest Region, DEQ
Al Goodman, EPA
Joyce Nunley, CSSI

Temp

DEQ-1

BZTO104(e)011085

JAN 25 1985 ✓cc Templeton Smith

KOPPERS

Interoffice Correspondence (Time Oil File) K-1400

To Bill Baldwin

Location K-750

Subject Penta Exposure - Time Oil

From James F. Garrity As info.

Location St. Louis

Date January 23, 1985 Bill B.

Attached are copies of letters sent to us by St. Johns Clinic. It seems that workers that were exposed to penta are getting physical exams.

Please review and advise if needed.

Jim

James F. Garrity

JFG/mp
Encl.
P.S. Temp Smith may be interested.

K-5 REV. 2

BZTO104(e)011086

ST. JOHNS CLINIC, P.C.
PHYSICIANS AND SURGEONS
GORDON F. WOLFE, M.D.
J. VICTOR VORE, M.D.
GORDON A. CARON, M.D.

8260 N. LOMBARD
PORTLAND, OREGON 97203
(503) 286-8808

January 17, 1985

Time Oil Co.,
Wood Treating Chemical Department,
Koppers' Company, Inc.,
5137 S. W. Avenue,
St. Louis, Missouri 63110.

Re: Donald Grosmick

Employer: Time's Oil Plant,
12005 No. Burgard,
Portland, Oregon

Dear Gentlemen:

On January 9, 1985 I examined Mr. Donald Grosmick. These are the results as oriented to your ten points that you recommended regarding his general physical examination for exposure to occupational chemicals.

The patient states he is not sure he has had any recent exposure to Pentachlorophenol. Examination of the skin revealed that he has some acne-like lesions of the back. However, these are of long-standing and he has had these since he was a teenager. They have not recently increased in size and are more scarring in nature than active acne. Examination of the nose and throat revealed no irritation. Examination of the eyes, particularly the cornea and the iris showed no abnormality. Blood pressure, sitting, was 122/90 and standing is 120/84. Examination of the abdomen revealed tenderness or enlargement of the liver. This was borne out on the SMAC-20 laboratory examination. Neurologic functions of the arms and legs were normal. The chest x-ray revealed no abnormalities of the bony thorax; the lungs were normal and the heart was normal in size and configuration. Urinalysis, microscopically, was negative for cells except for an occasional epithelial cell. The examination was negative for sugar and albumin. The SMAC-20 analysis, including blood sugars were all normal.

I hope this information will be of benefit to you.

Sincerely yours,

Gordon F. Wolfe

Gordon F. Wolfe, M.D.

GFW/transdata

ST. JOHNS CLINIC, P.C.
PHYSICIANS AND SURGEONS
GORDON F. WOLFE, M.D.
J. VICTOR VORE, M.D.
GORDON A. CARON, M.D.

8250 N. LOMBARD
PORTLAND, OREGON 97203
(503) 286-5808

January 17, 1985

Time Oil Co.,
12005 No. Burgard Road,
Portland, Oregon 97218.

Re: Physical Examination
Mike DeLaschmit
Date: January 7, 1985

Dear Gentlemen:

Mr. Mike DeLaschmit was examined by me at your request on January 7, 1985.

The interim history was that the patient had increasing fatigue in the fall of 1984 and saw his family physician who advised him that his physical examination by him was normal but that he required more rest.

The patient has not been exposed to Pentochlorophenol or any other chemicals recently and is presently feeling in good condition. The patient smokes one pack of cigarets a day.

General physical examination was performed by me and the ten items listed that you want particular emphasis to be expressed were done, and in summary his skin examination was normal. There was no irritation of the nose or throat. Examination of the eyes and cornea was normal. The blood pressure, while standing, was 112/76 and while sitting, 122/74. Examination of the abdomen revealed no masses and no abnormalities. The liver was not enlarged to palpation and there was no spleen palpable. Neurologic examination of the arms and legs, and the rest of the body was normal. The chest x-ray revealed no abnormality of the bony skeleton nor of the heart size which was normal. The lungs showed no abnormality. Urinalysis: microscopic examination showed just an occasional epithelial cell. There was no blood or pus, or white blood cells present. Examination for sugar and albumin was negative.

The blood chemistry analysis in the form of an SMA-20 was performed and all 20 items checked were normal.

In summary, this patient is presently, when examined by me, with special emphasis on the items mentioned by your company, found to be generally in good health. Despite his smoking one package of cigarets for many years, his timed vital capacity was above normal. However, we still suggested to the patient that he avoid smoking, if possible.

I hope this information will be of help to you.

Sincerely,

Gordon F. Wolfe, M.D.

GFW/transdata

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

Time Oil File - Portland Ore.

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

January 16, 1985

Templeton Smith
Law Department
Koppers Co. Inc.
Pittsburg, PA 15129

Dear Mr. Smith:

Per your request, attached is copy of plot plan 1140 showing location at our Northwest terminal where the Department of Environmental Quality sampled the ground within the diked area in which Pentachlorophenol operations were conducted. Sample was a composite of surface, one foot and two foot depths.

It was a pleasure to meet you in St. Louis last week.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Attachment a/s

JPD/ch

BZTO104(e)011090

Time Oil file

George McGinley

Pittsburgh, PA

Operating Agreement
Portland, Oregon

Real Estate Section

Pittsburgh, PA

January 16, 1985

Time Oil Co. and Wood Treating Chemical Co. (now Koppers) entered into an operating agreement and lease of tanks dated March 1, 1967 for a five-year term to March 1, 1972. The agreement was renewed to March 1, 1982 and Koppers continued to operate thereafter on a verbal month-to-month basis.

The agreement was recently canceled and all outstanding problems resolved. Accordingly, it is in order for you to sell, to the highest bidder, the five Koppers tanks shown on copy of letter dated May 5, 1972, which you have.

T. F. McGuire

TFM/sjd

cc: J. Palmer

D. Marion
T. Smith

BZTO104(e)011091

M E M O R A N D U M

January 15, 1985

TO: File
Robert Abendroth (info) Seattle
Neil Wallis (info) Portland

FROM: John Denham Seattle

SUBJECT: WOODTREATING AT NORTHWEST TERMINAL

On October 3, 1983, Neil Gallagher, Neil Wallis and I (TOC) met with John Palmer and Bill Baldwin (Koppers) at Northwest terminal to establish phaseout actions necessitated by the March 31, 1982 contract termination between the two companies. A verbal agreement was reached.

On January 11, 1985, Robert Abendroth, Neil Wallis and I (TOC) met with Koppers Co. personnel in St. Louis, Missouri. Present from Koppers were Templeton Smith (Counsel); Don Marion, Jim Garrity and Jeff Stern (Operations) and Bill Baldwin (Environmental). Purpose of meeting was to provide an update on actions taken thus far and to resolve any differences regarding closure of work site at Northwest terminal.

Accomplishments to date have been:	Action Co.
a. Bulk Pentochlorophenol operations ceased.	Both
b. On-hand inventory blended off and shipped out.	Both
c. All tanks and piping cleaned.	Koppers
d. Waste from cleaning shipped to Arlington.	Koppers
e. Piping removed and scrapped.	TOC
f. TOC tanks removed and scrapped.	TOC
g. Warehouse steam cleaned.	TOC

Remaining to be accomplished are:	Action Co.
a. Removal of Koppers owned tanks.	Koppers
b. Contaminated soil removal and replacement.	Both
c. Cost sharing of contaminated soil problem.	Both

It is my understanding that Northwest Vacuum Truck Service will remove Koppers owned tanks immediately on receipt of tank release from Koppers.

Soil removal efforts, as planned on October 3, 1983, have been temporarily thwarted due to Department of Environmental Quality (DEQ) December 12, 1984 intrusion on another matter. The DEQ took one soil sample within the diked area where Koppers operation took place. We must now await receipt of DEQ laboratory reports on this sample to determine extent of soil removal needed. Soil removal plan remains the same - remove and dispose of discolored soil (about one foot deep), sample ground below that point and either continue removal until no further contaminated soil is found or stop when that point is reached and refill area with clean soil. While we are waiting for DEQ laboratory reports, Neil Wallis will obtain estimated soil removal and disposal costs from Northwest Vacuum Truck Service, Chem-Security and Environmental Emergency Services on a cubic yard basis.

Once extent of soil removal and its related costs become known, it is my understanding that Robert A. will coordinate with Koppers and settle the cost sharing matter. Job can then be completed.

JPO/ch

COPYRIGHT 1985 D&B INC. - PROVIDED UNDER CONTRACT
FOR THE EXCLUSIVE USE OF SUBSCRIBER 016[illegible]5933L.

ATTN: TEMPLETON SMITH

IN DATE

DUNS: 00-959-1207
TIME OIL CO (INC)
JACKPOT
SAV-MOR
GAS MART
QUICKY MART
TIME SAV-OR

BOX 24447
SEATTLE WA 98111
2737 W COMMODORE WAY
AND BRANCH(ES) OR DIVISION(S)
SEATTLE WA 98199
TEL: 206 285-2400

DATE PRINTED
JAN 09 1985

RET GASOLINE WHOL
PETROLEUM PRODUCTS

SIC NOS.
55 41 51 72

SUMMARY
RATING 4A1

STARTED 1941
PAYMENTS SEE BELOW
SALES $170,000,000 (PROJ)
WORTH F $47,387,352
EMPLOYS 337(75 HERE)
HISTORY CLEAR
CONDITION STRONG

CHIEF EXECUTIVE: RAYMOND D ABENDROTH, CHB/PRES

PAYMENTS (AMOUNTS MAY BE ROUNDED TO NEAREST FIGURE IN PRESCRIBED RANGES)

REPORTED	PAYING RECORD	HIGH CREDIT	NOW OWES	PAST DUE	SELLING TERMS	LAST SALE WITHIN
11/84	PPT	500	-0-	-0-		2-3 MOS
	PPT	100	-0-	-0-		2-3 MOS
	PPT	50	-0-	-0-		6-12 MOS
	PPT	50	-0-	-0-	1 10 N30	6-12 MOS
	(005)	50	-0-	-0-		2-3 MOS
10/84	ANTIC	100	-0-	-0-		2-3 MOS
	DISC-PPT	2500	-0-	-0-		4-5 MOS
	PPT	1000000	80000	70000		1 MO
	PPT	500000				
	PPT	400000	400000	-0-		1 MO
	PPT	300000	200000	-0-		1 MO
	PPT	70000	-0-	-0-		6-12 MOS
	PPT	2500	2500	-0-	1 10 N30	1 MO
	PPT	1000	-0-	-0-		6-12 MOS
	PPT	500	500	-0-		1 MO
	PPT	250	-0-	-0-	2 10 PROX	
	PPT	250	250	-0-		1 MO
	PPT	250	-0-	-0-		6-12 MOS
	PPT	100	-0-	-0-	2 10 PROX	
	PPT	100	-0-	-0-	N7	6-12 MOS
	PPT	100	50	-0-		1 MO
	PPT	50	50	-0-	N7	1 MO
	PPT-SLOW 30	250	250	50	N7	1 MO
	PPT-SLOW 45	15000	15000	2500		1 MO
	PPT-SLOW 90	2500	500	500		4-5 MOS
09/84	DISC	15000	15000	-0-		2-3 MOS
08/84	DISC	100	-0-	-0-	2 10 PROX	6-12 MOS

	PPT-SLOW 30	250	-0-	-0-	2 10 N30	2-3 MOS
	SLOW 15	1000	-0-	-0-		
07/84	DISC	15000	-0-	-0-		
	DISC	10000	-0-	-0-	1 10 N30	6-12 MOS
	SLOW 5	100				
	SLOW 10	250				
	SLOW 10	100				
	SLOW 20	50				
06/84	DISC	100	-0-	-0-		6-12 MOS
05/84	PPT	50000	-0-			4-5 MOS
	PPT	2500	2500	-0-		1 MO
	PPT	50			N30	
	PPT-SLOW 45	10000			N30	
03/84	(041)	40000	20000	-0-		2-3 MOS
01/84	PPT	500	250	-0-	N30	1 MO
	PPT	500	-0-	-0-		6-12 MOS
	SLOW 5	100	-0-	-0-		
	(045)	7500	-0-	-0-		6-12 MOS
12/83	(046)	50				2-3 MOS

PAYMENT EXPERIENCES REFLECT HOW BILLS ARE MET IN RELATION TO THE TERMS GRANTED. IN SOME INSTANCES PAYMENT BEYOND TERMS CAN BE THE RESULT OF DISPUTES OVER MERCHANDISE, SKIPPED INVOICES ETC.

FINANCE

* A FINANCIAL SPREAD SHEET OF COMPARATIVES, RATIOS, AND INDUSTRY AVERAGES MAY BE AVAILABLE. ORDER A DUNS FINANCIAL PROFILE VIA YOUR DUNSPRINT TERMINAL OR LOCAL D&B OFFICE *

10/26/84

	FISCAL DEC 31 1980	FISCAL DEC 31 1982	FISCAL DEC 31 1983
CURR ASSETS	34,166,195	38,860,356	45,342,750
CURR LIABS	24,862,574	23,410,752	29,680,686
CURRENT RATIO	1.37	1.66	1.52
WORKING CAPITAL	9,303,621	15,449,604	15,662,064
TOTAL ASSETS	61,132,068	71,090,120	81,144,100
WORTH	34,237,490	44,962,884	47,387,352

SUBMITTED APR 16 1984 BY JAMES D MASON, EXEC VICE PRESIDENT. PREPARED FROM STATEMENT(S) BY ACCOUNTANT: ERNST & WHINNEY.

ACCOUNTANTS OPINION: "A REVIEW OF THE ACCOUNTANTS OPINION INDICATES THAT THE AUDIT MEETS GENERALLY ACCEPTED ACCOUNTING PRINCIPLES AND CONTAINS NO QUALIFICATIONS.".

--0--

THE DECEMBER 31 1983 FINANCIAL STATEMENT WAS REVIEWED BY REPORTER. CURRENT ASSETS CONSIST PRIMARILY OF CASH. OTHER ASSETS CONSIST OF FIXED ASSETS AND INVESTMENT IN SUBSIDIARIES. CURRENT LIABILITIES CONSIST LARGELY OF ACCOUNTS PAYABLE AND NOTES PAYABLE TO BANKS. LONG TERM DEBT CONSISTS OF MORTGAGES ON PROPERTY. THERE ARE NO INTANGIBLES OR CONTINGENT DEBT INDICATED. LIQUID ASSETS APPROXIMATE TOTAL DEBT.

ON OCT 25 1984 JAMES D MASON, EXEC VICE PRESIDENT, REFERRED TO THE ABOVE FIGURES.

HE SUBMITTED THE FOLLOWING PARTIAL ESTIMATES DATED OCT 25 1984:

PROJECTED ANNUAL SALES ARE $ 170,000,000.

FINANCIAL CONDITION IS STRONG. EQUITY HAS INCREASED THROUGH

RETENTION OF EARNINGS.

PUBLIC FILINGS
UCC FILING
10/26/84 FINANCING STATEMENT #833460097 FILED 12-12-83 WITH SECRETARY, STATE OF WA. DEBTOR: JACKPOT, SEATTLE, WA. SECURED PARTY: SEVEN-UP BOTTLING CO, SPOKANE, WA. COLLATERAL: SPECIFIED EQUIPMENT.

BANKING
10/84 ACCOUNT OPEN OVER THREE YEARS. LOAN(S) UNSECURED. PAYMENTS AS AGREED. RELATIONS SATISFACTORY. SHORT TERM CREDIT LINES ARE AVAILABLE IN EIGHT FIGURE AMOUNTS.

HISTORY
10/26/84

+RAYMOND D ABENDROTH, CHB PRES
JAMES D MASON, EX V PRES-FIN TREAS
H ROGER HOLLIDAY, V PRES-SUPPLY
BEN TSUCHIDA, V PRES SEC
ALBERT SCHNEIDER, V PRES-PPTY RE
C EDWARD MILLER JR, DIR CORP POL/PLAN

DIRECTOR(S): THE OFFICERS IDENTIFIED BY (+)

INCORPORATED WASHINGTON NOV 29 1941. AUTHORIZED CAPITAL CONSISTS OF 2,000,000 SHARES COMMON STOCK, $.25 PAR VALUE.

BUSINESS STARTED 1941 BY PRESENT CONTROL. 95% OF CAPITAL STOCK IS OWNED BY MILLER AND ABENDROTH FAMILIES. 5% OF CAPITAL STOCK IS OWNED BY KEY EMPLOYEES.

ABENDROTH BORN 1910 MARRIED. 1931-41 WITH CASCADE PETROLEUM COMPANY (INC), SEATTLE, WA. 1941 TO PRESENT ACTIVE HERE.

TSUCHIDA BORN 1931. 1952-57 A STUDENT. 1957 TO PRESENT EMPLOYED BY TIME OIL CO (INC) AND ELECTED TO PRESENT POSITION IN 1966.

SCHNEIDER BORN 1925 MARRIED. 1950 TO PRESENT ACTIVE HERE.

MASON BORN 1925. 1949 TO PRESENT ACTIVE HERE AND IS CHIEF FINANCIAL OFFICER.

HOLLIDAY BORN 1939. 1969 TO PRESENT ACTIVE WITH TIME OIL CO (INC) AND BECAME VICE PRESIDENT IN 1977.

MILLER BORN 1943. COMPANY FOUNDER'S SON AND ACTIVE IN SUBJECT COMPANY ALL OF HIS WORKING CAREER.

OPERATION
10/26/84 RETAILS GASOLINE AND LUBRICATION OIL (72%). WHOLESALES PETROLEUM PRODUCTS INCLUDING GASOLINE, FUEL OIL, DIESEL OIL, AND LUBRICATION OILS (26%). THE COMPANY HAS 225 COMPANY OPERATED GAS STATIONS. SUBJECT IS ALSO A TERMINAL OPERATOR ON THE WEST COAST STORING PETROLEUM PRODUCTS FOR OTHERS (2%). 3.4 million of total sales
SELLS FOR CASH 70% BALANCE ON NET 30 DAYS. HAS 500 ACCOUNTS. SELLS TO GENERAL PUBLIC, DISTRIBUTORS AND OIL COMPANIES. TERRITORY :WASHINGTON, OREGON, CALIFORNIA, NEVADA, AND IDAHO. NONSEASONAL.

EMPLOYEES: 337 INCLUDING OFFICERS. 75 EMPLOYED HERE.

FACILITIES: OWNS 40,000 SQ. FT. IN TWO STORY FRAME BUILDING IN GOOD CONDITION.

LOCATION: INDUSTRIAL SECTION ON SIDE STREET. THE FACILITY IS LOCATED ON THE LAKE WASHINGTON SHIP CANAL AND HAS DOCK AND STORAGE CAPACITY OF 185,000 BARRELS AT THIS LOCATION WITH A TOTAL OF 2,571,000 BARRELS FOR ALL TERMINAL LOCATIONS COMBINED.

BRANCHES: A DIVISION OFFICE IS LOCATED AT 5150 WILSHIRE BLVD, LOS ANGELES, CA. OTHER TERMINAL/STORAGE LOCATIONS ARE AT RICHMOND, CA; STOCKTON, CA; RENO, NV; 12005 N BURGARD AND 9400 ST HELENS ROAD IN PORTLAND, OR; BELLINGHAM, WA; AND 250 E "D" ST, TACOMA, WA.

SUBSIDIARIES: U S OIL & REFINING CO (INC), TACOMA, WA. 55% OWNED. A DELAWARE CORPORATION CHARTERED IN 1952. OPERATES A REFINERY. RELATED THROUGH STOCK OWNERSHIP OF OFFICERS AND CORPORATION. INTERCOMPANY RELATIONS GENERALLY CONFINED TO SERVICES PERFORMED BY ONE COMPANY FOR THE OTHER AND MERCHANDISE TRANSACTIONS ON REGULAR NET 30 DAY TERMS.

NORTHWEST TERMINAL CO (INC), SEATTLE, WA. STARTED 1943. OPERATES AS A REAL ESTATE HOLDING COMPANY AND AUTOMOTIVE EQUIPMENT RENTALS. PARENT OWNS 100% OF STOCK. INTERCOMPANY RELATIONS CONSIST OF SUBSIDIARIES LEASING PROPERTY TO PARENT ON REGULAR NET 30 DAY TERMS.

TIME OIL DRILLING CO (INC), SEATTLE, WA. STARTED 1975. INACTIVE. INTERCOMPANY RELATIONS: MANAGEMENT SERVICES.

01-09(190 /78) 2110 1 050 H

RAINIER NATIONAL BANK, SEATTLE, WA

****
* THE FOLLOWING D&B PRODUCT MAY ALSO BE AVAILABLE ON THIS COMPANY: *
*
* GOVERNMENT ACTIVITY REPORT *
*
* THIS REPORT IS AVAILABLE BY TELEPHONE READOUT THROUGH DUNSDIAL, ON-LINE *
* ACCESS VIA DUNSPRINT OR BY USING YOUR INQUIRY TICKET. *
****

FULL DISPLAY COMPLETE

CHEM-SECURITY SYSTEMS, INC.
P.O. Box 1269 • Portland, Oregon 97207-1269 • (503) 223-1912
CSSI

May 28, 1985

Neil E. Wallis
Time Oil Company
2737 W. Commodore Way
Seattle, Washington 98199

Dear Mr. Wallis:

Enclosed are two copies of our Waste Transportation and Disposal Agreement. Please sign both copies and return both copies to me at the above address. I will then forward your fully-executed copy. We appreciate your business and look forward to serving your hazardous waste needs.

Please feel free to call if you have any questions.

Sincerely,

CHEM-SECURITY SYSTEMS, INC.

Joyce Johnson

Joyce Johnson
Inside Sales Representative

JJ:lh
Enclosures

Encl. 9

WASTE TRANSPORTATION AND DISPOSAL AGREEMENT

On this 24th day of May, 19 84, the parties, Time Oil Co., a Washington corporation with its principal offices at 2737 W. Commodore Way, Seattle, WA 98199 (hereinafter called "Generator"), and CHEM-SECURITY SYSTEMS, INC., a Washington corporation with its principal offices at 10602 N. E. 38th Place, Kirkland, Washington 98033 (hereinafter called "Disposer"), have agreed as follows:

1. WASTE PRODUCTS. The term "Waste Products" refers to those solid, liquid, semi-solid, or contained gaseous materials which are generally described in, and which have physical, chemical, biological or radioactive constituents, characteristics and properties within the specifications stated in, the Supplemental Information Document. The term "Waste Products" also includes containers described in the Supplemental Information Document, if they are to be supplied by the Generator. The term "unit of Waste Products" refers to a single whole container of Waste Products (such as a barrel, drum, box, or tanker load).

   Materials and containers shall be considered nonconforming: (i) if they are not in accordance with the warranties, descriptions, specifications or limitations stated in this agreement and the Supplemental Information Document, or (ii) if they have material constituents or components, not specifically identified in the Supplemental Information Document, (a) which materially increase the nature or extent of the hazard and risk undertaken by CSSI in agreeing to handle, load, transport, store, treat or dispose of the Waste Products, or (b) for whose storage, treatment or disposal the Disposal Facility is not designed or permitted.

2. SUPPLEMENTAL INFORMATION DOCUMENT. Where "the Supplemental Information Document" is referred to in this Agreement, the parties understand that such term refers to each single entire document, in that form specified in Exhibit A, (which exhibit is attached hereto and made part hereof), containing the information therein required and executed by the Generator and Disposer. Each Supplemental Information Document shall be numbered in chronological sequence. A Supplemental Information Document, prepared and executed as herein required, shall be considered incorporated into this Agreement and part hereof as of the date and time of Document execution. It is the intention of the parties that each Supplemental Information Document, when incorporated into this Agreement, constitutes a separate undertaking, individually enforceable.

c 1980, WASTE MANAGEMENT, INC.

BZTO104(e)011099

A Supplemental Information Document, or any amendment thereto, shall be executed, on behalf of Disposer or Generator, only by such persons appointed as authorized agents of the parties for such purposes, which persons are identified, by name or specific position title, in Exhibit B. attached hereto and made part hereof. Either party may, by notice to the other, amend its list of authorized agents, which shall constitute an amendment to Exhibit B at the time such notice is received.

At any time during the term of a Supplemental Information Document, upon the written request of Disposer, the Generator shall: (a) supply an updated written description of the Waste Products or a written certification that the description previously supplied remains true and accurate; or, (b) supply a written certification that a particular load of Waste Products delivered to Disposer constituted a representative sample of the Waste Products described in the Supplemental Information Document; or, (c) supply a representative sample of the Waste Products together with a written certification of the sample's representativeness; or, (d) allow Disposer access to the Waste Products at Generator's facility for the purpose of obtaining one or more representative samples. Forms to be used in providing written Waste Products descriptions, recertifications of previous descriptions, or certifications of representative Waste Products samples shall be supplied by Disposer.

3. TENDER OF DELIVERY. Generator shall tender delivery of the Waste Products to Disposer at those times and places, in those quantities, and in the manner specified in the Supplemental Information Document. Generator shall, at the same time and place, tender to Disposer those completed documents, shipping papers or manifests as are required, for lawful transfer of the Waste Products to Disposer, by valid and applicable statutes, ordinances, orders, rules or regulations of the federal, state, or local governments, including, but not limited to, the Hazardous Materials Transportation Act, the Toxic Substances Control Act and the Resource Conservation and Recovery Act of 1976.

Tender of delivery shall be considered non-conforming if not in accordance with this Section and the specifications of the Supplemental Information Document, or if not preceded by such notification as required by Section 16 (f).

4. DISPOSER RIGHT TO INSPECTION UPON TENDER. Disposer shall have the right, but not the obligation, to inspect, sample, analyze, or test any tendered Waste Products before accepting such products. Failure or refusal of the Generator to provide Disposer with access to any tendered or delivered Waste Products, prior to Disposer's acceptance, shall be deemed a non-conforming tender or delivery of all of the Waste Products tendered or delivered at that time and place. Disposer's

exercise of, or failure to exercise, its right hereunder shall not operate to relieve Generator of its responsibility or liability under this Agreement.

5. DISPOSER RIGHTS ON IMPROPER DELIVERY. If the Waste Products, any unit thereof, or the tender of delivery fail in any respect to conform to this Agreement, including the requirements of the Supplemental Information Document, Disposer may, at its exclusive option, (i) reject all Waste Products tendered; or, (ii) accept all Waste Products tendered; or, (iii) accept any unit or units of Waste Products and reject the rest. Provided, however, if a particular unit of Waste Products is determined to be non-conforming solely because of a patent non-conformity in the container, its labeling or marking, which non-conformity, if present in any other tendered container, would be visibly apparent, Disposer's option shall be limited to accepting or rejecting the particular non-conforming unit.

Rejection of the Waste Products must be within a reasonable time after their tender or delivery, not to exceed twenty-four (24) hours. In rejecting any Waste Products, Disposer shall orally notify the Generator of the manner in which the Waste Products or the tender of delivery are non-conforming, such notice to be followed by written notice within five (5) business days.

6. ACCEPTANCE OF WASTE PRODUCTS. Disposer shall accept any Waste Products which are in conformance with, and which have been tendered in conformance with, this Agreement, including the Supplemental Information Document, and may accept, as provided in Section 5, non-conforming Waste Products. If transportation is to be provided by Disposer, Disposer shall evidence its acceptance by removing such Waste Products from the place of tender. If transportation to the Storage or Disposal Facility is to be provided by Generator, Disposer shall evidence its acceptance by written notice to the Generator, such as through signing shipping papers or the manifest tendered with the Waste Products.

Failure of Disposer to reject the Waste Products, or any unit thereof, as provided in Section 5 shall be deemed acceptance of all tendered Waste Products not so rejected.

Upon acceptance of the Waste Products Disposer shall be precluded from rejecting those Waste Products accepted and, if acceptance of any unit of Waste Products was made with actual knowledge of a non-conformity, Disposer shall be precluded from revoking its acceptance of such unit because of such non-conformity. Acceptance of the Waste Products, or any unit thereof, does not, however, impair, or operate as a waiver of, any right or remedy available to Disposer, including revocation of acceptance, in the event the Waste Products or

their tender are later discovered to be non-conforming.

7. REVOCATION OF ACCEPTANCE. Disposer may, at any time before the condition of the Waste Products has been materially changed (such as by treatment, processing or disposal), revoke its acceptance of any unit or units of Waste Products discovered to be non-conforming.

Discovery by Disposer that any unit of the Waste Products is non-conforming for any reason shall be considered discovery that all units of such Waste Products, accepted at the same time as the non-conforming unit, are non-conforming for the same reasons. Provided, if a particular unit of Waste Products is determined to be non-conforming solely because of a patent non-conformity in the container, its labeling or marking, which non-conformity, if present in any other accepted container, would be visibly apparent, Disposer's option shall be limited to revoking acceptance of the particular non-conforming unit.

Revocation must occur within a reasonable time after Disposer actually discovers or should have discovered the non-conformity. In revoking its acceptance of any Waste Products, Disposer shall notify the Generator of the manner in which the Waste Products are non-conforming.

7a GENERATOR'S OPTIONS IN EVENT OF REJECTION OF REVOCATION OF ACCEPTANCE.
In the event Disposer rejects or revokes its acceptance of Waste Products, and at such time the Waste Products are in Disposer's possession or control, Generator may, within five (5) business days after receipt of notice, notify Disposer of Generator's intent to test the Waste Products, to verify the alleged non-conformity, or to correct any improper containerization, marking or labeling. Generator may, if lawfully permitted, direct Disposer to arrange for such testing or corrections, pursuant to Generator's instructions and at Generator's cost. All testing or corrections must be completed within twenty-one (21) days of Generator's receipt of the rejection or revocation notice. During the period of any testing or corrections, the duty of Disposer with respect to the Waste Products shall be that of a bailee for hire.

Upon mutual agreement of the parties that the Waste Products or any unit are not conforming for the reasons specified in Disposer's notice, the notice of rejection or revocation as to such Waste Products or unit shall be deemed null and void as of the time of its original issuance.

8. DISPOSER OPTIONS AS TO RIGHTFULLY REJECTED OR REVOKED WASTE PRODUCTS.
If Disposer rejects or revokes its acceptance of all or any units of Waste Products, and at such time the Waste Products

are in Disposer's possession or control, Disposer and Generator shall, in good faith, attempt to amend the Supplemental Information Document to provide for handling of the non-conforming materials. If the parties cannot, within a reasonable time after rejection or revocation (including any time provided for correction or testing in Section 7a), agree on necessary amendments, Generator shall make prompt arrangements for the removal of the non-conforming materials from the Storage or Disposal Facility to another lawful place of disposition.

Generator agrees to pay Disposer its reasonable expenses and charges for handling, loading, stowing, preparing for transport, transporting, storing and caring for any Waste Products returned to Generator pursuant to this Section.

9. LOADING AND TRANSPORTATION OF WASTE PRODUCTS. If the Supplemental Information Document specifies that Disposer is to provide loading or transportation services, Disposer shall load or stow and transport Waste Products to the Storage or Disposal Facility herein specified. In the aforesaid event, as between the parties, selection of transportation vehicles or vessels, times of travel and routes shall be solely determined by Disposer unless otherwise specified in the Supplemental Information Document. In selecting transportation vehicles or vessels compatible with the Waste Products, Disposer shall rely on Generator's description of the Waste Products.

10. STORAGE AND DISPOSAL. Disposer shall dispose of the Waste Products at the particular facility or facilities, referred to herein as "the Disposal Facility", identified in the Supplemental Information Document. Disposer shall utilize those general storage, treatment, and disposal methods specified in the Supplemental Information Document; however, as between the parties, Disposer shall be solely responsible for determining the specific times and techniques for storage, processing, treatment and disposal of the Waste Products. In determining such techniques, Disposer shall rely on Generator's description of the Waste Products.

If the Supplemental Information Document specifies that Disposer is to provide interim storage of the Waste Products at a "Storage Facility", prior to transportation of the Waste Products to the Disposal Facility, Disposer shall store such Waste Products at such Storage Facility for a period not to exceed ninety (90) days, unless some other period is specified in the Supplemental Information Document.

Disposer may use, distribute or sell any of the Waste Products, or any component or residue thereof, unless otherwise specified in the Supplemental Information Document.

11. TITLE TO WASTE PRODUCTS. At the time Disposer accepts the Waste Products and takes possession and control thereover, title, risk of loss and all other incidents of ownership to the Waste Products shall be transferred from the Generator and vested in Disposer.

A justified revocation of acceptance by Disposer revests title to the Generator, including risk of loss and all other incidents of ownership, at the time such revocation of acceptance is communicated to the Generator.

12. TERM. The term of this Agreement shall be as specified in the Supplemental Informtion Document, to commence on the date of execution of such Document, as provided in Section 2.

13. RIGHT TO TERMINATE. Either party may terminate this Agreement if the other party (i) has been adjudicated a bankrupt, or (ii) has filed a voluntary petition in bankruptcy, or (iii) has made an assignment for the benefit of creditors, or (iv) a receiver has been appointed for such party. Termination pursuant to this paragraph shall be effective for performance remaining under any and all Supplemental Information Documents.

The Generator may terminate this Agreement, with respect to performance remaining under an identified Supplemental Information Document, if, at any time after execution of such document, the specified Storge or Disposal Facility fails to obtain, or maintain as valid, any license, permit or approval required to allow lawful acceptance and storage, treatment, processing and disposal of the Waste Products at such Facility.

Termination as provided above, or as allowed by Section 22, shall be by notice from the terminating party to the other party, specifying the reason therefor and the effective date thereof, which shall be not less than five (5) days after the date of the notice.

Either party may terminate this Agreement without cause, with respect to performance remaining under an identified Supplemental Information Document, by notice from the terminating party to the other party specifying the effective date of termination which shall be not less than thirty (30) days after receipt of the notice by the non-terminating party.

The right of terminating hereunder is in addition to, and not in lieu of, any right of a party to cancel this Agreement for breach of its terms or conditions.

14. COMPENSATION. For all of the Waste Products transported, stored and disposed of by Disposer, the Generator shall pay Disposer a fee, determined in accordance with the Supplemental Information Document. Disposer shall measure the Waste Products, for the purpose of computing fees, at the time and

place, and in the manner, specified in the Supplemental Information Document. Disposer determinations so made shall govern unless proved to be in error by Generator.

Fees specified in the Supplemental Information Document shall not be altered during the term of this Agreement except as follows:

(a) Disposer may, on the first day of any calendar quarter, with thirty (30) days written notice to Generator, increase or decrease fees specified in the Supplemental Information Document. If any Waste Products, to which such fee alterations apply, are delivered to Disposer more than thirty days after Generator's receipt of this notice, Generator shall be deemed to have accepted such fee alterations and the Supplemental Information Document shall be deemed amended in such respect.

(b) If legislation or regulations, first implemented after date of execution of the Supplemental Information Document, impose taxes, tariffs, fees, surcharges or other charges upon the transportation, storage, processing, treatment or disposal of the Waste Products, the Generator shall reimburse the Disposer for such charges upon the Disposer's submission of an invoice stating that such charges have been levied or paid.

The Disposer shall submit statements to the Generator which shall be paid by the Generator not later than thirty (30) days from date of receipt. Disposer shall retain copies of such statements for a period of at least five (5) years as a record of disposal.

15. DISPOSER WARRANTIES. Disposer warrants and represents to the Generator that:

(a) Disposer understands the currently known hazards and risks which are presented to human beings, property and the environment in the handling, transportation, storage, treatment, processing and disposal of the Waste Products as they have been described by the Generator in the Supplemental Information Document; and,

(b) Disposer is engaged in the business of transportation, storage and disposal of industrial and other wastes, and has developed the requisite expertise for the handling, transportation, storage, treatment, processing, and diposal of such; and,

(c) Disposer will handle, load, stow, transport, store, treat, process, and dispose of the Waste Products in a safe and workmanlike manner and in full compliance with all valid and applicable statutes, ordinances, orders,

rules and regulations of the federal, state and local governments in whose jursidictions such activities are performed under this Agreement; and,

(d) Any and all vehicles or vessels, Waste Products containers and personnel to be provided by Disposer in the performance of this Agreement have obtained or will obtain all permits, licenses, certificates or approvals required to comply with valid and applicable statutes, ordinances, orders, rules and regulations of the federal, state and local governments.

(e) The Storage or Disposal Facility (or Facilities) described in the Supplemental Information Document has been issued, as of the date of execution of such Document, all permits, licenses, certificates or approvals, required by valid and applicable statutes, ordinances, orders, rules and regulations of the federal, state and local governments in which such Facility is located, necessary to allow such Facility to accept and store, treat, process and dispose of the Waste Products as described by the Generator in such Document. Disposer shall provide Generator with reasonable advance notice if any such permit, license, certificate or approval is to expire and not be renewed during the term of a Supplemental Information Document, or becomes the subject of judicial or administrative action seeking revocation or suspension. Such notice shall also be provided if Disposer determines not to seek any necessary permit, license, certificate or approval which becomes required after execution of a Supplemental Information Document.

16. GENERATOR WARRANTIES. The Generator warrants and represents to Disposer that:

(a) The description of the Waste Products in the Supplemental Information Document is true and correct in all material respects, fairly advises Disposer of the hazards and risks known by the Generator to be incident to the handling, transportation, storage, treatment, processing and disposal of the Waste Products, and is otherwise in full compliance with all materials description requirements of valid and applicable statutes, ordinances, orders, rules and regulations of the federal, state and local governments in whose jurisdictions such Waste Products are to be handled, transported, stored, treated, processed or disposed; and,

(b) Waste Products tendered to Disposer will conform to the descriptions and specifications contained in the Supplemental Information Document; and,

(c) If Generator receives information, during the term of any Supplemental Information Document, that Waste Products described in such Document, or some component of such Products, present or may present a hazard or risk to persons or the environment, which was not disclosed in the Supplemental Information Document, Generator shall promptly report such information to Disposer. Such information shall include, but not be limited to, any relevant notification of substantial risk required to be given by Generator pursuant to Section 8 (e) of the Toxic Substances Control Act;

(d) If any load of Waste Products, tendered to Disposer for transportation in a single transportation vehicle, contains a reportable quantity of one or more hazardous substances, as provided in Section 102 of the Federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or regulations adopted thereunder, Generator will, prior to tendering such load to Disposer, provide the person in charge of the Disposer transport vehicle with written notice that the load contains a reportable quantity of such hazardous substance(s), identifying the known or estimated quantity of each such hazardous substance present.

(e) Generator will prepare the Waste Products for transportation and tender to Disposer in accordance with all valid and applicable statutes, ordinances, orders, rules and regulations of the federal, state and local governments in whose jurisdiction such Waste Products are to be tendered to Disposer pertaining to: (i) container specifications for any container not supplied by Disposer; and, (ii) marking and labeling of all containers.

(f) If regulations promulgated or revised under Section 3001 of the Resource Conservation and Recovery Act of 1976 (P. L. 94-580) identify the Waste Products as "hazardous waste," either by characteristics or listing, the Generator, prior to tendering any Waste Products to Disposer has filed or will file with the appropriate governmental agency the preliminary notification required by Section 3010(a) of the above Act, and provide Disposer with evidence thereof.

(g) The Generator has sole title to Waste Products which will be tendered to Disposer, and is under no legal restraint, statutory, regulatory, administrative or judicial, which prohibits the transfer of possession or title to such Waste Products to Disposer.

17. INDEMNIFICATION. Disposer agrees to indemnify and save harmless the Generator, its present and future officers or

directors (or officials), employees and agents, from and against any and all liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, and costs and expenses incidental thereto, (including cost of defense, settlement, and reasonable attorney's fees), which any or all of them may hereafter suffer, incur, be responsible for or pay out as a result of bodily injuries (including death) to any person, damage (including loss of use) to any property (public or private), contamination of or adverse effects on the environment, or any violation or alleged violation of statutes, ordinances, orders, rules or regulations of any governmental entity or agency, directly or indirectly caused by, or arising out of breach of any warranties by Disposer, or any negligent or willful act or omission of Disposer, its employees or subcontractors in the performance of this Agreement.

The Generator agrees to indemnify and save harmless Disposer, its present and future officers, directors, employees, agents, subcontractors and assignees, from and against any and all liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, and costs and expenses incidental thereto, (including cost of defense, settlement, and reasonable attorney's fees), which any or all of them may hereafter suffer, incur, be responsible for or pay out as a result of bodily injuries (including death) to any person, damage (including loss of use) to any property (public or private), contamination of or adverse effects on the environment, or any violation or alleged violation of statutes, ordinances, orders, rules or regulations of any governmental entity or agency, directly or indirectly caused by, or arising out of breach of any warranties by the Generator, or any negligent or willful act or omission of Generator, its employees or agents in the performance of this Agreement.

18. INSURANCE. Disposer shall procure and maintain, at its expense, during the term of this Agreement, at least the following insurance:

	COVERAGE	LIMITS
(a)	Worker's Compensation	Statutory
(b)	Employer's Liability	$500,000 each occurence
(c)	Public Liability (bodily injury & property damage)	$15,000,000 combined single limit
(d)	Automobile Liability (bodily injury & property damage)	$15,000,000 combined single limit

Public Liability Insurance shall include coverage for completed operations and contractual liability under this Agreement with respect to sudden and accidental occurrences.

Each contract of insurance, and certificate of insurance, shall provide that said insurance shall not be cancelled or materially altered until at least ten (10) days after written notice is received by the Generator. Disposer agrees to furnish insurance with the above requirements, to the Generator before Disposer commences work hereunder.

In the event Disposer is required by law to obtain environmental impairment liability insurance for non-sudden and accidental occurrences at the Disposal Facility, Disposer shall furnish Generator with a copy of the certificate of insurance provided to the regulatory agency imposing the insurance requirement.

19. CONFIDENTIALITY. Disposer and Generator shall treat as confidential property and not disclose to others during or subsequent to the term of this Agreement, except as is necessary to perform this Agreement, (and then only on a confidential basis satisfactory to both parties), any information (including any technical information, experience or data) regarding either party's plans, programs, plants, processes, products, costs, equipment, operations or customers which may come within the knowledge of the parties, their officers or their employees in the performance of this Agreement, without in each instance securing the prior written consent of the other party.

Disposer shall also treat as confidential and shall not disclose to others, except as required by law, information relating to the chemical composition of the Waste Products or the quantity of Waste Products delivered to it by Generator.

Generator shall also treat as confidential and shall not disclose to others, except as required by law, this form of Agreement and the Supplemental Information Document.

Nothing above, however, shall prevent either Disposer or Generator from disclosing to others or using in any manner information which either party can show:

(a) Has been published and has become part of the public domain other than by acts, omissions or fault of Disposer or Generator or their employees; or

(b) Has been furnished or made known to Disposer or Generator by third parties (other than those acting directly or indirectly for or on behalf of Disposer or

Generator) as a matter of legal right without restrictions on its disclosure; or

(c) Was in either party's possession prior to the disclosure thereof by Generator or Disposer to each other.

Provided, however, neither party shall release, or cause or allow the release of, information to the communications media, except as required by law, concerning the existence or terms of this Agreement or any Supplemental Information Document, including identification of the Generator of the Waste Products, identification of the Disposal Facility receiving the Waste Products, or the general description, characteristics or constituents of the Waste Products, without in each instance securing the prior written consent of the other party.

The foregoing obligations shall survive the termination or expiration of the Agreement.

20. WORK ON GENERATOR'S PREMISES. Generator agrees to provide Disposer, its employees and subcontractors a safe working environment for any work, in performance of this Agreement, which must be undertaken on premises owned or controlled by the Generator. While its employees or subcontractors are on Generator's premises, Disposer will maintain strict work discipline and effect its work in compliance with governmental laws or regulations pertaining to occupational safety and health. Disposer, its employees and subcontractors shall also comply with the Generator's safety procedures while on the Generator's premises, provided such procedures have been specified in the Supplemental Information Document or are attached thereto.

21. INSPECTIONS. The Generator shall have the right to inspect and obtain, at its expense, copies of all written licenses, permits or approvals, issued by any governmental entity or agency to Disposer or its subcontractors which are applicable to the performance of this Agreement and for which no claim of business confidentiality or trade secret is asserted; to inspect and test, at its own expense, transportation vehicles or vessels, containers or disposal facilities provided by Disposer; and to inspect the handling, loading, transportation, storage, treatment, processing or disposal operations conducted by Disposer in the performance of this Agreement. Such inspections are encouraged by Disposer, but shall not operate to relieve Disposer of its responsibility or liability under this Agreement.

22. EXCUSE OF PERFORMANCE. The performance of this Agreement, except for the payment of money for services already rendered, may be suspended by either party in the event the delivery or

transportation of Waste Products by Generator, or transportation, storage, treatment, processing or disposal of Waste Products by Disposer are prevented by a cause or causes beyond the reasonable control of such party. Such causes shall include, but not be limited to, acts of God, acts of war, riot, fire, explosion, accident, flood, or sabotage; lack of adequate fuel, power, raw materials, labor or transportation facilities; governmental laws, regulations, requirements, orders or actions; breakage or failure of machinery or apparatus; national defense requirements; injunctions or restraining orders; labor trouble, strike, lockout or injunction (provided that neither party shall be required to settle a labor dispute against its own best judgement).

The party asserting a right to suspend performance under this Section must, within a reasonable time after he has knowledge of the effective cause, notify the other party of the cause for suspension, the performance suspended, and the anticipated duration of suspension. Upon receipt of such notice advising of a material or indefinite suspension of performance, and if such suspension substantially impairs the value of this Agreement to him, a party may, within a reasonable time (not to exceed thirty days), terminate this Agreement as provided in Section 13. If such notice of termination is not provided, this Agreement will lapse with respect to any performance suspended hereunder.

The party asserting a right to suspend performance hereunder shall advise the other party when the suspending event has ended, and when performance will be resumed.

Provided, if title to Waste Products has been transferred to Disposer, Disposer may not suspend performance of this Agreement with respect to such Waste Products; however, if a performance-suspending event occurs after Disposer has taken title to Waste Products but before completion of performance, Disposer may delegate such performance to any other persons lawfully permitted to transport, store, treat or dispose of the Waste Products pursuant to Section 23. In the circumstances described above, the Generator hereby consents to any necessary delegations for which it receives written notice from Disposer.

23. DELEGATION AND ASSIGNMENT. Disposer may at any time, with the prior written consent of Generator, which consent shall not be unreasonably withheld, delegate, orally or in writing, the performance of the work, or any portion thereof, which is by this Agreement undertaken by Disposer. Any such delegation shall not operate to relieve Disposer of its responsibilities hereunder and, notwithstanding any such delegation, Disposer shall remain obligated to the Generator in these undertakings.

Either party may, at any time, upon written notice to the other party, assign its rights under this Agreement.

24. INDEPENDENT CONTRACTOR. Disposer is and shall perform this Agreement as an independent contractor, and as such, shall have and maintain complete control over all of its employees, agents, and operations. Neither Disposer nor anyone employed by it shall be, represent, act, purport to act or be deemed to be the agent, representative, employee or servant of the Generator.

25. NOTICE. Any notice, communication or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or by registered or certified mail, postage prepaid, return receipt requested, to the address of the respective party below:

GENERATOR: Time Oil Company
12005 N. Burgard Road
Portland, Oregon 97203

DISPOSER: CHEM-SECURITY SYSTEMS, INC.
P.O. Box 1269
Portland, Oregon 97207-1269

Either party may, by notice to the other, change the addresses and names above given.

26. ENTIRE AGREEMENT. This Agreement represents the entire understanding and agreement between the parties hereto relating to the transportation, storage, treatment, processing and disposal of Waste Products and supersedes any and all prior agreements, whether written or oral, that may exist between the parties regarding same. No terms, conditions, prior course of dealings, course of performance, usage of trade, understandings, purchase orders, or agreement purporting to modify, vary, supplement or explain any provision of this Agreement shall be effective unless in writing, signed by representatives of both parties authorized to amend this Agreement.

In no event shall the preprinted terms or conditions found on any Disposer or Generator purchase or work order be considered an amendment or modification of this Agreement, even if such documents are signed by representatives of both parties: such preprinted terms or conditions shall be considered null and of no effect.

27. WAIVER. Any waiver by either party of any provision or condition of this Agreement shall not be construed or deemed to be a waiver of any other provision or condition of this Agreement, nor a waiver of a subsequent breach of the same provision or condition, unless such waiver be so expressed in writing and signed by the party to be bound.

28. MISCELLANEOUS. The validity, interpretation and performance of this Agreement shall be governed and construed in accordance with the laws of the State specified in the Supplemental Information Document.

All paragraph headings herein are for convenience only and are in no way to be construed as part of this Agreement or as a limitation of the scope of the particular sections to which they refer.

In the event of a conflict between the terms or conditions of this Agreement and those of the Supplemental Information Document, the terms and conditions of the Supplimental Information Document shall control.

29. SEPARABILITY. If any Section, subsection, sentence or clause of this Agreement shall be adjudged illegal, invalid or unenforceable, such illegality, invalidity or unenforceability shall not affect the legality, validity or enforceability of the Agreement as a whole or of any Section, subsection, sentence or clause hereof not so adjudged.

30. The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective heirs, executors, administrators, assigns and successors in interest.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the day and year first above written.

DATE: _____

Time Oil Company

By: _____

Title: _____

CHEM-SECURITY SYSTEMS, INC.

By: _____

Title: Roger E. Nelson
District Manager

EXHIBIT A

SUPPLEMENTAL INFORMATION DOCUMENT: NUMBER 85-001

This Document supplements, and is part of, that certain "Waste Transportation and Disposal Agreement," (hereinafter "the Agreement"), entered into by and between Time Oil Company, (hereinafter "the Generator"), and CHEM SECURITY SYSTEMS, INC., (hereinafter "Disposer"), on May 24, 1985. The provisions of this Document shall be incorporated into the Agreement.

1. DESCRIPTION OF WASTE PRODUCTS. The "Waste Products", to which the Agreement refers, are described in the "Generator's Waste Material Profile Sheet," Code Designation E13588, attached hereto and made part hereof.

   Containers are to be provided by Generator according to the following specifications:
   lined and plastic wrapped dump truck

2. TENDER OF WASTE PRODUCTS. Generator shall tender or deliver the above Waste Products to Disposer as follows:

   (a) Quantity of Waste Products to be Tendered Over Term.

   (1) Estimated.
   Volume listed in Section "F" of referenced Generator's Waste Material Profile Sheet(s) or in addenda for each profile sheet.

   (2) Guaranteed (if applicable).

   Not Applicable.

   (b) Maximum/Minimum Quantity of Waste Products Per Tender (if tendered in installments).

   Maximum: same as quantity listed in Section 2(a) above. or in addendum to waste profile sheet.

   (c) Place of Tender.
   Arlington, Oregon

   (d) Time and Frequency of Tender.
   8:00 a.m. to 4:30 p.m. weekdays, except holidays, weather permitting.

c 1984, WASTE MANAGEMENT, INC.
(Revised 10/10/84)

(e) Manner of Tender (including notification to Disposer). Uniform hazardous waste manifest. No free liquid may be present in waste.

3. WORK RULES/PROCEDURES AT GENERATOR'S PREMISES. Any specific rules or procedures required by Generator for workers on its premises must be noted here, or attached hereto and initialed by both parties.

4. LOADING AND TRANSPORTATION. The Waste Products are to be loaded (or stowed) on vehicles (or vessels) by Generator, and transported to the Storage Facility/Disposal Facility (circle one) by Generator. If the Waste Products are first transported to a Storage Facility, they will be reloaded (or stowed) on vehicles (or vessels) by N/A, and transported to the Disposal Facility by N/A. If Disposer is to provide transportation the following special transportation requirements (if any) shall apply, pursuant to the Generator's direction:

(a) Vehicles or Vessels.

dump truck

(b) Routes.

Not Applicable.

(c) Hours of Transportation.

Not Applicable.

5. STORAGE FACILITY. Disposer shall store the Waste Products at the following storage facility for a period not to exceed ____ days, from which facility the Waste Products will then be removed to the Disposal Facility: Not Applicable

(Revised 10/10/84)

(a) Name/Address of Storage Facility:

(b) Name/Address of Facility Permittee:

(c) Permit Number(s)/Initiation and Termination Date(s):

(d) Permitting Authority(ies):

6. DISPOSAL FACILITY. Disposer shall dispose of the above Waste Products at the following disposal facility (or facilities):

(a) Name/Address of Facility (Facilities):

The Arlington Facility
Star Route
Arlington, Oregon 97812

(b) Name/Address of Facility Permittee:

Chem-Security Systems, Inc.
P.O. Box 1866
Bellevue, Washington 98009-1866

(c) Permit Number(s)/Initiation and Termination Date(s):

State of Oregon - HW-1, initiated Aug. 26, 1980; continues pending issuance of new permit.

(d) Permitting Authority(ies):

Oregon Department of Environmental Quality.

BZTO104(e)011116

7. DISPOSAL METHODS: Disposer shall utilize one or more of the following methods for the disposal of the Waste Products:

secure burial

8. EMERGENCY SERVICES: Disposer shall provide emergency transportation, storage or disposal services, with respect to the above Waste Products, pursuant to the following:

As required by site license or at Generator's request

9. RECLAMATION AND/OR SALE OF WASTE PRODUCTS. Disposer is authorized to reclaim, recover and sell, distribute or use the Waste Products, their components or residues, except as specified below:

Not Applicable.

10. COMPENSATION. The Generator shall compensate Disposer as follows:

(a) For Transportation, Storage and Disposal of Waste Products.

(b) For Transportation and Disposal of Waste Products. Per ton:

	Before July 1, 1985	Beginning July 1, 1985
250 tons per yr.	$110	$116
250-1500 tons per yr.	$100	$106

Fed. tax is $213 per dry wt. ton. Minimum billing is $200 per tender.

(c) For Disposal of Waste Products Only.

(d) Emergency Services.

Time and mateirals basis

(e) Measurement of Waste Products. Waste Products shall be measured by Disposer for the purpose of computing fees hereunder, at the time and place, and in the manner, as follows: Upon acceptance at the Arlington facility using:

facility scale

(Revised 10/10/84)

(f) Generator's Billing Address. Disposer shall submit its statements to:

Time Oil Company
12005 N. Burgard Road
Portland, Oregon 97203

(g) Disposer Billing Address. Disposer will issue its billings from the following:

CHEM-SECURITY SYSTEMS, INC.
STAR ROUTE
ARLINGTON, OREGON 97812

11. TERM. The term of the Agreement, with respect to the Waste Products covered in this Document, shall be as follows:

This Agreement shall commence on May 24, 1985 and shall remain in effect until terminated by either party with or without cause by thirty (30) days' advance written notice to the other party.

12. LAW TO GOVERN. The Agreement and this Supplemental Information Document shall be governed and construed in accordance with the laws of the State of Oregon.

13. MISCELLANEOUS CONDITIONS.

By their signatures hereto, the parties agree that this Supplemental Information Document shall be considered an attachment to, and part of, that certain "Waste Transportation and Disposal Agreement" identified above.

Date: _____

Time Oil Company

By: _____

Title: _____

CHEM-SECURITY SYSTEMS, INC.

By: _____

Title: Roger E. Nelson
District Manager

(Revised 10/10/84)

EXHIBIT B

AUTHORIZED SIGNATORIES

This Exhibit, being attached to, and forming part of that certain "Waste Transportation and Disposal Agreement" entered into by the undersigned parties on May 24, 1985, establishes the identities of those persons authorized to execute Supplemental Information Documents on behalf of the parties, to-wit:

FOR GENERATOR:

FOR DISPOSER:

Regional Sales Manager	up to $ 50,000
District Manager or National Accounts Manager	up to $ 300,000
Regional Vice President or Regional Manager	up to $ 500,000
Senior Vice President	up to $1,000,000
President	over $1,000,000

Time Oil Company

By: _____

Title: _____

Chem-Security Systems, Inc.

By: _____

Title: _____

(Revised 10/10/84)

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

January 16, 1985

Templeton Smith
Law Department
Koppers Co. Inc.
Pittsburg, PA 15129

Dear Mr. Smith:

Per your request, attached is copy of plot plan 1140 showing location at our Northwest terminal where the Department of Environmental Quality sampled the ground within the diked area in which Pentachlorophenol operations were conducted. Sample was a composite of surface, one foot and two foot depths.

It was a pleasure to meet you in St. Louis last week.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Attachment a/s

JPD/ch

Blind - Robert Abendroth

COPYRIGHT 1985 D&B INC. - PROVIDED UNDER CONTRACT
FOR THE EXCLUSIVE USE OF SUBSCRIBER 016 05933L.

ATTN: TEMPLETON SMITH

IN DATE

DUNS: 00-959-1207
TIME OIL CO (INC)
JACKPOT
SAV-MOR
GAS MART
QUICKY MART
TIME SAV-OR

BOX 24447
SEATTLE WA 98111
2737 W COMMODORE WAY
AND BRANCH(ES) OR DIVISION(S)
SEATTLE WA 98199
TEL: 206 285-2400

DATE PRINTED
JAN 09 1985

RET GASOLINE WHOL
PETROLEUM PRODUCTS

SIC NOS.
55 41 51 72

SUMMARY

RATING	4A1
STARTED	1941
PAYMENTS	SEE BELOW
SALES	$170,000,000 (PROJ)
WORTH F	$47,387,352
EMPLOYS	337(75 HERE)
HISTORY	CLEAR
CONDITION	STRONG

CHIEF EXECUTIVE: RAYMOND D ABENDROTH, CHB/PRES

PAYMENTS (AMOUNTS MAY BE ROUNDED TO NEAREST FIGURE IN PRESCRIBED RANGES)

REPORTED	PAYING RECORD	HIGH CREDIT	NOW OWES	PAST DUE	SELLING TERMS	LAST SALE WITHIN
11/84	PPT	500	-0-	-0-		2-3 MOS
	PPT	100	-0-	-0-		2-3 MOS
	PPT	50	-0-	-0-		6-12 MOS
	PPT	50	-0-	-0-	1 10 N30	6-12 MOS
	(005)	50	-0-	-0-		2-3 MOS
10/84	ANTIC	100	-0-	-0-		2-3 MOS
	DISC-PPT	2500	-0-	-0-		4-5 MOS
	PPT	1000000	80000	70000		1 MO
	PPT	500000				
	PPT	400000	400000	-0-		1 MO
	PPT	300000	200000	-0-		1 MO
	PPT	70000	-0-	-0-		6-12 MOS
	PPT	2500	2500	-0-	1 10 N30	1 MO
	PPT	1000	-0-	-0-		6-12 MOS
	PPT	500	500	-0-		1 MO
	PPT	250	-0-	-0-	2 10 PROX	
	PPT	250	250	-0-		1 MO
	PPT	250	-0-	-0-		6-12 MOS
	PPT	100	-0-	-0-	2 10 PROX	
	PPT	100	-0-	-0-	N7	6-12 MOS
	PPT	100	50	-0-		1 MO
	PPT	50	50	-0-	N7	1 MO
	PPT-SLOW 30	250	250	50	N7	1 MO
	PPT-SLOW 45	15000	15000	2500		1 MO
	PPT-SLOW 90	2500	500	500		4-5 MOS
09/84	DISC	15000	15000	-0-		2-3 MOS
08/84	DISC	100	-0-	-0-	2 10 PROX	6-12 MOS

064

	PPT-SLOW 30	250	-0-	-0-	2 10 N30	2-3 MOS
	SLOW 15	1000	-0-	-0-		
07/84	DISC	15000	-0-	-0-		
	DISC	10000	-0-	-0-	1 10 N30	6-12 MOS
	SLOW 5	100				
	SLOW 10	250				
	SLOW 10	100				
	SLOW 20	50				
06/84	DISC	100	-0-	-0-		6-12 MOS
05/84	PPT	50000	-0-			4-5 MOS
	PPT	2500	2500	-0-		1 MO
	PPT	50			N30	
	PPT-SLOW 45	10000			N30	
03/84	(041)	40000	20000	-0-		2-3 MOS
01/84	PPT	500	250	-0-	N30	1 MO
	PPT	500	-0-	-0-		6-12 MOS
	SLOW 5	100	-0-	-0-		
	(045)	7500	-0-	-0-		6-12 MOS
12/83	(046)	50				2-3 MOS

PAYMENT EXPERIENCES REFLECT HOW BILLS ARE MET IN RELATION TO THE TERMS GRANTED. IN SOME INSTANCES PAYMENT BEYOND TERMS CAN BE THE RESULT OF DISPUTES OVER MERCHANDISE, SKIPPED INVOICES ETC.

FINANCE

* A FINANCIAL SPREAD SHEET OF COMPARATIVES, RATIOS, AND INDUSTRY AVERAGES MAY BE AVAILABLE. ORDER A DUNS FINANCIAL PROFILE VIA YOUR DUNSPRINT TERMINAL OR LOCAL D&B OFFICE *

10/26/84

	FISCAL DEC 31 1980	FISCAL DEC 31 1982	FISCAL DEC 31 1983
CURR ASSETS	34,166,195	38,860,356	45,342,750
CURR LIABS	24,862,574	23,410,752	29,680,686
CURRENT RATIO	1.37	1.66	1.52
WORKING CAPITAL	9,303,621	15,449,604	15,662,064
TOTAL ASSETS	61,132,068	71,090,120	81,144,100
WORTH	34,237,490	44,962,884	47,387,352

SUBMITTED APR 16 1984 BY JAMES D MASON, EXEC VICE PRESIDENT. PREPARED FROM STATEMENT(S) BY ACCOUNTANT: ERNST & WHINNEY.

ACCOUNTANTS OPINION: "A REVIEW OF THE ACCOUNTANTS OPINION INDICATES THAT THE AUDIT MEETS GENERALLY ACCEPTED ACCOUNTING PRINCIPLES AND CONTAINS NO QUALIFICATIONS.".

--0--

THE DECEMBER 31 1983 FINANCIAL STATEMENT WAS REVIEWED BY REPORTER. CURRENT ASSETS CONSIST PRIMARILY OF CASH. OTHER ASSETS CONSIST OF FIXED ASSETS AND INVESTMENT IN SUBSIDIARIES. CURRENT LIABILITIES CONSIST LARGELY OF ACCOUNTS PAYABLE AND NOTES PAYABLE TO BANKS. LONG TERM DEBT CONSISTS OF MORTGAGES ON PROPERTY. THERE ARE NO INTANGIBLES OR CONTINGENT DEBT INDICATED. LIQUID ASSETS APPROXIMATE TOTAL DEBT.

ON OCT 25 1984 JAMES D MASON, EXEC VICE PRESIDENT, REFERRED TO THE ABOVE FIGURES.

HE SUBMITTED THE FOLLOWING PARTIAL ESTIMATES DATED OCT 25 1984:

PROJECTED ANNUAL SALES ARE $ 170,000,000.

FINANCIAL CONDITION IS STRONG. EQUITY HAS INCREASED THROUGH

064

RETENTION OF EARNINGS.

PUBLIC FILINGS
UCC FILING
10/26/84 FINANCING STATEMENT #833460097 FILED 12-12-83 WITH SECRETARY, STATE OF WA. DEBTOR: JACKPOT, SEATTLE, WA. SECURED PARTY: SEVEN-UP BOTTLING CO, SPOKANE, WA. COLLATERAL: SPECIFIED EQUIPMENT.

BANKING
10/84 ACCOUNT OPEN OVER THREE YEARS. LOAN(S) UNSECURED. PAYMENTS AS AGREED. RELATIONS SATISFACTORY. SHORT TERM CREDIT LINES ARE AVAILABLE IN EIGHT FIGURE AMOUNTS.

HISTORY
10/26/84

+RAYMOND D ABENDROTH, CHB PRES — BEN TSUCHIDA, V PRES SEC
JAMES D MASON, EX V PRES-FIN — ALBERT SCHNEIDER, V PRES-PPTY RE TREAS
H ROGER HOLLIDAY, V PRES-SUPPLY — C EDWARD MILLER JR, DIR CORP POL/PLAN

DIRECTOR(S): THE OFFICERS IDENTIFIED BY (+)

INCORPORATED WASHINGTON NOV 29 1941. AUTHORIZED CAPITAL CONSISTS OF 2,000,000 SHARES COMMON STOCK, $.25 PAR VALUE.

BUSINESS STARTED 1941 BY PRESENT CONTROL. 95% OF CAPITAL STOCK IS OWNED BY MILLER AND ABENDROTH FAMILIES. 5% OF CAPITAL STOCK IS OWNED BY KEY EMPLOYEES.

ABENDROTH BORN 1910 MARRIED. 1931-41 WITH CASCADE PETROLEUM COMPANY (INC), SEATTLE, WA. 1941 TO PRESENT ACTIVE HERE.

TSUCHIDA BORN 1931. 1952-57 A STUDENT. 1957 TO PRESENT EMPLOYED BY TIME OIL CO (INC) AND ELECTED TO PRESENT POSITION IN 1966.

SCHNEIDER BORN 1925 MARRIED. 1950 TO PRESENT ACTIVE HERE.

MASON BORN 1925. 1949 TO PRESENT ACTIVE HERE AND IS CHIEF FINANCIAL OFFICER.

HOLLIDAY BORN 1939. 1969 TO PRESENT ACTIVE WITH TIME OIL CO (INC) AND BECAME VICE PRESIDENT IN 1977.

MILLER BORN 1943. COMPANY FOUNDER'S SON AND ACTIVE IN SUBJECT COMPANY ALL OF HIS WORKING CAREER.

OPERATION
10/26/84 RETAILS GASOLINE AND LUBRICATION OIL (72%). WHOLESALES PETROLEUM PRODUCTS INCLUDING GASOLINE, FUEL OIL, DIESEL OIL, AND LUBRICATION OILS (26%). THE COMPANY HAS 225 COMPANY OPERATED GAS STATIONS. SUBJECT IS ALSO A TERMINAL OPERATOR ON THE WEST COAST STORING PETROLEUM PRODUCTS FOR OTHERS (2%). 3.4 million of total sales SELLS FOR CASH 70% BALANCE ON ~~NET~~ 30 DAYS. HAS 500 ACCOUNTS. SELLS TO GENERAL PUBLIC, DISTRIBUTORS AND OIL COMPANIES. TERRITORY :WASHINGTON, OREGON, CALIFORNIA, NEVADA, AND IDAHO. NONSEASONAL.

EMPLOYEES: 337 INCLUDING OFFICERS. 75 EMPLOYED HERE.

FACILITIES: OWNS 40,000 SQ. FT. IN TWO STORY FRAME BUILDING IN GOOD CONDITION.

LOCATION: INDUSTRIAL SECTION ON SIDE STREET. THE FACILITY IS LOCATED ON THE LAKE WASHINGTON SHIP CANAL AND HAS DOCK AND STORAGE CAPACITY OF 185,000 BARRELS AT THIS LOCATION WITH A TOTAL OF 2,571,000 BARRELS FOR ALL TERMINAL LOCATIONS COMBINED.

064

BRANCHES: A DIVISION OFFICE IS LOCATED AT 5150 WILSHIRE BLVD, LOS ANGELES, CA. OTHER TERMINAL/STORAGE LOCATIONS ARE AT RICHMOND, CA; STOCKTON, CA; RENO, NV; 12005 N BURGARD AND 9400 ST HELENS ROAD IN PORTLAND, OR; BELLINGHAM, WA; AND 250 E "D" ST, TACOMA, WA.

SUBSIDIARIES: U S OIL & REFINING CO (INC), TACOMA, WA. 55% OWNED. A DELAWARE CORPORATION CHARTERED IN 1952. OPERATES A REFINERY. RELATED THROUGH STOCK OWNERSHIP OF OFFICERS AND CORPORATION. INTERCOMPANY RELATIONS GENERALLY CONFINED TO SERVICES PERFORMED BY ONE COMPANY FOR THE OTHER AND MERCHANDISE TRANSACTIONS ON REGULAR NET 30 DAY TERMS.

NORTHWEST TERMINAL CO (INC), SEATTLE, WA. STARTED 1943. OPERATES AS A REAL ESTATE HOLDING COMPANY AND AUTOMOTIVE EQUIPMENT RENTALS. PARENT OWNS 100% OF STOCK. INTERCOMPANY RELATIONS CONSIST OF SUBSIDIARIES LEASING PROPERTY TO PARENT ON REGULAR NET 30 DAY TERMS.

TIME OIL DRILLING CO (INC), SEATTLE, WA. STARTED 1975. INACTIVE. INTERCOMPANY RELATIONS: MANAGEMENT SERVICES.

01-09(190 /78) 21101 050 H

RAINIER NATIONAL BANK, SEATTLE, WA

****
* THE FOLLOWING D&B PRODUCT MAY ALSO BE AVAILABLE ON THIS COMPANY: *
*
* GOVERNMENT ACTIVITY REPORT *
*
* THIS REPORT IS AVAILABLE BY TELEPHONE READOUT THROUGH DUNSDIAL, ON-LINE *
* ACCESS VIA DUNSPRINT OR BY USING YOUR INQUIRY TICKET. *
****

FULL DISPLAY COMPLETE

TIME OIL CO.
Correspondence - 1986

BZTO104(e)011125

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

August 8, 1986

Koppers Company, Inc.
Attn: Donald F. Marion
Koppers Building Room 750
Pittsburgh, PA 15219

Dear Don:

Per our telecon today, copy of amendment 2 to agreement with Riedel is attached.

Since EPA advised, in December 1985, that we could no longer remove contaminated dirt from the premises, we set aside the soil investigation and concentrated on learning if there was any ground water contamination and, if so, plume extent. We installed wells, developed them, had them sampled and analyzed. Results are favorable in that only .0022 ppm was found in one spot by corner of building. Map showing well locations is attached. We also determined water flow direction and checked water elevations several times.

Now we are attempting to somehow effect clean up of soil on site. Several areas are being investigated but we do not yet, in my opinion, have any really good solution. About the middle of next month, we should be in a more knowledgeable position regarding remedial actions. Still have more sampling to do under building if possible, more water measurements to be taken and more data to develop regarding available clean up processes. Will try to gather up everything by October 1 and send it along to you for your use.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Enclosures a/s

JPD/ch

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

Rec'd Dec. 13, '85

DEC 10 1985

REPLY TO
ATTN OF: M/S 533

John P. Denham
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Re: Time Oil, Environmental Protection Agency ID. No. ORD009597543

Dear Mr. Denham:

Based upon the description you have given the Environmental Protection Agency (EPA) of the activities that have occurred at the facility referenced above, the soil contaminated with leaked pentachlorophenol is classified as hazardous waste F027. F027 designates discarded unused formulations containing pentachlorophenol, and soil contaminated with this waste is a hazardous waste by virtue of the mixture rule of 40 CFR 261.3 (a)(2)(iv).

There are presently no commercial hazardous waste facilities in the United States that will accept waste designated as F027, and it will be approximately six months before any commercial facilities will be certified to accept such waste. In light of this fact, you will have to work closely with the Oregon Department of Environmental Quality (DEQ) in determining the proper way to handle the contaminated soil at your site.

You have told Janet O'Hara of my staff that the storage tanks were completely emptied by approximately the end of January 1985. Therefore, you will be responsible for closing the facility (e.g., removing the hazardous waste) in accordance with the applicable closure and post-closure rules of 40 CFR Part 265. We realize that you have begun this closure process by cleaning and removing the storage tanks and associated piping. Because of the two factors we have discussed with you in telephone conversations, those being the potentially highly toxic nature of the contaminated soil and the lack of storage or disposal sites for it, it would be in your best interest to consult with DEQ personnel before you continue with clean up operations.

Sincerely,

George C. Hofer

George C. Hofer, Chief
RCRA Permits Section

cc: J. Gillespie, DEQ
J. Whitworth, DEQ
C. Rice

KOPPERS
Interoffice Memo

Time Oil file

To Don Marion

From D. R. Kerschner

Location K-750

Location K-1940

Subject Time Oil

Date September 15, 1986

With regard to your August 11, 1986 memo -- we are not being given too much information to base our opinion on. If we are going to have to continue to provide funding for this project, I would recommend that we insist that Keystone Environmental Resources get involved -- either in doing all the technical work, or at least a thorough technical review. I am having difficulty determining whether Reidel is providing the necessary services or not. I'm sorry for the delay.

David R. Kerschner

DRK/wl
cc: W. Baldwin
T. Smith

KOPPERS
Interoffice Memo

To	Mark Urbassik	From	D. R. Kerschner
Location	K-1940	Location	K-1940
Subject	Monthly Update July 1986 Building Products/Coatings	Date	August 21, 1986

Central Asphalt

Working with Legal Services and operating on the potential sale.

Raleigh, NC

Soil removal was completed; everything apparently went very well. Drilling for the RI/FS was started, but is going much slower than anticipated. I assisted in the completion of the draft environmental review report, and will be following up on recommendations.

Time Oil, OR

Reviewing some work done by Time's consultant.

Los Angeles (Vernon), CA

I spoke with the RWQCB regarding the UST proposal. Off the top of his head, Elija Hill, their representative, did not recall having any problems with the proposal. I asked for this in writing. Mike Dvorsky is also looking into the implications of the delay in approval on our permit renewal status. Ron Morosky visited the plant to review drilling locations.

Newark, NJ

Continued work on the PCB issue.

Garwood, NJ

A state inspector visited the plant to review the UST situation, and mentioned that drilling work may be necessary. We will wait for something in writing.

6287

KOPPERS
Interoffice Memo

bassik From D. R. Kerschner

Location K-1940

pdate Date August 21, 1986

Products/Coatings

Services and operating on the potential

pleted; everything apparently went very
the RI/FS was started, but is going much
ted. I assisted in the completion of
:al review report, and will be following
:.

- - by Time's consultant.

CA

regarding the UST proposal. Off the
Hill, their representative, did not
lems with the proposal. I asked for
Dvorsky is also looking into the
.ay in approval on our permit renewal
sited the plant to review drilling

:B issue.

d the plant to review the UST
that drilling work may be
for something in writing.

plant clean-up. We are
e Ocala soil, and are
p of drums at Cleveland

complete.

r the continuing
will continue to follow
ntinued operations.

Kerschner

ith
erschner
ays
ern
vorsky
dwards
nderson

KOPPERS

Interoffice Correspondence

To	W. J. Baldwin T. Smith D. Kerschner J. Garrity	From	D. F. Marion
Location	Various	Location	K-750
Subject	TIME OIL COMPANY	Date	August 11, 1986

Per your request, attached is a copy of "Amendment 2" from Riedel Environmental Services, along with a copy of John Denham's letter of 8/8/86 for your review.

As soon as I receive your comments, I will arrange for payment of the pending invoice from Time Oil for $42,081.21.

If you have any questions regarding the attached information, please advise.

Donald F. Marion

DFM:vtw

cc: J. D. Hite
R. G. Hamilton
A. S. Wells
J. Kusar
E. Emanuel

K-5 REV. 2

KOPPERS

Interoffice Correspondence

To	J. Kusar	**From**	D. Marion
Location	K-750	**Location**	K-750
Subject	MONTHLY REPORT - JUNE, 1986	**Date**	July 10, 1986

Listed below are the major items covering the month of June, 1986.

RAW MATERIALS ACTIVITY

1. During June we transferred 1,127,240 lbs. of arsenic acid to Valparaiso, IN and Newark, CA utilizing railcars UTLX-79404 and UTLX-78581. In addition, we utilized Highway Transportation and the Conley and Valparaiso trucking operations to ship 17 truckloads of acid at the same freight rate as that charged for the railcars. At the end of fiscal June we had 1,009,483 lbs. of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 lbs. and 338,702 lbs. at Jones-Hamilton in Newark, CA with a storage capacity of 314,000 lbs. Our total inventory of 75% technical grade arsenic acid at the end of June was 3,173,786 lbs., while our total inventory of 75% high purity arsenic acid was 189,875 lbs. for a Wolman Department grand total of 3,363,661 lbs.

   During June, railcar UTLX-79403 was re-repaired at the Lithcote Repair shop in Altoona, PA and returned to Conley. It arrived at Conley for loading on June 30th, 1986. In addition, railcar GATX-74970 was thoroughly cleaned and sent to the repair shop for lining repairs and a thorough maintenance check in Paris, TN. This car should be available in July to go back into service for Jones-Hamilton in Newark, CA. As noted above, during June we continued to utilize the services of Highway Transportation Company as well as our own Valparaiso and Conley truck[illegible] to move arsenic acid from Conley. However, in July with [illegible] railcars (UTLX-79403 and UTLX-79404) and two (2) [illegible] and UTLX-85653) in service we should be able to move [illegible] arsenic acid to keep both Valparaiso and Jones-Hamilton busy with these railcars. However, should the need arise, we can always call on Highway to move arsenic acid to Valparaiso.

2. During June we shipped 45,800 lbs. of 75% high purity arsenic acid in bulk to Corning's plant in Martinsburg, WV. In addition, we shipped 5,214 lbs. of 75% high purity arsenic acid in drums to Corning's plant in Harrodsburg, KY, Painted Post, NY and to USS Agrichem in Decatur, GA. We also shipped 92,060 lbs. of 75% technical grade arsenic acid in bulk to Langdale in Valdosta, GA. In addition, we received orders from Corning for Martinsburg and from Langdale in Valdosta for July

K-6 REV. 2

BZTO104(e)011132

shipment. Also we shipped 45,930 lbs. from Jones-Hamilton in Newark, CA to J. H. Baxter in the month of June. Currently, we are receiving approximately one (1) truckload every other month for Baxter on the West Coast.

On June 4th, Jim McGill and I visited Corning Glass Works in Corning, NY and met with John Copley, Dick Bauer and Dianna Hayes to finalize the specification for 75% high purity arsenic acid. The new specification as agreed to by all parties will allow a level of unreacted arsenic trioxide at .5% and will adjust the heavy metals values to oxide comparisons for use by the specific Corning plant. This new specification will cover all Corning plants with the exception of Danville, VA and this specific specification will be finalized in the near future. During our visit, John Copley indicated that late this year, he and his people from Corning, NY as well as Martinsburg, WV will plan to visit the Conley operation as part of Corning's quality control program.

3. During June the seven (7) Asarco cars at the Conley operation were worked on by Power Master, Inc. However, only two (2) of these cars (NP-175002 and NP-175007) could be fully unloaded and returned empty to Asarco in Tacoma. The other five (5) cars all had various amounts of arsenic trioxide remaining in the cars and due to being wet, had to be returned to Tacoma for further work. Lou Fitzgerald and I finalized the return of all five (5) cars and they are currently enroute to Tacoma, WA. Asarco plans on installing a ten mesh screen at their Tacoma facilities and utilizing the services of Power Master to begin to use the remaining material located in Tacoma. Approximately 1,500 tons of arsenic trioxide could be available if the screening and removal of stones is acceptable.

During June we received one (1) railcar (154,323 lbs.) of 95% arsenic trioxide from Minera Mexico in Mexico. In addition, three (3) cars were shipped from San Luis Potosi to our Conley facilities on June 23rd and June 30th respectively. These three (3) cars should arrive in the Conley facilities during the first two weeks of July. In addition, I was advised that Minera Mexico has obtained two (2) additional cars, and these two (2) cars should be shipped the week of June 30th to Conley. This brings their total fleet to five (5) railcars to be utilized to ship 95% arsenic trioxide in bulk from San Luis Potosi to Conley. A revised shipping schedule, now that the strike has ended and the five (5) cars are in service, will be provided in early July. In the near future, I plan on visiting San Luis Potosi, Mexico on a followup trip to begin discussions for 1987 on bulk arsenic trioxide from Mexico. Our discussions will include both 95% material and 99% material in bulk. In addition, discussions will be held on handling the high antimony material currently stockpiled at San Luis Potosi.

During June we also received material from North American Minerals in South Africa, El Indio in Chile, Boliden in Sweden, Metallurgie Hoboken - Overpeld (Afrimet Indussa) in Belgium and Salsigne in France. At the end of fiscal June we had at Conley, drummed material from Lepanto in the Philippines, North American Minerals in South Africa, El Indio in Chile, Pennaroya in France, Boliden in Sweden and Salsigne in

BZTO104(e)011133

France. In addition, shipments were in transit from Boliden in Sweden, El Indio in Chile, Metallurgie Hoboken - Overpeld in Belgium, Amula International in Portugal, St. Joe's El Indio facilities in Chile and North American Minerals in South Africa, as well as the three railcars noted above from Minera Mexico in Mexico.

Now that regular shipments are taking place from Minera Mexico, Boliden, Salsigne, Metallurgie Hoboken - Overpeld, North American Minerals and El Indio, it is time to put together a plan for followup visits to these various worldwide producers of arsenic trioxide to begin negotiations for long-term contracts to ensure a continuous supply of arsenic trioxide in 1987 and beyond. It is critical that these discussions be started in the very near future inasmuch as we do not have any contracts beyond 1986 at this point in time. Resulting long-term contracts for 1987 and beyond should be completed late in the third quarter or beginning of the fourth quarter of 1986.

4. During June, Tony Desanti of Falconbridge called to discuss the situation of our Conley arsenic trioxide purification plant. Tony Desanti, Pat Raleigh, Ken Blower and Ken Thomas are anxious to discuss the status of the operation of our purification plant and what steps we are planning for the reduction of operating costs at this facility. At the end of June there was one full Koppers' trailer in Edmonton, one full Koppers' trailer in Conley and one full Trimac trailer in Conley. In addition, there are approximately two truckloads of material in the silo in Giant Yellowknife. As soon as our two units have been emptied I intend to piggyback them to Edmonton and have Trimac bring them back and forth from Edmonton to Giant Yellowknife in order that we can clean out the silo at Giant Yellowknife.

   After the silo is cleaned out at Giant Yellowknife I recommend that we get together with Tony Desanti, Pat Raleigh and the Giant Yellowknife personnel to discuss what is happening in Conley and the cost of processing our arsenic trioxide from Giant Yellowknife. It is imperative that we maintain our relationship with Falconbridge and Giant Yellowknife, especially since we seem to be able to run approximately 10% of this material per batch direct in our new arsenic acid plant. I will continue to maintain close communications with Trimac, Giant Yellowknife and Falconbridge personnel and keep you up to date.

5. During June we received 13 truckloads (640 drums) of crude arsenic trioxide from Eldorado Gold Mines which had been stored in Toronto, Ontario, Canada. The remaining 1,522 drums will be held by Eldorado Gold Mines until released by Koppers Company, Inc.

   On June 26st, I met with Bill Cunningham and Derek Turford of Western Mining Corporation to discuss the shipment of crude arsenic trioxide from Australia to our Conley plant. Currently, we have 68,141 lbs. of original production material in Conley and we need to determine if we can run this material direct in the new arsenic acid plant. During Bill's visit, he left a copy of their production report showing the analysis of all material produced since the beginning of the year.

BZTO104(e)011134

Copies of this were forwarded to Frank Klasnick and yourself for review. This material is running in the high 90s with reasonably low sulfate levels. This material appears to be as good as the material we're getting from El Indio in Chile and, therefore, since its delivered cost is in the low 20s, I would recommend that we take one container of this current production material and run it through the existing nitric acid plant to determine the abilities of handling this current production material. If this is successful, we could ask Western Mining to run the older production material back through their facilities to upgrade it to the same levels as their current production. I will coordinate this activity with yourself and Frank to determine what steps to take.

6. At the end of fiscal June our closing chromic acid inventories were 102,361 lbs. ($76,028) and our closing black copper oxide inventories were 49,687 lbs. ($41,236). Our arsenic trioxide inventories were approximately 5,365,573 lbs. ($1,220,821) and our arsenic acid inventories were 3,363,661 lbs. ($1,456,233). The amount of refined arsenic trioxide in the above number was 932,470 lbs. ($334,823) consisting of Asarco material, Boliden material, Salsigne material, North American Minerals material, Pennaroya material, Lepanto material and El Indio material. The balance of 4,433,103 lbs. ($885,998) was in the form of Giant Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were zero pounds of chromic acid and arsenic acid, 30,738 lbs. of black copper oxide and 60,797 lbs. of CCA-C. Our domestic total inventories including chrome ore were approximately $3,752,412 at the end of fiscal June. This amounted to a decrease of approximately $412,278 (9.9%) from the May levels.

7. During the month of June we consumed 2,166,500 lbs. of chromic acid from Diamond Shamrock and 111,132 lbs. of chromic acid from Bayer in West Germany. At this point, the only material that we are taking from Diamond Shamrock is in sparger cars or sparger trucks for Conley and Valparaiso. Our drum requirements at Jones-Hamilton in Newark, CA as well as Conley and Valparaiso are being supplied by Bayer through Mobay in West Germany. Through the first five months of 1986 we have consumed 10,661,080 lbs. (5,331 tons) of chromic acid from Diamond Shamrock and 733,875 lbs. (367 tons) of foreign material from China and West Germany.

We continue to experience a great deal of tightness in the deliveries of sparger cars of chromic acid to both Conley and Valparaiso from Diamond Shamrock's plant in Castle Hayne, NC. In fact, we have utilized Diamond Shamrock's sparger truck once and/or twice per week to ensure that we will have liquid chromic acid instead of using drums. Diamond seems to be having difficulty with their 31 cars in coordinating the shipments and return of their cars to Castle Hayne for loading.

BZTO104(e)011135

After our discussions of June 5th with Jim Fleming and Harry Turpack in Los Colinas, TX on the new chromic acid conversion agreement, Jim Fleming advised that the contract has been completed, is in final review with their legal staff and should be in our hands in early July. I have followed up on several occasions with Jim Fleming since I haven't received the formal contract to date, and Jim is trying to find out what the problem is with Harry Turpack in Los Colinas.

8. During June, we received a check for $7,606.12 from the U.S. Treasury Department covering duty drawback Claim #20. At this point, we are completely up to date in the receipt of our duty drawback check covering exports through the first quarter of 1986. Our grand total collected at this point is $310,583.90. Duty drawback Claim #21 covering exports through the second quarter of 1986 will be filed in early July. This claim will cover not only black copper oxide, but also chromic acid imported from both China and West Germany. I have begun to get the necessary certificates of delivery for this imported chromic acid. This will significantly increase our total duty drawback claim dollars during the second half of 1986 and the first half of 1987.

9. I am still awaiting followup information from Time Oil on their cleanup effort at their terminal in Portland, OR. I have not processed their invoice for $42,081.21 covering the expenses to date. As soon as this information is received and forwarded to Bill Baldwin for his review, I will arrange for payment of this invoice.

10. During June the tank trailer leased for the West Coast from Cargo Tank Lines in Chicago was placed on the West Coast and Matlack has been running the unit for us. During June this unit generated $4,567 revenue for the West Coast location and seems to be working extremely well. During the week of June 2nd, Glenn Schultz and Jim Garrity visited the Jones-Hamilton facilities in Newark to make all the necessary arrangements for the hauling of this unit on the West Coast. In addition, they met with Dan Gilbert, the Executive Vice-President, to review installation of the filtration equipment and the installation of a drum crusher at Jones-Hamilton's facilities in Newark, CA. An AFE for the drum crusher will be submitted for your approval in early July.

11. I'm continuing to work with Phillip Eschenasy, President of Trade Consultants International, Inc., on counter trade and/or barter programs covering arsenic trioxide from El Indio in Chile, phosphoric acid from Israel and black copper oxide from Israel. As soon as I get information from IBM on the availability of Chilean pesos to purchase this arsenic trioxide from St. Joe's, I will make arrangements to set up a meeting to discuss our counter trade agreement.

12. During June we received our new tank trailer at Valparaiso and during the week of June 30th will be running three tank trailers and three tractors to cover our CCA-C business. In addition, we completed the installation of the car puller which has alleviated the railroad switching problem in spotting chromic acid sparger cars and arsenic acid railcars at Valparaiso. In addition, AFEs were finalized and approved for a new Tenant sweeper and agitation equipment for one of

BZTO104(e)011136

our reactors at Valparaiso, IN. Ken Cogan has indicated that this new agitation equipment should be available the week of July 14th and arrangements will be made for immediate installation and testing. During July I hope to finalize an AFE for the black copper oxide handling system with the assistance of Bill Meisinger.

13. In conjunction with our problems on DRICON, particularly at Cox in Orangeburg, SC, we have made arrangements to make their DRICON from Canadian Cyanamid dicyandiamide without anti-caking material. Super sacks of their material will be set aside for pickup as they require them. In addition, we will be purging our raw material inventory of dicyandiamide with anti-caking agents in the next few weeks and will convert over totally to dicyandiamide without anti-caking agents from Canadian Cyanamid and BOC. Currently, I am awaiting word on SKWs material and the use of anti-caking agents in their product.

14. We are continuing to run a trucking operation out of Valparaiso, IN to cover inbound raw materials and outbound phenolic foam insulation shipments for the Oakcreek plant in Wisconsin. We have obtained a 48' flatbed trailer to replace the 42' trailer we were utilizing, in order to give us additional flexibility in the movement of phenolic foam insulation and the backhauls of facer material from Genstar in Charleston, SC. During the initial operation we have been successful in getting the necessary backhauls and maximizing the use of this flatbed. During early July, a meeting will be scheduled in Oakcreek with Ton Donovan and Paul Zeh along with Glenn Schultz and myself to review the costs of this operation.

    During June we continued to work closely with Bill Merz at OMNI Fiberglas to distribute his products in the Midwest out of our Valparaiso plant. In addition, we backhauled a load of fiberglas product from Chino, CA to Aurora, OH in conjunction with our trucking operation out of Valparaiso.

15. During June I met with Al Wells and Alan Ross to discuss the use of sodium bicarbonate at our St. Louis facilities. After a thorough investigation of this product, I learned that the only producer in the United States is Interox America and their exclusive distributor is Burlington Chemical Company in Burlington, NC. I have obtained pricing, MSDS sheets and product data information on this product such that we will be in a position to proceed with this product whenever testing is completed.

16. During June the tightness in copper oxide supplied in the United States continued and therefore, I have contacted several foreign suppliers in the United Kingdom, West Germany, Italy, Norway, Spain, Israel and Mexico to determine the availability of their material as an alternate to our United States and Australian supplies. I will continue to monitor this situation and keep you right up to date.

VALPARAISO ACTIVITY

See Glenn Schultz' report of June 28, 1986 which is attached.

303

ST. LOUIS ACTIVITY

See Jim Garrity's report of July 16, 1986 which is attached.

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM:vtw

cc: J. D. Hite
W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
W. A. Meisinger
A. S. Wells
Dr. C. R. McIntyre
R. R. Moran
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm

BZTO104(e)011138

KOPPERS

Interoffice Correspondence

To	J. Kusar	From	D. F. Marion
Location	K-750	Location	K-750
Subject	MONTHLY REPORT - MAY, 1986	Date	June 4, 1986

Listed below are the major items covering the month of May, 1986.

RAW MATERIALS ACTIVITY

1. During May we transferred 1,394,169 lbs. of arsenic acid to Valparaiso, IN and Newark, CA utilizing railcars UTLX-85653, UTLX-78581, and UTLX-79404. In addition, we utilized Highway Transportation to ship arsenic acid to Valparaiso, IN. At the end of fiscal May, we had 1,106,698 lbs. of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 lbs. and 317,938 lbs. at Jones-Hamilton in Newark, CA with a storage capacity of 314,000 lbs. Our total inventory of 75% technical grade arsenic acid at the end of May was 3,467,227 lbs. while our total inventory of 75% high purity arsenic acid was 226,000 lbs. for a Wolman Department grand total of 3,693,227 lbs.

   During May, railcar UTLX-79403 was repaired at the Lithcote Repair Shop in Altoona, PA and returned to Conley, GA, however, upon receipt at Conley, it was determined that the lining resin had not cured and therefore, the car had to be returned to Altoona, PA. This car departed Conley on Saturday, May 31st for a second trip to the Lithcote Repair Shop. In addition, railcar GATX-74970 arrived back at Conley, and it was determined that the lining had deteriorated to the extent that this car, likewise, must go to the repair shop in Paris, TN. During the week of June 2nd, this car will be thoroughly cleaned and sent to the repair shop for lining repairs and a thorough maintenance check. Therefore, during June we will continue to utilize the services of Highway Transportation Company as well as our own Valparaiso and Conley trucking operations to move arsenic acid from Conley to Valparaiso in order to alleviate the storage problem at Conley. By utilizing these trucks, it will allow us to maintain our tanks at full levels at both Jones-Hamilton and Valparaiso.

2. During May we shipped 44,060 lbs. of 75% high purity arsenic acid in bulk to Corning's plant in Martinsburg, WV. In addition, we shipped 1,086 lbs. of 75% high purity arsenic acid in drums to Corning's plant in Harrodsburg, KY. We also shipped 92,060 lbs. of 75% technical grade arsenic acid in bulk to Langdale in Valdosta, GA.

303

K-5 REV. 2

BZTO104(e)011139

On June 4th, Jim McGill and I will be visiting Corning Glass Work's corporate headquarters in Corning, NY to meet with John Copley, Dick Bauer and Diana Hayes regarding the formal issuance of their specification for 75% high purity arsenic acid. We have requested Corning accept a level of unreacted arsenic trioxide at .5% and to date, we haven't received confirmation of their acceptance for their plants at Danville, VA, Harrodsburg, KY, and Martinsburg, WV. Our inventory level dictates that we must get resolution of this issue immediately in order to begin production of high purity arsenic acid at Conley and fill
the segregated tank. During our visit, I will coordinate with John Copley a trip by Corning personnel to the Conley operations as part of Corning's quality program.

3. During May Asarco finalized arrangements with Power Master, Inc. to remove the stones from the seven (7) Asarco railcars at the Conley plant. This material will then be conveyed to silo #1 for direct feed to the arsenic acid plant at a future date. Power Master mobilized their equipment in late May and currently are working on railcars NP-175007 and NP-175002 and after they have accomplished the removal of the stones out of all seven (7) cars at Conley, they will proceed to Asarco's plant in Tacoma, WA to remove the stones from material currently in railcars at their facility. In addition, I advised Lou Fitzgerald that all material loaded from the storage bins at the Asarco plant in Tacoma, WA must be passed through a ten mesh screen prior to loading. With the assistance of Power Master, Inc. and the utilization of the ten mesh screen, it should allow us the opportunity to use the remaining material located in Tacoma as well as the material currently stored in railcars at Conley. Approximately 1,800 tons of arsenic trioxide will be available if the screening and removal of the stones is acceptable.

During May we received two (2) railcars (308,646 lbs.) of 95% AS_2O_3 from Minera Mexico in Mexico. In addition, Minera Mexico declared force majeure on May 7th due to a strike at their San Luis Potosi facilities. This strike ended on May 24, 1986 and on June 2nd we received a shipping schedule from Minera Mexico for the remaining 1,400 metric tons of material. We currently have one railcar in Conley that will be unloaded and released the week of June 2nd and based on the recent shipping schedule, we should have three (3) cars shipped during the month of June to Conley. In the near future, I plan on visiting San Luis Potosi on a follow-up trip to begin discussions for 1987 on bulk arsenic trioxide from Mexico. Our discussions will entail both 95% material and 99% material.

During May we also received material from North American Minerals in South Africa, El Indio in Chile, Boliden in Sweden, Salsigne in France and Amula International in Portugal. At the end of fiscal May, we had at Conley, drummed material from Le Panto in the Philippines, North American Minerals in South Africa, El Indio in Chile, Pennaroya in France, Boliden in Sweden and bulk material from Minera Mexico in Mexico. In addition shipments were in transit from Boliden in Sweden,

BZTO104(e)011140

Salsigne in France, Afrimet Indussa in Belgium, Amula International in Portugal, St. Joe's El Indio facilities in Chile and North American Minerals in South Africa.

During our Arsenic Trioxide Strategy meeting on May 12th in Conley, it was decided to begin moving material at the rate of approximately 500,000 lbs. per month from El Indio in Chile. Upon returning to Pittsburgh, I released the first increment and we will receive monthly shipments of approximately 533,337 lbs. (14 containers) per month June through December of 1986. I advised St. Joe's that in September, after we have a fair amount of experience running their material, we would sit down and finalize negotiations for a longer term contract for their material. In addition, I confirmed the additional 1,000 metric tons for 1986 from Salsigne in France and the additional 500 metric tons for 1986 from Boliden in Sweden. In the next few weeks a schedule will be put together for follow-up visits to the various worldwide producers of arsenic trioxide to begin negotiations for long-term contracts to ensure a continuous supply of arsenic trioxide in 1987 and beyond. It is critical that these discussions be started in the very near future inasmuch as we do not have any contracts beyond 1986 at this point in time.

4. During May I continued to work closely with Tony Desanti of Falconbridge, Ken Thomas of Giant Yellowknife and Wayne Peddie of Trimac to empty the silo at Giant Yellowknife. At the end of May there was one full Koppers' trailer in Edmonton, one full Koppers' trailer in Conley and one full Trimac trailer in Conley. In addition, I was advised that there still are approximately two (2) truckloads of material in the silo in Giant Yellowknife. As soon as our two (2) units have been emptied, I intend to piggyback them to Edmonton and have Trimac bring them back and forth from Edmonton to Giant Yellowknife to Edmonton and have them piggybacked back to Conley. Currently, the ice bridge is going out and the ferry is running intermittently based on the flow of ice from Great Slave Lake.

   In the near future, we will need to get together with Tony Desanti, Pat Raleigh and the Giant Yellowknife personnel to discuss what is happening in Conley and the cost of processing arsenic trioxide from Giant Yellowknife. It is imperative that we maintain our relationship with Falconbridge and Giant Yellowknife and I recommend that we get together in a meeting with these people in the near future. In the meantime, we need to sit down and collectively decide what our approach will be with Falconbridge and Giant Yellowknife. I will continue to maintain close communications with Trimac, Giant Yellowknife and Falconbridge personnel and keep you right up to date.

5. During May Eldorado Gold Mines was advised that we would take the 500 drums stored in Toronto at the rate of two (2) truckloads per week starting the week of May 19th. There are a total of ten (10) truckloads and by the week of 6/16/86 these will have been received in Conley. I also advised Eldorado that we would not be able to take the 1,662 drums in Duparquet, Quebec, Canada for the remainder of calendar

BZTO104(e)011141

1986. On Tuesday, May 20, 1986, Mark Smarchanski, the President of El Dorado Gold Mines met with the environmental people from the Province of Quebec. At that time he reviewed the information we had telexed him and, to date, I have not heard the results of his meeting. I have recommended that we meet with Mark in the near future to discuss the handling of his material and the logistics of returning the arsenic trioxide residues to Canada.

On June 26th, Bill Cunningham of Western Mining in Australia will be visiting Pittsburgh to discuss the shipping schedule for his material from Australia. Currently we have 68,141 lbs. of his material in Conley and we need to determine if we can run this material direct in the new arsenic acid plant prior to Bill's visit. During his visit I'm sure he will be pushing to get some kind of proposed shipping schedule for his material.

6. At the end of fiscal May our closing chromic acid inventories were 160,611 lbs. ($119,341.00) and our closing black copper oxide inventories were approximately 85,066 lbs. ($70,488.00). Our arsenic trioxide inventories were approximately 5,282,559 lbs. ($1,147,852.00), and our arsenic acid inventories were 3,693,227 lbs. ($1,584,181). The amount of refined arsenic trioxide in the above number was 813,738 lbs. ($255,246.00), consisting of Asarco material, Minera Mexico material, Le Panto material, North American Minerals material, El Indio material, Pennaroya material, and Boliden material. The balance of 4,468,821 lbs. ($892,606.00) was in the form of Giant Yellowknife, El Dorado and Western Mining crude arsenic trioxide. In addition, Koppers Hickson's inventories were zero pounds of chromic acid and arsenic acid, 33,138 lbs. of black copper oxide and 15,660 lbs. of CCA-C. Our domestic total inventories including chrome ore were approximately $4,208,340.00 at the end of fiscal May. This amounted to an increase of approximately $281,980.00, (7.2%) from the April levels.

7. During the month of May we consumed 2,192,580 lbs. of chromic acid from Diamond Shamrock and 148,176 lbs. of foreign chromic acid from West Germany. At this point, the only material that we are taking from Diamond Shamrock is in sparger cars or sparger trucks for Conley and Valparaiso. Our drum requirements at Jones-Hamilton in Newark, CA as well as Conley and Valparaiso are being supplied by Bayer through Mobay in West Germany. Through the first five months of 1986 we have consumed 8,494,580 lbs. (4,247 tons) of chromic acid from Diamond Shamrock and 622,743 lbs. (311 tons) of foreign material from China and West Germany.

During May we continued to experience a great deal of tightness in the deliveries of sparger cars of chromic acid to both Conley and Valparaiso from Diamond Shamrock's plant in Castle Hayne, NC. They have 31 cars in their fleet, however, they seem to be having difficulty in coordinating the shipments and return of their cars to Castle Hayne, NC for loading. Since moving their customer services and transporation monitoring operations from their Beechwood office to the offices in Los Colinas, TX major difficulties have existed. During our visit of June

BZTO104(e)011142

5th I would hope that this issue can be discussed thoroughly since in the months of June, July and August we will require approximately 1,100 to 1,200 tons per month of chromic acid. A preliminary copy of the revised chromic acid conversion agreement was received on June 2nd and negotiations will be held in Los Colinas, TX on June 5th to finalize this agreement prior to the June 16th date which is one year prior to the expiration of the original agreement.

8. During May we finalized duty drawback Claim #20 covering exports for the second quarter of 1986 and this claim was submitted to the Department of the Treasury for liquidation. This duty drawback claim amounts to $7,606.12 and we should have our check from the Treasury Department in early June. In addition, we received certificates of delivery for chromic acid from Phillip Brothers and Mobay for material imported to Jones-Hamilton in Newark, CA. I'm currently awaiting certificates of delivery for the container of Chinese material such that in the submittal of Claim #21 covering exports in the third quarter of 1986 we can begin submitting requests for duty drawback on chromic acid imports. This will significantly increase our total duty drawback claim dollars during the second half of 1986 and the first half of 1987. Through duty drawback Claim #20 we will have collected $310,583.90 in duties paid for black copper oxide and chromic acid since the outset of our program.

9. To date, I have not received follow-up information on the cleanup effort at the Time Oil Terminal in Portland, OR. For that reason, I have yet to process their invoice for $42,081.21 covering expenses to date. During the week of June 9th Jim Garrity will be on the West Coast, and during his visit I intend to have him stop and talk with Neal Wallis at the Portland Terminal as well as contact John Denham and Bob Abendroth to get additional information and support of this invoice.

10. During May the tank trailer to be leased for the West Coast from Cargo Tank Lines in Chicago was completed and inspected by Glenn Schultz at Polar's plant in Minneapolis, MN. The trailer was then moved down to Valparaiso for use for approximately a week prior to shipment to the West Coast. During the week of June 2nd, the tank trailer will be sent to the West Coast and Glenn Schultz and Jim Garrity will rendevous at Jones-Hamilton in Newark, CA on Monday, June 9th to meet with Matlack to finalize the agreement to haul this unit for dedicated service of CCA-C on the West Coast. In addition, during their visit to Jones-Hamilton, discussions will be held with Dan Gilbert, the Executive Vice President, to review installation of the filtration equipment and the installation of a drum crusher at Jones-Hamilton's facilities in Newark, CA. It is imperative that we get together with Dan to ensure a smooth utilization of the tank trailer as well as the installation of a drum crusher and filtration equipment at the Jones-Hamilton facilities in Newark, CA.

11. During June we need to get together with John Hite, Bob Hamilton,

BZTO104(e)011143

Don Hallahan, along with Phillip Eschenasy, President of Trade Consultants International, Inc. to discuss our counter trade or barter programs covering arsenic trioxide from El Indio in Chile, phosphoric acid from Israel and black copper oxide from Israel. As soon as I get information from George Sofronis of IBM on the availability of Chilean pesos to purchase this material from St. Joe's, I will make arrangements to meet with everyone to discuss our counter trade agreement.

12. During May the final answers to the internal audit report at Valparaiso were submitted to Rich Graham and Rich indicated approval with our comments. In addition, the AFE for the new tank trailer was finalized and this unit is being currently built by Polar in Minneapolis and will be available the week of June 16th. This trailer is several thousand dollars less than the Fruehauf unit and delivery was obtained in four weeks versus fourteen weeks in their recent quotation to Jim Dunson at Conley. In addition, we finalized the AFE and installation of the car puller and this unit has substantially helped in the spotting of chromic acid sparger cars and arsenic acid cars at Valparaiso.

    During June I will finalize AFEs with the assistance of Bill Meisinger for the black copper oxide handling system, a new Tenant sweeper and agitation equipment for our reactors at the Valparaiso facility. Ken Cogan is in the process of finalizing his recommendations for this new agitation equipment, and as soon as his proposal is received the AFE will be written for approval and equipment ordered and installed.

13. In conjunction with our problems with DRICON at several licensee's plants, we have proceeded to order dicyandiamide without anti-caking agents. As soon as we have purged the system of BOC and Canadian Cyanamid material with anti-caking, we will return to the use of dicyandiamide in 25 kilo (55 lb.) paper bags without anti-caking agent for the production of DRICON at Valparaiso. Currently, we are working on different anti-caking agents with Canadian Cyanamid and BOC and I've had preliminary meetings with Miljac regarding SKW's material and the use of anti-caking agents in their product. I will keep you up to date on the status of the situation with DRICON at our facility in Valparaiso.

    During the week of May 26th, we replaced the stainless steel belt on the South machine (new machine) and cleaned out the effluent tank in order to eliminate any other potential quality problems that may exist with the DRICON product. We hope to be in a position to run both machines two shifts starting the week of June 2nd. This production schedule will be predicated on the sales of DRICON in the months of June and July.

14. During the week of May 12th we began running a trucking operation out of Valparaiso, IN to cover inbound raw materials and outbound phenolic foam insulation shipments for the Oak Creek plant in Wisconsin. We have established schedules for pick-up of facer material from Manville in Toledo and are coordinating closely with the Marketing and Sales

BZTO104(e)011144

Department to ensure backhauls on each and every load. During the first three weeks of operation, we have been very successful in getting the necessary backhauls and maximizing the use of this flatbed for this service. During early June a meeting will be scheduled in Oak Creek with Tom Donovan and Paul Zeh, along with Glenn Schultz and myself to review the cost impact of this operation.

In addition, during May, we continued to work closely with Bill Merz at OMNI Fiberglas to distribute his products in the mid-west out of our Valparaiso plant. During June we will also backhaul a load of fiberglas product from Chino, CA to Aurora, OH in conjunction with our trucking operation out of Valparaiso.

15. I'm working closely with Don Hallahan of the International Department on releasing one (1) container of production arsenic trioxide from China in conjunction with the follow-up information received from Don in May. In addition, I am awaiting information on pricing for chromic acid from China to also ship a container of production material from there to Conley. I will continue to work closely with Don on the potential sourcing of Chinese chromic acid and arsenic trioxide in the future.

16. On May 6th Bob Toth, Art Chernosky and Chet DeSavigny of Pennwalt Corporation visited the Conley plant and met with Cliff Smith, Jon Nommensen, Frank Klasnick and myself to discuss arsenic acid production. This visit was a reciprocal visit following our visit to their plant in Bryan, TX during April. The visit was extremely worthwhile and helped continue our solid relationship with Pennwalt in the event that we require arsenic acid from them at any time in the future.

17. On Thursday and Friday, May 29th and 30th, meetings were held in the office of Al Wells with Jeff Sturm, Alan Ross, Jim Garrity, Peter Morse, Bill Meisinger, Al Wells and myself to discuss stain manufacturing in St. Louis. It is imperative that after reviewing formulations and discussing pilot plant studies that we have a realistic proposal prepared within the next two weeks for the installation of the necessary equipment and operations of this facility by the end of 1986. I will work closely with this group to ensure an extremely smooth transition from Glidden to our own facilities in St. Louis.

18. On May 28th I attended the Protection Products/Wolman Department quarterly planning meeting and reviewed the situation with the copper oxide manufacturing potential for our requirements in the future. Discussions were held with Alan Ross and Theron Brayman regarding this potential opportunity. In addition, discussions were held on 60% CCA-C being produced at Valparaiso, IN and Theron is awaiting samples on the recent batch to determine what the problems may have been with the metallic material appearing in the concentrate after a few days. Most likely we will need to segregate low iron and lead arsenic acid for the manufacture of 60% CCA-C. Currently, Theron is reviewing the

BZTO104(e)011145

procedures for manufacture and will provide information necessary to establish limits on the lead and iron levels in the arsenic acid and basically a very thorough procedure for the manufacture of this product. I will work closely with Theron and Glenn to ensure that we have no quality problems with any 60% CCA product that leaves the Valparaiso, IN plant.

VALPARAISO ACTIVITY

See Glenn Schultz' report of May 28, 1986 which is attached.

ST. LOUIS ACTIVITY

See Jim Garrity's report of June 12, 1986 which is attached.

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM:vtw

Attachments

cc: J. D. Hite
W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
J. D. Hite
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
W. A. Meisinger
Dr. C. R. McIntyre
R. R. Moran
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

303

KOPPERS MAY 12 1986

Interoffice Correspondence

To	J. Kusar	From	D. F. Marion
Location	K-750	Location	K-750
Subject	Monthly Report - April, 1986	Date	May 7, 1986

Listed below are the major items covering the month of April, 1986:

RAW MATERIALS ACTIVITY

1. During April we transferred 727,516 lbs. of arsenic acid to Valparaiso, Indiana utilizing railcars UTLX-79403, UTLX-79404 and UTLX-85653. We also utilized Conley and Valparaiso trucks to backhaul arsenic acid during the month of April. During April we did not transfer any arsenic acid to Jones-Hamilton in Newark, CA. At the end of fiscal April, we had 751,318 lbs. of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 lbs. and 331,899 lbs. at Jones-Hamilton with a storage capacity of 314,000 lbs. Our total inventory of 75% technical grade arsenic acid at the end of April was 3,261,203 lbs. while our total inventory of 75% high purity arsenic acid was 267,964 lbs. for a Wolman Department grand total of 3,529,167 lbs.

   During April, railcar UTLX-79403 was found to have a cracked lining and was sent to the Lithcote Repair Shop in Altoona, PA. This car is currently being repaired, and should be available for service in early May. In addition, we are continuing to try to locate one or two more large UTLX cars that could be placed in our fleet to allow us to run all three 10,000 gallon cars to Jones-Hamilton and three or four 13,500 gallon cars to Valparaiso. During early May, Highway Transportation Company will [redacted] moving arsenic acid from Conley to Valparaiso to help alle[redacted] problem currently existing in Conley for arsenic acid [redacted] will be moved at a rate approximately the same as the c[redacted] between Conley and Valparaiso.

2. During April we shipped 44,040 lbs. of 75% high purity arsenic acid in bulk to Corning's plant in Martinsburg, WV. In addition, we shipped 11,200 lbs. of 75% high purity arsenic acid in drums. We also shipped 44,040 lbs. of 75% technical grade arsenic acid in bulk to Langdale in Valdosta, GA. We also shipped 44,160 lbs. of 75% technical grade arsenic acid in bulk to J. H. Baxter from Jones-Hamilton in Newark, CA.

303

K-6 REV. 2

BZTO104(e)011147

On Wednesday, April 23rd, Jim Dunson and I visited the Corning Glass Plant in Charleroi, PA to meet with Corning personnel regarding the tank cleanout at Charleroi, PA. We were advised that Corning's plant at Charleroi would no longer be utilizing arsenic acid and we needed to remove the 30,000 to 40,000 lbs. currently in the tank. Jim Dunson and Ben Hussey will be coordinating this activity in the next few weeks with Corning's personnel at Charleroi.

During May, a visit to Corning Glass Work's corporate headquarters in Corning, NY will be set up to meet with John Copley and Carol Christian regarding the formal issuance of their specification for 75% high purity arsenic acid. I am currently working closely with Carol Christian to arrive at a mutually agreed upon level of unreacted arsenic trioxide in our 75% high purity arsenic acid for their plants at Danville, VA and Martinsburg, WV. In addition, during my visit, I will coordinate with John Copley a trip by Corning personnel to the Conley operations as part of Corning's quality program. It is imperative that we get together in May in Corning's corporate headquarters to discuss these issues.

3. During April we received one Asarco car (130,580 lbs.) from Tacoma. We continued to experience major difficulties in running this material with stones and with foaming and reactivity in our reactor. We are currently working very closely with Lou Fitzgerald, Jerry Cohen and Bob Sylvanus of Asarco to eliminate the problem with stones in their material. A meeting was scheduled in Conley on May 2nd with Power Master, Inc. to review the feasibility of removing the stones from the seven cars that are currently in Conley. If this procedure works, these cars will be handled at Conley and the remaining material in the Asarco storage bins in Tacoma will be processed in a similar manner.

Based on receipt of 65 tons of Asarco material in April and the physical inventories in Tacoma and material in transit as of the end of April, we have approximately 1,815 tons of arsenic trioxide from Asarco remaining for production in the arsenic acid plant in Conley as of the beginning of fiscal May.

During April, we also received 465,612 lbs. of 99% AS_2O_3 from Boliden, 198,414 lbs. of 99% AS_2O_3 from Salsigne, 187,395 lbs. of 99% AS_2O_3 from Afrimet Indussa, 141,096 lbs. of 97/99% AS_2O_3 from North American Minerals and 462,969 lbs. of 95% AS_2O_3 from Minera Mexico. The Minera Mexico material was received in bulk while the rest of the material was received in drums. At the end of fiscal April we had in Conley, drummed material from Le Panto in the Philippines, North American Minerals in South Africa, and Pennaroya in France. In addition, shipments were in transit from Boliden in Sweden, Salsigne in France, Afrimet Indussa in Belgium, Amula International in Portugal, St. Joe's in Chile and North American Minerals in South Africa.

BZTO104(e)011148

During our arsenic trioxide strategy meeting on May 12th and 13th in Conley we will have to decide what to do regarding the contract for 3,000 metric tons of El Indio material from Chile. In addition, Salsigne in France has offered an additional 1,000 metric tons for 1986 and Boliden has offered an additional 500 tons for 1986. During our meeting, we will have to decide if we should contract for the additional material as well as the material from Chile. During our meeting, a schedule will be put together for followup visits to the various world-wide producers of arsenic trioxide to begin discussions for long-term contracts to insure a continuous supply of arsenic trioxide in 1987 and beyond. It is critical that these discussions be started immediately, inasmuch as we do not have any contracts beyond 1986 at this point in time.

4. During April, I continued to work closely with Tony Desanti of Falconbridge, Ken Thomas of Giant Yellowknife and Wayne Peddie of Trimac to empty the silo at Giant Yellowknife. Currently, there is one Koppers trailer full in Edmonton, one Koppers trailer full in Conley and one Trimac trailer full in Conley. In addition, Brian Cross, the production man at Giant Yellowknife, indicated that there was still approximately fifty tons in the silo to be removed. However, due to the breakup of the ice bridge, it will be approximately June 1st before this material can be pulled from the silo. I intend to have the last Trimac trailer in Conley emptied and de-contaminated and then empty the two Koppers' trailers, and when emptied piggy back them back to Edmonton and Trimac will haul them to and from Yellowknife in the northwest territories to clean out the silo at Giant Yellowknife. At that point, both trailers will be brought back to Edmonton for piggy back transit to the Conley operations. At that point in time, we should have completed the emptying of the silo at Giant Yellowknife.

   During our arsenic trioxide strategy meeting of May 12th and 13th, we need to review the Giant Yellowknife/Falconbridge situation thoroughly, in that, Tony Desanti has indicated that he and Pat Riley, along with people from Giant Yellowknife would like to visit the Conley operation to see what is happening and possibly make additional recommendations that would allow us to reduce our costs. It is imperative that we maintain our relationship with Falconbridge and Giant Yellowknife, and I recommend that we get together in a meeting with these people prior to their upcoming visits to Conley.

5. Please note that El Dorado Gold Mines continues to hold approximately 2,000 to 2,500 drums in Canada which need to be shipped to Conley prior to May 31st, 1986. I was advised by El Dorado personnel that shipments will begin the week of May 12th at the rate of 1-2 truckloads per week. In addition, Mark Smarchanski, the President of El Dorado Gold Mines has indicated that he would like to visit Conley to discuss the handling of his material and the logistics of returning the arsenic trioxide residues to Canada.

BZTO104(e)011149

In addition, Bill Cunningham of Western Mining in Australia has continued to push for a shipping schedule from us for his material in Australia. Currently we have 68,141 lbs. of this material in Conley and we need to determine if we can run this material direct in the new arsenic acid plant. As soon as feasible, we need to advise Bill Cunningham a proposed shipping schedule for the material currently in Australia.

6. At the end of fiscal April, our closing chromic acid inventories were approximately 175,368 lbs. ($130,834) and our closing black copper oxide inventories were approximately 62,528 lbs. ($51,886). Our arsenic trioxide inventories were approximately 5,044,626 lbs. ($1,057,615) and our arsenic acid inventories were approximately 3,529,167 lbs. ($1,448,874). The amount of refined arsenic trioxide in the above number was 469,916 lbs. ($145,420), consisting of Asarco material, North American Minerals material, Pennaroya material and Le Panto material. The balance of 4,574,710 lbs. ($912,195) was in the form of Giant Yellowknife, El Dorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were zero pounds of chromic acid and arsenic acid, 26,586 lbs. of black copper oxide and 56,597 lbs. of CCA-C. Our domestic total inventories, including chrome ore were approximately $3,925,898 at the end of fiscal April. This amounted to a decrease of approximately $143,454 (3.5%) from the March levels.

7. During the month of April we consumed 1,821,400 lbs. of chromic acid from Diamond Shamrock and 363,572 lbs. of foreign chromic acid from West Germany and China. At this point, the only material that we are taking from Diamond Shamrock is in sparger cars for Conley and Valparaiso. Through the first four months of 1986, we have consumed 6,302,000 lbs. (3,151 tons) of chromic acid from Diamond Shamrock. The majority of this material was in sparger cars and with the drummed material from China and West Germany now arriving regularly at Jones-Hamilton, Conley and Valparaiso, there should not be any requirement for drummed material from Diamond Shamrock in the near future.

During the month of April we began experiencing a great deal of tightness in the deliveries of sparger cars of chromic acid to both Conley and Valparaiso from Diamond Shamrock. Although 31 cars exist in Diamond Shamrock's fleet, and they have apparently no material problems, there seems to be a tremendous amount of difficulty on their part getting the sparger cars back and forth to Castle Hayne, NC for loading and shipment to Conley and Valparaiso. Since moving their customer services and transportation monitoring operations from their Beachwood, OH office to the offices in Los Colinas, TX major difficulties have existed. There have been times during the month of April that Valparaiso has been out of sparger car chromic acid and Conley has only had one or two cars in transit beyond their daily requirements. If this situation doesn't clear up, the months of May, June, July and August could be extremely difficult and may necessitate the use of drummed

BZTO104(e)011150

chromic acid to supplement the sparger cars from Diamond Shamrock. During the month of May, I anticipate a visit to Dallas to review the overall logistics of sparger car shipments from Los Colinas, TX.

8. During April we received a check for $17,505.87 covering claims 18 and 19 for the 3rd and 4th quarters of 1985 for our duty drawback program. This completes all claims filed through 1985 and brings our total for the first 19 claims since the beginning of our program to $302,977.78. In addition, during April, Claim #20 covering exports for the first quarter of 1986 was received and is currently being processed for submittal to the Treasury Department in May. Although this claim does not include any chromic acid, arrangements have now been made with C. Withington, Phillip Brothers and Mobay to receive certificates of delivery for imports to allow us to recover the 4.2% duty currently paid for imports of chromic acid. On Claim #21 which will cover the exports for the second quarter of 1986, we will begin submitting requests for duty drawback on chromic acid imports.

9. During April I circulated the invoice for $42,081.21 from Time Oil covering the current expenses in the cleanup effort at the Portland Terminal. As soon as I receive feedback regarding this invoice, I will process it for payment.

10. During April, final construction was completed on a tank trailer for dedicated use at Jones-Hamilton on the West Coast. On May 6th Glenn Schultz will visit the fabrication shop in Minneapolis, MN to inspect this trailer before taking it down to Valparaiso for a weeks worth of test runs prior to shipping it to the West Coast. By the end of May, I hope to have this unit being hauled by Matlack in dedicated service at Jones-Hamilton in Newark, CA. In addition, during May, a followup visit to Jones Hamilton to meet with Dan Gilbert, the Executive Vice President, will be made to review installation of filtration equipment and the placement of a drum crusher at Jones-Hamilton's facilities in the near future. It is imperative that we get together as quickly as possible with Dan Gilbert to insure a smooth utilization of the tank trailer and the installation of a drum crusher and filtration equipment at the Jones-Hamilton facilities.

11. During early May we need to get together with Bob Hamilton, John Hite, Don Hallahan, along with Phillip Eschenasy, President of Trade Consultants International, Inc., to discuss a method of purchasing the arsenic trioxide from El Indio in Chile with Chilean pesos, and have these pesos provided by IBM through a counter trade or barter agreement. Several discussions have been held with George Sofronis of IBM and Phillip Eschenasy as we have been in the process of testing and utilizing this material. Prior to our payment for the ten containers and the finalization of a contract for 3,000 metric tons with St. Joe's, we need to determine the feasibility of paying for this material

BZTO104(e)011151

in Chilean pesos through a counter trade arrangement with IBM. After our arsenic trioxide strategy meeting on May 12th and 13th, I propose that this meeting be held in the Pittsburgh offices to review the situation.

In addition, I am working with Phillip Eschenasy on Israeli phosphoric acid and copper oxide in conjunction with potential counter trade or barter agreements. Phillip departed Thursday, May 1st for Israel and will report back his findings upon return to the United States in mid-May.

12. On Wednesday, April 30th, I visited the Valparaiso, IN plant and finalized answers to the April 7th internal audit report. This information will be sent to Rich Graham prior to the May 7th deadline for answering the audit report. In addition, during my visit, AFEs were finalized for a new tank trailer and the installation of the car puller from Woodward, AL and these will be submitted for your approval in early May. In addition, I anticipate working closely with Bill Meisinger to finalize the AFE for the black copper oxide handling system to be installed at Valparaiso as soon as possible.

13. On Friday, May 2nd, I met with Steve Shields, Scott Hoffman, Alan Ross and Ken Cogan regarding the problems with DRICON in several licensees's plants. It was decided that as soon as possible, we would begin using dicyandiamide without anti-caking agents. We have contacted BOC and Canadian Cyanamid to determine how quickly we could change over to the dicyandiamide without anti-caking agents. However, this conversion will prevent the use of dicyandiamide in supersacks and will require that we go back to 25 kilo (55 lb.) paper bags that will need to be opened and dumped on an individual basis. I would hope that this is a short-term measure and we can return to supersacks as quickly as possible. Currently, samples containing two different anti-caking agents are being sent to Scott Hoffman from Canadian Cyanamid for testing.

14. On May 1st, 1985 Glenn Schultz and I visited the Oak Creek Plant and met with Tom Donovan and Paul Zeh regarding the implementation of a trucking operation to handle inbound raw materials and phenolic foam insulation for the Oak Creek Plant. We have established a schedule to pick up facer material from Manville in Toledo, OH beginning the week of May 12th and will work closely with the Marketing and Sales Department to achieve backhauls on each and every load that we haul. The smooth and profitable running of this operation will rely on backhauls being obtained at all times.

15. I am working closely with Don Hallahan of the International Department on followup information from his visit to China on arsenic trioxide and chromic acid. Samples of arsenic trioxide have been sent for testing to our Orrville Research Center. In addition, continual information is

BZTO104(e)011152

being submitted on chromic acid from China. I will continue to monitor this situation closely with Don on the potential sourcing of Chinese chromic acid and arsenic trioxide.

16. On April 8th, Cliff Smith, John Nommensen and I visited the Pennwalt arsenic acid plant in Bryan, TX. A followup visit by Pennwalt personnel to the Conley operation has been scheduled for May 6th. The details of Pennwalt's visit have been coordinated with Frank Klasnick to insure a well coordinated visit.

17. On Wednesday April 16th, Ken Cogan, Theron Brayman, Glenn Schultz and I visited the CP Inorganics plant in Joliet, IL and met with Tom Cassata, the President of CP Inorganics. Discussions were held on all issues of his production as well as the tightness of his material in conjunction with the EPA temporary closure of his West Coast plant in Union City, CA. We were advised by Tom that material would be maintained in his warehouse to insure an adequate supply to the Valparaiso plant. In addition, he advised that by early May, the West Coast Plant would be up and running again and this should alleviate any tightnesses of his material.

18. In conjunction with our trucking meeting of Tuesday, April 22nd, I am working closely with Jim Dunson to accumulate all the information required to assess the feasibility of setting up a trucking operation for the Building Products Sector. As noted above, the operation of a truck out of Valparaiso, IN to haul inbound raw materials and outbound finished goods for the Oak Creek plant has been set up and this will be expanded in conjunction with information received in early May for shipments into and out of other Building Products Sector operations. In addition, shipments have been received from OMNI Fiberglas in Chino, CA at the Valparaiso, IN plant and we will distribute fiberglas products for OMNI from the Valparaiso location. I am currently working very closely with Bill Merz to expand this into other Building Products Sector locations to insure maximum distribution of OMNI products from existing Building Products Sector plants located throughout the U.S.

VALPARAISO ACTIVITY:

See Glenn Schultz' report of April 30, 1986 which is attached.

ST. LOUIS ACTIVITY:

See Jim Garrity's report of May 5, 1986 which is attached.

BZTO104(e)011153

If you have questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM:vtw

Attachments

cc:
W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
J. D. Hite
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
Dr. C. R. McIntyre
W. A. Meisinger
R. R. Moran
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

BZTO104(e)011154

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

April 15, 1986

Multnomah County Assessors Office
Attn: Industrial Evaluation Section
610 S.W. Alder Street
Portland, OR 97205

Dear Sirs:

This is regarding parcel 97135-0180 at 12005 North Burgard Road in Portland, OR 97203.

Due to finding pentachlorophenol contamination of long standing at above site, Time Oil Co. has been and continues to be heavily engaged in implementing appropriate remedial measures in this 100' x 100' area. Costs already incurred and yet to be incurred have been estimated to exceed $200,000.

Sincerely,

Al Schneider
Vice President

AAS/ch

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

February 13, 1986

Multnomah County Assessor
Valuation Section
610 S.W. Alder, Room 400
Portland, Oregon 97205

RE: Parcel 97135-0180

Gentlemen:

We kindly ask to have you review and consider a reduction in land value for the above parcel owned by Northwest Terminal Co. for the folowing reason:

> The soil in an area approximately 100' x 100' has been found to be contaminated. Our organization has been working closely with the D.E.Q. to clean up the premises and we have incurred and/or committed expenses in 1985 of $88,000 for soil removal and test analysis to determine extend of plume. A contract has been let and we project the ultimate cost to be approximately $200,000 to clean up the property.

Should you have any questions on the progress of the clean up work, please direct them to Mr. John Denham at the above Seattle address. Questions you may have on any other matters are to be referred to me.

Thank you for your consideration.

Very truly yours,

TIME OIL CO.

A. A. Schneider
Vice President

AS/dea

BZTO104(e)011156

KOPPERS

Interoffice Correspondence

APR 16 1986

To	J. Kusar	From	D. F. Marion
Location	K-750	Location	K-750
Subject	Monthly Report - March	Date	April 7, 1986

Listed below are the major items covering the month of March 1986:

RAW MATERIALS ACTIVITY:

1. During March we transferred 545,000 lbs. of arsenic acid to Valparaiso and Jones-Hamilton utilizing railcars UTLX-79403, UTLX-79404 and GATX-74970. At the end of fiscal March, we had 816,328 lbs. of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 lbs. and 495,768 lbs. either in transit or at Jones-Hamilton with a storage capacity of 314,000 lbs. Our total inventory of 75% technical grade arsenic acid at the end of March was 2,861,450 lbs., while our total inventory of 75% high purity arsenic acid was 273,000 lbs. for a Wolman Department grand total of 3,134,450 lbs.

   We are continuing to try to locate one or two more large UTLX cars that could be placed in our fleet to allow us to run all three 10,000 gallon cars to Jones-Hamilton and three or four 13,500 gallon cars to Valparaiso. As soon as I am advised that these additional cars are available, I will get together with you to determine whether we should put these additional cars in our fleet to assure us the most efficient use of our equipment during the busy months of 1986.

2. During March we shipped 88,020 lbs. of 75% high purity arsenic acid in bulk to Corning's plant in Martinsburg, WV and [illegible] Plant in Central Falls, RI. In addition, we shipped 6,820 lbs. of 75% high purity arsenic acid in drums to Corning's plant in Harrodsburg, KY and USS Agrichem's plant in Decatur, GA. We also shipped 44,060 lbs. of 75% technical grade arsenic acid in bulk to Langdale in Valdosta, GA and 24,750 lbs. of 75% technical grade arsenic acid in drums to Koppers Chile. In addition, we received orders for April shipment from Corning's plants at

303

K-5 REV. 2

BZTO104(e)011157

Martinsburg, WV and Harrodsburg, KY for 75% high purity arsenic acid, and from J. H. Baxter for 75% technical grade arsenic acid shipped from Jones-Hamilton in Newark, CA.

In March I was advised by John Copley and Joanne Woodruff, of Corning Glass Works corporate headquarters in Corning, NY, that the Charleroi, PA plant would no longer be utilizing arsenic acid. I was advised that the consumer products that were previously made there would be made in England and that one of their three furnaces was being dismantled and shipped to England. We have been requested by John Copley to take the remaining material (approximately 30,000 lbs.) back to Conley and set up to clean out the arsenic acid tank at Charleroi, PA. I will coordinate this tank clean-out with Bill Baldwin, Frank Klasnick and Jim Dunson during the month of April. In addition, I intend to visit the Corning Glass Works corporate headquarters in Corning, NY to meet with John Copley and Carol Christian regarding the formal issuance of their specification for 75% high purity arsenic acid. John Copley has indicated that they still anticipate finalizing a trip to Conley by Corning personnel from their corporate headquarters as well as their plant in Martinsburg, WV. This visit to Conley will be in conjunction with Corning's quality program.

3. During March we received seven Asarco cars of 65 tons each from Tacoma. However, we only consumed approximately 565,000 lbs. (four railcars) due to gravel being in some of the cars and others having material packed down as hard as concrete. We also consumed approximately 38,000 lbs of El Indio material, 315,000 lbs. of Boliden material, and 154,000 lbs. of Minera Mexico material, as well as 138,367 lbs. of Koppers refined material. This left us material in drums in Conley from Le Panto in the Philippines, North American Minerals in South Africa, Penarroya in France, Boliden in Sweden, and Afrimet Indussa in Belgium. These drums will be consumed in the new drum handling system as we proceed into the fiscal month of April.

Based on our receipt of 461 tons of Asarco material in March and the physical inventories in Tacoma and material in transit as of the end of March, we have approximately 1,880 tons of arsenic trioxide from Asarco remaining for production in the arsenic acid plant in Conley as of the beginning of fiscal April. I will make arrangements with Lou Fitzgerald and Jerry Cohen for your visit to the Asarco Tacoma facilities on Wednesday, April 2, to reconfirm the inventory levels as well as discuss the problems with handling their material due to gravel and concrete characteristics of this material.

BZTO104(e)011158

During March we consumed the last railcar of 99% As_2O_3 from Minera Mexico. In addition, the first three railcars of 95% material covered on the new contract were shipped from San Luis Potosi to Conley. These cars should be available in early April for consumption in the new arsenic acid plant. Our contract with Minera Mexico calls for 1,800 metric tons (1,984 tons) of 95% material to be shipped in bulk railcars at the rate of two railcars per month. Minera Mexico, however, has indicated that they are sold out through May of 99% As_2O_3 and therefore could not offer us any of this material until after that time. In addition, they have been working closely with Asarco to obtain one or two additional cars that could be used in this service of shipping 95% As_2O_3 to Conley. I will continue to monitor that situation very closely.

During March we began receiving on a regular basis 99% arsenic trioxide in drums from Boliden, Salsigne and Afrimet Indussa. In addition, shipments were made by North American Minerals, as well as Amula International and El Indio.

The ten containers of El Indio material are due to arrive in Savannah, GA on April 11, 1986. These containers will be immediately moved into the Conley plant for running through the new drum handling as well as the new arsenic acid plant. I currently have circulated the formal contract from El Indio for comments by everyone prior to execution in the near future. During April we will also need to run the 24,000 lbs. of Le Panto material through the drum handling and arsenic acid plant in order to give Mr. Ramon Recto, of Le Panto in the Philippines, an answer on our abilities to handle his material.

During April I would hope to have finalized all arsenic trioxide contracts for drummed and bulk material for the remainder of 1986. At that point in time, a schedule will be put together for follow-up visits to initiate discussions for longer term contracts to ensure a continuous supply for arsenic trioxide in 1987 and beyond. It is critical that these discussions be started immediately to ensure an uninterrupted supply of material in the future.

4. During March I continued to work closely with Tony Desanti of Falconbridge, Ken Thomas of Giant Yellowknife and Wayne Peddie of Trimac to empty the silo at Giant Yellowknife at Yellowknife, the Northwest Territories. Currently, there are approximately two loads remaining in the silo at Giant Yellowknife and these final two loads will be removed

BZTO104(e)011159

utilizing Koppers trailers in the early part of April. At that point, we will have decontaminated all six Trimac trailers and they will have been put in other services and we will only have the two Koppers trailers with loads remaining. To date, we have been able to unload all of this material in silos #2 and #3 in Conley, leaving silo #1 empty and ready for conversion to a refined arsenic trioxide silo.

During April we need to sit down and discuss the Giant Yellowknife/Falconbridge situation thoroughly in that Tony Desanti has indicated that Pat Raleigh and people from Giant Yellowknife would like to visit the Conley operation to see what is happening and possibly make additional recommendations that would allow us to reduce our costs. I will stay in close contact with both the Giant Yellowknife and Falconbridge people to ensure that we do not affect our overall good relationship with either one of them.

5. Please note that Eldorado Gold Mines continues to hold approximately 2,000 to 2,500 drums in Canada which will need to be shipped to Conley after May 31, 1986. As soon as we are in a position to handle some of this material, Mark Smerchansky, the President of Eldorado Gold Mines, has indicated that he would like to visit Conley to discuss the handling of his material and the logistics of returning the arsenic trioxide residues to Canada.

   In addition, Bill Cunningham, of Western Mining in Australia, is extremely anxious to receive a shipping schedule from us for his material in Australia. Currently, we have 68,141 lbs. of this material in Conley and we are continuing to test it for running direct in the new arsenic acid plant. As soon as feasible, we need to advise Bill Cunningham a proposed shipping schedule for the material currently in Australia.

6. At the end of fiscal March, our closing chromic acid inventories were approximately 161,467 lbs. ($119,642) and our closing black copper oxide inventories were approximately 40,227 lbs. ($33,435). Our arsenic trioxide inventories were approximately 5,276,283 lbs. ($1,146,847), and our arsenic acid inventories were approximately 3,134,450 lbs. ($1,382,946). The amount of refined arsenic trioxide in the above number was 701,573 lbs. ($234,652), consisting of Boliden material, Penarroya material, South African material, Le Panto material and Afrimet Indussa material. The balance of 4,574,710 lbs. ($912,195) was in the form of Giant Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers Hickson's

inventories were zero pounds of chromic acid and arsenic acid, 8,643 lbs. of copper oxide and 50,286 lbs. of CCA-C. Our domestic total inventories including chrome ore were approximately $4,068,890 at the end of fiscal March. This amounted to an increase of approximately $296,390 (7.9%) from the February levels.

7. During the month of March, we consumed 1,719,100 lbs. of chromic acid from Diamond Shamrock and 37,044 lbs. of Bayer material from West Germany. In addition, we received drummed chromic acid from Bayer in West Germany at Jones-Hamilton and Conley to cover our drummed chromic acid requirements for the next several months. At this point, the only material that we are taking from Diamond Shamrock is in sparger cars for Conley and Valparaiso. Through the first three months of 1986, we have consumed 4,480,600 lbs. from Diamond Shamrock. The majority of this material was in sparger cars and with the drummed material from China and West Germany now arriving regularly at both Jones-Hamilton and Conley, there should not be any requirement for drummed material from Diamond Shamrock in the near future.

8. Claims #18 and #19 for the third and fourth quarters of 1985 have been finalized and will be submitted to the U.S. Treasury Department for liquidation during the first week of April. The approximate value for both claims is a total of $17,505.87. Our check should be received approximately two to three weeks after the submittal of both claims. This brings our total duty drawback dollars recovered for the first 19 claims to $302,977.78. At this point, we have completed all claims covering exports through 1985. During April we will begin processing our claim for the first quarter of 1986.

9. During March we finalized the standard costs for CCA at Jones-Hamilton, and therefore issued revised standard cost sheets covering DRICON at Valparaiso and CCA for Conley, Valparaiso and Jones-Hamilton. All standard cost sheets are now up to date with the current actual prices for materials being paid. In addition, all raw material blanket orders were finalized and issued during March.

10. During March I received an invoice from Time Oil Co. for $42,081.21, covering the current expenses in the clean-up effort at the Portland terminal. I have circulated this invoice for review and will process the invoice for payment as soon as I receive comments back.

BZTO104(e)011161

11. On March 26, Bill Meisinger, Jim Garrity and I met in St. Louis to discuss a drum crusher, the installation of filtration equipment and the placement of a dedicated tank trailer on the West Coast at Jones-Hamilton. These items are being worked on and AFE's should be available in early April with an anticipated visit to Jones-Hamilton the week of April 21 or April 28 to install these items. It is imperative, having had several discussions with Dan Gilbert, the Executive Vice President of Jones-Hamilton, that all three of these items be completed as quickly as possible.

12. During early April I would like to get together with you, Bob Hamilton and John Hite, along with Don Hallahan and Filip Eschenasy, President of Trade Consultants International, to discuss a method of purchasing the arsenic trioxide from El Indio in Chilean pesos and have these pesos provided by IBM through a countertrade or barter agreement. Several discussions have been held with George Sofronis, of IBM, and Filip Eschenasy as we have been in the process of testing and utilizing this material. Prior to our payment for the ten containers that are in transit currently and our finalization of the formal contract, I would like to have this issue resolved.

    In addition, I am working with Filip Eschenasy on Israeli phosphoric acid and copper oxide in conjunction with potential countertrade or barter agreements in the future. During our discussions with Filip on Chilean arsenic trioxide and Chilean pesos, I would like to review the status of these two areas also.

13. During the week of March 3, 1986, Keith Mitchell from our Internal Audit Department conducted an audit of our Valparaiso, IN plant. I would assume that Mr. Mitchell's report summarizing the results of his audit should be forthcoming in April.

14. On March 26, Bill Meisinger, Glenn Schultz and I met at the Valparaiso plant to discuss the black copper oxide bulk handling system, a purchase of a used bulk tank trailer and the movement of bulk bitumen from Follansbee to Youngstown for the Youngstown saturating plant during 1986, as well as the movement of phenolic foam insulation and raw material facer to and from the Oak Creek phenolic plant during 1986.

    AFE's for the black copper oxide handling system and the purchase of the used bulk tank trailer should be completed in early April for review and approval. As soon as these are approved, follow-up visits by Bill and me in conjunction with Bill Caputo of WRC will be made to Valparaiso to ensure that all items are resolved before giving WRC the contract for installation of this black copper oxide handling system.

In addition, while visiting Valparaiso we reviewed the installation of the car puller which is being shipped from the Woodward, AL plant to Valparaiso. An AFE for the installation of this equipment will be submitted in early April for approval.

15. I am working very closely with Don Hallahan, of the International Department, on follow-up information from his visit to China on arsenic trioxide and chromic acid. Samples of arsenic trioxide have been sent for testing at our Orrville research center. In addition, continual information is being submitted on chromic acid from China. I will continue to work closely with Don on the potential sourcing of Chinese chromic acid and arsenic trioxide.

16. On Thursday, March 27, I attended the second annual quality day at Koppers Research and Development facilities at Monroeville, PA. In addition, I have advised Jim Kearney in our Human Resources Department that I will attend the Effective Writing seminar on June 16-17 at the Westin William Penn Hotel.

17. On Wednesday, March 19, I met with Steve Hollinger and Lorne Forsythe, of Cominco, to discuss the manufacture of copper arsenate at their Trail, British Columbia, facilities. A separate report on this meeting as well as the process being proposed and samples have been submitted for everyone's review.

18. I have had the opportunity to talk with Harry L. Butler, Director of Business Development with Westinghouse Electric Corporation, regarding the Westinghouse Trading Company. Westinghouse has set up this trading company to develop and expand global sourcing capabilities to purchase a wide variety of components, assemblies and materials. During April Mr. Butler and I will get together to discuss the potential opportunities for international materials sourcing for Koppers Company by Westinghouse Trading Company.

VALPARAISO ACTIVITY:

See Glenn Schultz' report of March 31, 1986, which is attached.

ST. LOUIS ACTIVITY:

See Jim Garrity's report of April 2, 1986, which is attached.

BZTO104(e)011163

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM/jls

Attachments

cc: W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
J. D. Hite
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
Dr. C. R. McIntyre
W. A. Meisinger
R. R. Moran
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

BZTO104(e)011164

KOPPERS

INTEROFFICE CORRESPONDENCE

Time Oil file

TO:	Don Marion	**FROM:**	W. J. Baldwin
LOCATION:	K - 750	**LOCATION:**	K - 1350
SUBJECT:	Time Oil Company	**DATE:**	March 19, 1986

I am attaching a copy of J. K. Fu's March 10 correspondence to Dave Kerschner on the above subject. Overall, Mr. Fu reports that the information provided by Time Oil did not provide enough evidence regarding treatment of organically contaminated material. Furthermore, prior to paying the invoice, I would again suggest that we receive a copy of "Amendment 2" from the Riedel Environmental Services as well as a detailed work plan for Dave Kerschner's review.

William J. Baldwin

William J. Baldwin

WJB/bml

Attachment

cc: With Attachments

J. D. Hite
Templeton Smith
Dave Kerschner
Jim Garrity
R. G. Hamilton
A. S. Wells

KERRES

Interoffice Correspondence

RECEIVED

MAR 12 1986

ENVIRONMENTAL RESOURCES

To D. R. Kerschner

Location K-1940

From J. K. Fu

Location Monroeville

Subject Response on Remedial Measures - Time Oil

Date March 10, 1986

This is in response to the information you provided on evaluating the feasibility of a physical-chemical technology (ATW process) on removing PCP contamination at the Time Oil site. Overall, the information did not provide enough evidence regarding treatment of organically contaminated material. My specific comments are as follows:

1. The information provided described a process which can effectively reduce heavy metal migration in the subsurface environment. As you understand, PCP is an organic compound which behaves in a different manner than metal species. Under typical subsurface environmental conditions, PCP remains in the nonionic form. Several of the chemical processes utilized in the ATW technology (neutralization, precipitation) generally do not affect nonionic species.

2. The articles state that the chemical oxidation process can break down benzene ring structure but does not react with phenol. Phenol is a benzene derivative and as such the meaning of the statement is unclear. Additionally, phenol is present at the majority of the sites where PCP is present, and we would need a system which would deal with both constituents.

3. In ATW process, lime cycle ($CaO \longrightarrow Ca(OH)_2 \longrightarrow CaCO_3 \longrightarrow CaO$) is used to transform waste residue, clay and calcium oxide into limestone. The limestone is pH sensitive and can dissolve in low pH conditions. The waste can then be released to the environment. Additionally, the calcination temperature (1900~2400°F) utilized to convert limestone to calcium oxide would make the process energy intensive, and could make direct incineration of the waste a cost-competitive alternative.

4. The information indicates that in-situ biodegradation is cost-effective, but they did not provide examples and details on what they can do. The information we have from our past studies can provide much better information for this area.

BZTO104(e)011166

5. The "chemical barrier" and "biodegradation barrier" combination may be useful if there is metal and organic contamination together. If there is only PCP contamination, the chemical barrier will not be needed and the process will become what we call "land treatment."

J. K. Fu

JKF:ss

KOPPERS

Interoffice Correspondence

To	J. Kusar	From	D. F. Marion
Location	K-750	Location	K-750
Subject	Monthly Report - February	Date	March 5, 1986

Listed below are the major items covering the month of February 1986:

RAW MATERIALS ACTIVITY:

1. During February we transferred 545,000 lbs. of arsenic acid to Valparaiso and Jones-Hamilton utilizing railcars UTLX-79403, UTLX-79404 and UTLX-78581. At the end of fiscal February, we had 1,020,349 lbs. of arsenic acid either in transit or at Valparaiso with a storage capacity of 942,000 lbs., and 448,238 lbs. either in transit or at Jones-Hamilton with a storage capacity of 314,000 lbs. Our total inventory of 75% technical grade arsenic acid at the end of February was 2,770,156 lbs., while our total inventory of 75% high purity arsenic acid was 419,750 lbs., for a Wolman Department grand total of 3,189,906 lbs.

   During February we continued to monitor the four railcars that had not gone through the maintenance shop and should these need to have work completed on them or repairs to the lining, this will be done by exception during the following months. All five cars appear to be in good shape and should not give us any difficulties during the busy season of 1986. We are also trying to locate one or two more large UTLX cars that could be placed in our fleet to allow us to run three [redacted] to Jones-Hamilton and three or four [redacted] to Valparaiso. These additional cars [redacted] most efficient use of our equipment [redacted] months of 1986.

2. During February we shipped 44,080 lbs. of 75% high purity arsenic acid in bulk to Corning's plant in Martinsburg, WV. In addition, we shipped 1,848 lbs. of 75% high purity arsenic acid in drums to Corning's plant in Harrodsburg, KY. We also shipped 45,910 lbs. of 75% technical grade arsenic acid to J. H. Baxter from Jones-Hamilton in Newark, CA.

303

K-5 REV. 2

During March I will visit the Corning Glass Works corporate headquarters in Corning, NY, to meet with John Copley and Carol Christian regarding the formal issuance of their specification of 75% high purity arsenic acid. In addition, I have asked Peter Sawchuck to accompany me during this visit in order that he may talk with their quality personnel to get additional information on the overall Corning quality program. During my visit, I anticipate finalizing a trip to Conley by Corning personnel from not only their corporate headquarters but from their plants in Martinsburg, WV and Charleroi, PA. This visit to Conley will be in conjunction with Corning's quality program.

3. During February we consumed three 65 ton railcars from Asarco in Tacoma. We also consumed two 70 metric ton railcars from Minera Mexico of 99% arsenic trioxide. The remainder of the trioxide used in the arsenic acid plant was from the purification plant. This left us material in drums in Conley from LePanto in the Philippines, El Indio in Chile, North American Minerals in South Africa, Penarroya in France and Boliden in Sweden. These drums will be staged for running in the new drum handling system in early March.

Based on our consumption of 200 tons of Asarco material in February and the physical inventories in Tacoma and material in transit as of January 29, 1986, we have approximately 2,129 tons of arsenic trioxide from Asarco remaining for production in the arsenic acid plant in Conley as of the beginning of fiscal March. Asarco has discontinued operations and this remaining 2,129 tons will clean them out of all material remaining in storage at Tacoma.

During February we consumed the two railcars of 99% arsenic trioxide from Minera Mexico and had shipped one additional railcar of 99% for consumption in early March. At that point, all shipments of 99% will have been completed and subsequent shipments will be of 95% material covered on a new contract with Minera Mexico. Approximately 1,800 metric tons (1,984 tons) of 95% material will be shipped in bulk railcars at the rate of two railcars per month. I am still working closely with Minera Mexico personnel to attempt to finalize a contract for 99% As_2O_3. However, at this point this material has not been offered to us.

During early March, we will begin receiving 99% arsenic trioxide in drums from Boliden, Salsigne and Afrimet Indussa. In addition, shipments will be made of North American Minerals material, thus signalling the conclusion of contracts with Asarco, Minera Mexico, Boliden, Salsigne, Afrimet Indussa and North American Minerals for 1986.

BZTO104(e)011169

As soon as the container of 95% material from St. Joe's in El Indio, Chile, and from LePanto in the Philippines are run through the new drum handling system and the arsenic acid plant, final contract discussions will be held with St. Joe's and approximately ten containers will be released for a much larger production run in the new plant. On February 19-20, I met with Ramon Recto of LePanto, and we discussed our handling of his material in the new plant. Prior to releasing large quantities of this material, we will have shipped one container for testing again in the new plant. Mr. Recto indicated that their annual production at LePanto will be approximately 5,500 metric tons. I believe it is imperative not only to finalize the El Indio contract, but also to work closely with Ramon Recto of LePanto, and obtain small quantities of his material for consumption in the new plant. During March, once our contracts are in place and regular shipments have begun to arrive in the plant, I anticipate putting together an aggressive itinerary to follow-up with each of our major suppliers to begin discussions on longer term contracts for 1987 and 1988. These visits will ensure a smooth transition of our arsenic trioxide supplies once the consumption of the Asarco material is complete and we will be relying on world sources of drummed arsenic trioxide.

On February 25 I met with Normal Nelson and Borje Klaile of Outokumpuoy to discuss the manufacturing of 99% plus arsenic trioxide in Finland beginning in 1987. During our meetings, we discussed the production by Outokumpuoy in anticipation of them being the largest producer in the world with the highest quality of product beginning in late 1987. I believe it is imperative that we maintain close communications with Norman Nelson and Borje Klaile to ensure a significant share of this production when it comes on-stream.

4. During February I advised Tony Desanti of Falconbridge that we would be shutting off the shipments of Giant Yellowknife material to Conley in order that we could concentrate on running the Eldorado drums and the Western Mining drums currently in Conley. Ken Thomas, the plant superintendent of Giant Yellowknife, requested that the silo be emptied prior to our discontinuing any shipments. Working closely with Wayne Peddie and the Conley plant personnel, it is anticipated that the silo will be emptied in early March and this material will be transported to Conley and unloaded into silos #2 and #3. In addition, during February we decontaminated two of the Trimac trailers and will decontaminate the other four in early March as we unload the material from them. I would presume that by the end of March, all Trimac trailers will have been unloaded, decontaminated and placed in other service by Trimac. At that point, we will not have any equipment other than our

own Koppers trailers contaminated with arsenic trioxide from Giant Yellowknife. I will stay in close contact with both Ken Thomas at Giant Yellowknife and Tony Desanti at Falconbridge to ensure a smooth transition in emptying their silo and ensuring that we do not affect our overall good relationship with either Falconbridge or Giant Yellowknife.

5. As a reminder, Eldorado Gold Mines continues to hold approximately 2,000-2,500 drums in Canada which will need to be shipped to Conley after May 31, 1986. Discussions were held briefly on the return of residue in the future as we start processing this material in the Conley plant. Mark Smerchansky, the President of Eldorado Gold Mines, has indicated he would like to visit Conley when we are in a position to begin handling this material to finalize the logistics of returning the arsenic trioxide residues to Canada for processing.

   Bill Cunningham, of Western Mining in Australia, updated the amounts of arsenic trioxide available in Australia for shipment to Conley. He is anxiously awaiting our release so he can begin shipments of additional containers of crude arsenic trioxide. Currently, we have 68,141 lbs. of this material in Conley and we are continuing to test it for running direct in the new arsenic acid plant. As soon as a decision is known, I will provide Bill Cunningham with a schedule for shipments of additional containers of material that currently sit in Australia.

6. At the end of fiscal February, our closing chromic acid inventories were approximately 83,422 lbs. ($63,288), and our closing black copper oxide inventories were approximately 34,230 lbs. ($28,358). Our arsenic trioxide inventories were approximately 4,541,067 lbs. ($966,388), and our arsenic acid inventories were approximately 3,189,906 lbs. ($1,442,362). The amount of refined arsenic trioxide in the above number was 318,581 lbs. ($119,387), consisting of Boliden material, Penarroya material, South African material, LePanto material, El Indio material and Koppers refined material. The balance of 4,222,306 lbs. ($847,001) was in the form of Giant Yellowknife, Eldorado and Western Mining crude arsenic trioxide. In addition, Koppers-Hickson's inventories were zero pounds of chromic acid and arsenic acid, 5,843 lbs. of copper oxide and 108,354 lbs. of CCA-C. Our domestic total inventories, including chrome ore, were 3,804,411 at the end of fiscal February. This amounted to an increase of approximately $89,824 (2.4%) from the January levels.

7. During the month of February, we consumed 1,392,400 lbs. of chromic acid from Diamond Shamrock. During February no foreign shipments were received. However, in early March

the first container of Chinese chromic acid and the first four containers of Bayer material from West Germany will arrive at Jones-Hamilton on the West Coast, and the first four containers of West German material will arrive at Conley on the East Coast.

At the current time, we have a contract with Mobay for 1,500 metric tons of Bayer's material at a price of $.75/lb. ex dock duty paid in 200 kilogram drums unpalletized for the East Coast, and $.76/lb. ex dock duty paid in 200 kilogram drums for the West Coast. Depending upon the status of Chinese material in the smaller drums arriving in Jones-Hamilton in early March, we have the opportunity to finalize a contract through C. Withington for 350 metric tons of Chinese material in 50 kilogram drums at $.75/lb. ex dock duty paid. In both cases, Chinese and West German, we will be provided documents to obtain the duty drawback which represents 4.2% of the FAS price for this material. If everything goes as anticipated with the Chinese and West German material, we will have covered the majority of our drummed chromic acid requirements with foreign material for 1986. On Wednesday, February 5, I met with Jack McMahon and Mr. Bogelman of Mobay and Bayer, respectively, to discuss the contract for chromic acid in 1986. Mr. Bogelman was extremely pleased that we had reached an agreement to begin doing business.

With the divestiture of Metal Products' Gainesville, GA plant to Cummins Diesel and potential sale of the Baltimore facility, I have not provided Peter Denning, of Metal Products in Baltimore, the pricing for chromic acid in drums for 1986. Prior to providing any such information to the Metal Products personnel, I will contact you to discuss the situation further. In the meantime, we continue to work closely with the personnel in Baltimore to take chromic acid solution from their plating operation on backhauls to Conley for use in our CCA production. This will continue to assure that this material will not have to be sent to a landfill for disposal.

8. Claims #18 and #19 for the third and fourth quarters of 1985 should be finalized and submitted to the U.S. Treasury Department for liquidation in early March. Each claim will be worth approximately $8,000-$10,000 and our check should be received approximately two to three weeks after the submittal of both claims. For the first 17 claims, our duty drawback dollars have amounted to $285,471.91.

9. During February we continued to handle Kathon 18500 from Rohm & Haas through our St. Louis operation, and we finalized the purchase of the active ingredients for Koppers coloring additives and made shipments to MacMillan-Bloedel, Exterior, APT, Kootenay, and Decker Lake for use in their treating solution. All orders are being handled through St. Louis with billing being provided from there also.

10. During February standard costs were revised for both DRICON and CCA for the Valparaiso and Conley operations. In addition, all raw material blanket orders were finalized and should be issued by early March. During March the standard cost for CCA at Jones-Hamilton will be adjusted also.

11. In conjunction with our meeting with Time Oil on January 23, 1986, we have received a formal request from Bob Abendroth of Time Oil for the splitting of costs incurred to date for the clean-up at the Portland terminal. Mr. Abendroth's letter and proposed split of expenses has been circulated for comments and during March I anticipate receiving a bill for approximately $42,000, which covers Koppers share of expenses to date.

12. During March I anticipate a follow-up visit to Jones-Hamilton to finalize the installation of the filtration equipment and the placement of a dedicated tanker on the West Coast. In addition, due to the number of small odd sized drums now being handled we are searching for a drum crusher to be placed at Jones-Hamilton for scrap metal purposes. As soon as an appropriate unit is located, I will prepare an AFE for the purchase of this equipment and installation at Jones-Hamilton.

13. As soon as the test results on the El Indio material are known, I will work with George Sofronis, of IBM, and Phillip Eschenasy, President of Trade Consultants International, on a method of purchasing arsenic trioxide from El Indio in Chile utilizing Chilean pesos and have these pesos provided by IBM through a countertrade or barter agreement. In addition, I am continuing to work closely with Phillip Eschenasy on Israeli phosphoric acid and copper oxide in conjunction with a countertrade agreement in the future.

14. During the week of March 3, 1986, Keith Mitchell from our Internal Audit Department will be conducting an audit at our Valparaiso plant. I will accompany Mr. Mitchell to Valparaiso on March 4,. and he intends to remain there for the entire week to complete his audit.

During March I intend to visit both Follansbee and Youngstown with Glenn Schultz and Bill Meisinger to discuss the movement of bulk bitumen from Follansbee to Youngstown for the Youngstown saturating plant during 1986.

In addition, I hope to finalize the AFE for the black copper oxide handling system and the purchase of a used bulk trailer to add to the Valparaiso fleet. Both of these AFE's should be completed in early March in conjunction with our busy season beginning in late March/early April and submitted for approval prior to that time.

15. I am continuing to work closely with Geoff Gill and Don Hallahan, of the International Department, on inquiries for borax and polybar from U.S. Borax for shipment overseas, CCA for Bangladesh and the shipment of arsenic acid to England via bulk containers. In addition, Don Hallahan and I have met to discuss his trip to China and formal inquiries were sent for quoting on chromic acid and arsenic trioxide. I will keep you up to date on the progress of our prices from this visit of Don's and the formal inquiries that we have submitted.

VALPARAISO ACTIVITY:

See Glenn Schultz' report of February 24, 1986, which is attached.

ST. LOUIS ACTIVITY:

See Jim Garrity's report of March 3, 1986, which is attached.

If you have any questions regarding my report or those of Jim Garrity and Glenn Schultz, please advise.

Donald F. Marion

DFM/jls
Attachments

cc: W. J. Baldwin
F. E. Boge
T. Brayman
W. M. Clausen
K. E. Cogan
J. F. Garrity
R. G. Hamilton
J. D. Hite
F. M. Klasnick
Dr. J. J. Kozak
R. Lattanzi
Dr. C. R. McIntyre
W. A. Meisinger
R. R. Moran
P. V. Morse
F. W. Neville
Dr. A. Ross
G. A. Schultz
S. Shields
W. H. Simkins
S. Snyder
R. Stefanski
R. L. Sturgis
J. Sturm
A. S. Wells

KOPPERS

INTEROFFICE CORRESPONDENCE

TO:	Don Marion	**FROM:**	W. J. Baldwin
LOCATION:	K - 750	**LOCATION:**	K - 1350
SUBJECT:	Time Oil Company	**DATE:**	February 28, 1986

I have reviewed your letter of February 24, 1986 and my notes from our meeting of January 23. As such, the only comment I would like to make is that I believe we should have a copy of "Amendment 2" from the Riedel Environmental Services Contract as well as a detailed work plan for Dave Kerschner's review since this work has been quoted at $25,000 plus.

W. J. Baldwin

WJB/bml

cc: Templeton Smith
Dave Kerschner
Jim Garrity
R. G. Hamilton
J. D. Hite
A. S. Wells

PHONE 285-2400
CABLE ADDRESS: T OIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

February 19, 1986

Koppers Company, Inc.
Attn: Donald F. Marion
Forest Products Group
Koppers Building, Room 750
Pittsburgh, PA 15219

Dear Don:

This refers to our mutual problem of pentachlorophenol contamination at 12005 North Burgard Road in Portland Oregon.

During our January 23, 1986 meeting at your offices in Pittsburgh, you mentioned that Koppers would agree to paying half the clean-up costs incurred/committed to date and that further coordination between Koppers and Time would be appropriate for future committments. Time concurs with this approach.

In this light, the below accounting to date will be followed by an invoice two weeks from today unless we hear some objections from you before then.

EXPENDITURES

4/26/85	Chem-Security Systems (Laboratory Analysis of soil sample)	150.00
7/10/85	Northwest Vacuum Truck Service (Relocating 242.76 tons of soil to Arlington)	9,000.00
7/29/85	Chem-Security Systems (Receiving 243.30 tons of soil at Arlington)	27,270.88
8/8/85	Environmental Emergency Services (Obtain and analyze 3 composite samples)	500.00
12/5/85	Environmental Emergency Services (Primary sampling and analysis plus report)	18,741.55
		$55,662.43

61

BEP116793

COMMITTMENTS

DEQ per OAR 240-102-065	3,500.00
* Riedel Environmental Services (Amendment 2)	25,000.00 +
	$84,162.43
50% =	$42,081.21

* Name change from Environmental Emergency Services

Should you have any questions regarding the above, please give me a call.

Sincerely,

Robert D. Abendroth
Operations Manager

RDA/ch

61

BEP116794

BZTO104(e)011177

KOPPERS

Interoffice Correspondence

To	SEE BELOW	**From**	D. F. Marion
Location		**Location**	Pittsburgh, PA
Subject	Time Oil Co.	**Date**	February 24, 1986

TO: W. J. Baldwin - K-1350
J. F. Garrity - St. Louis
D. Kerschner - K-1940
Templeton Smith - K-1401

Attached for your review and comments is a copy of Robert D. Abendroth's letter of 2-19-86. Please review the contents of this letter and advise your comments. As noted in his letter, Mr. Abendroth will be sending us an invoice for $42,081.21 in the next two weeks unless he hears differently from us.

If you have any questions regarding the attached letter or situation with Time Oil, please advise.

Donald F. Marion

DFM/jls

Attachment

cc: R. G. Hamilton
J. D. Hite
A. S. Wells

61

BEP116792

K-5 REV. 2

BZTO104(e)011178

PHONE 285-2400
CABLE ADDRESS: TIMOI

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

February 19, 1986

Koppers Company, Inc.
Attn: Donald F. Marion
Forest Products Group
Koppers Building, Room 750
Pittsburgh, PA 15219

Dear Don:

This refers to our mutual problem of pentachlorophenol contamination at 12005 North Burgard Road in Portland Oregon.

During our January 23, 1986 meeting at your offices in Pittsburgh, you mentioned that Koppers would agree to paying half the clean-up costs incurred/committed to date and that further coordination between Koppers and Time would be appropriate for future committments. Time concurs with this approach.

In this light, the below accounting to date will be followed by an invoice two weeks from today unless we hear some objections from you before then.

EXPENDITURES

4/26/85	Chem-Security Systems (Laboratory Analysis of soil sample)	150.00
7/10/85	Northwest Vacuum Truck Service (Relocating 242.76 tons of soil to Arlington)	9,000.00
7/29/85	Chem-Security Systems (Receiving 243.30 tons of soil at Arlington)	27,270.88
8/8/85	Environmental Emergency Services (Obtain and analyze 3 composite samples)	500.00
12/5/85	Environmental Emergency Services (Primary sampling and analysis plus report)	18,741.55
		$55,662.43

61

BEP116793

COMMITTMENTS

DEQ per OAR 240-102-065	3,500.00
* Riedel Environmental Services (Amendment 2)	25,000.00 +
	$84,162.43
50% =	$42,081.21

* Name change from Environmental Emergency Services

Should you have any questions regarding the above, please give me a call.

Sincerely,

Robert D. Abendroth
Operations Manager

RDA/ch

61

BEP116794

BZTO104(e)011180

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

February 19, 1986

Koppers Company, Inc.
Attn: Donald F. Marion
Forest Products Group
Koppers Building, Room 750
Pittsburgh, PA 15219

Dear Don:

This refers to our mutual problem of pentachlorophenol contamination at 12005 North Burgard Road in Portland Oregon.

During our January 23, 1986 meeting at your offices in Pittsburgh, you mentioned that Koppers would agree to paying half the clean-up costs incurred/committed to date and that further coordination between Koppers and Time would be appropriate for future committments. Time concurs with this approach.

In this light, the below accounting to date will be followed by an invoice two weeks from today unless we hear some objections from you before then.

EXPENDITURES

4/26/85	Chem-Security Systems (Laboratory Analysis of soil sample)	150.00
7/10/85	Northwest Vacuum Truck Service (Relocating 242.76 tons of soil to Arlington)	9,000.00
7/29/85	Chem-Security Systems (Receiving 243.30 tons of soil at Arlington)	27,270.88
8/8/85	Environmental Emergency Services (Obtain and analyze 3 composite samples)	500.00
12/5/85	Environmental Emergency Services (Primary sampling and analysis plus report)	18,741.55
		$55,662.43

COMMITTMENTS

	DEQ per OAR 240-102-065	3,500.00
*	Riedel Environmental Services (Amendment 2)	25,000.00 +
		$84,162.43
		50% = $42,081.21

* Name change from Environmental Emergency Services

Should you have any questions regarding the above, please give me a call.

Sincerely,

Robert D. Abendroth
Operations Manager

RDA/ch

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME OIL COMPANY

2737 W. COMMODORE WAY, P.O. BOX 24447, TERMINAL ANNEX, SEATTLE, WA 98124

Time out - File

January 27, 1986

William J. Baldwin
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, PA 15219

Dear Bill,

Enclosed is copy of the ATW Calweld data I promised on January 23, 1986 during our meeting at your Pittsburgh, PA offices. Calweld designed, developed and operates the equipment. ATW developed the waste treatment technology. Cary Jackson is the chemist who determines what is needed to treat whatever the problem, consistent with client desires. The proper person to contact is Franch Manchak. I have spoken with him. He has agreed to speak with you about our mutual problem.

Regarding the water treatment biodegradation process, the three basic chemicals are amonium nitrate, potassium sulfate and sodium phosphate. These fertilizer materials provide the chemical nutriants enabling bacteria to grow. Bacteria are added. The whole mixture is arable. Water is pumped from below ground to a surge tank to a 10' x 10' x 30' tank where the mixture exists. Discharge is either returned to the ground or to sewer as permitted.

Today I received the enclosed DEQ Hazardous Waste Enforcement Guidelines dated January 9, 1986. A copy is enclosed for your information. The thought I intend to convey here is related to our meeting discussion about the unknown amount of money (shown as a ?) on the "cost to date" paper presented. This is an unknown that I had no idea was in existance at the time of our meeting.

Hope this helps. It was a pleasure to see you again, to meet Dave and to provide a project status update.

Sincerely,

John P. Denham

John P. Denham
Environmental Manager

Enclosure a/s

cc: Robert Abendroth
Jim Garrity
Dave Kerschner
Don Marion
Templeton Smith

BZTO104(e)011183

— TIME OIL CO.
Undated Correspondence

BZTO104(e)011184

4 ll 1-26-84

MEMORANDUM

TO: Robt. Abendroth

FROM: Al Schneider

SUBJECT: Koppers Co. storage contact - Portland

The above contract was originally entered into on March 1, 1967 for an orginal term of 5 years from April 1, 1967 to March 31, 1972. It contains a provision that it automatically extends for additonal five year terms if not cancelledby notice 1 year ~~xxxx~~ prior to end of any of such 5 year terms. The soonest we can terminate is March 31, 1982 and to do so must give them notice by March 31, 1981.

The charges for services are adjustable with the change of our wages paid to terminal employees on a basis of 25% of the percentage increase in wages from and after August 1, 1970, at which time the wages were $3.875 per hour. According to Pat Roundy's schedule of wages at terminals effective 1/1/80 the wage rates at Portland had increased ~~25%~~ 125% since March 31, 1982. Therefore the charges being made to Koppers should have increased 25% of the 125% increase, or 31.25%. Attached is a copy of the December 1, 1980 where I have penciled in what the charge should be.

RE: Crosby & Overton - formerly Pac Mar

This agreement ran from November 1, 1974 to October 31, 1975 and continued in effect thereafter until cancelled by either party upon 60 days prior written notice. I do not believe any changes have been made since the inception of this agreement. The predecessors, Pac Mar, had posted a $25,000 bond to guarantee they would clean the tanks on leaving, however, I have never seen a bond from Crosby & Overton.

Al

also Crosby & Overton

BZTO104(e)011185

M E M O R A N D U M

TO: Robt. Abendroth

FROM: Al Schneider

SUBJECT: Koppers Co. storage contact - Portland

The above contract was originally entered into on March 1, 1967 for an orginal term of 5 years from April 1, 1967 to March 31, 1972. It contains a provision that it automatically extends for additonal five year terms if not cancelledby notice 1 year ~~xxxx~~ prior to end of any of such 5 year terms. The soonest we can terminate is March 31, 1982 and to do so must give them notice by March 31, 1981.

Send Cancellation Notice

Find who new Deals with & call him

The charges for services are adjustable with the change of our wages paid to terminal employees on a basis of 25% of the percentage increase in wages from and after August 1, 1970, at which time the wages were $3.875 per hour. According to Pat Roundy's schedule of wages at terminals effective 1/1/80 the wage rates at Portland had increased ~~25%~~ 125% since March 31, 1982. Therefore the charges being made to Koppers should have increased 25% of the 125% increase, or 31.25%. Attached is a copy of the December 1, 1980 where I have penciled in what the charge should be.

RE: Crosby & Overton - formerly Pac Mar 1500.00 MO.

This agreement ran from November 1, 1974 to October 31, 1975 and continued in effect thereafter until cancelled by either party upon 60 days prior written notice. I do not believe any changes have been made since the inception of this agreement. The predecessors, Pac Mar, had posted a $25,000 bond to guarantee they would clean the tanks on leaving, however, I have never seen a bond from Crosby & Overton.

Al

1-5000
1-10,002

250/MO - PARKING

St Louis, Mo
~~St Louis~~
John Palmer
314 772 2200
for Koppers

...INVOICE...

TIME OIL CO.

12005 N. BURGARD, P. O. BOX 03117, ST. JOHNS STATION
PHONE: AVENUE 6-1611 PORTLAND, OREGON 97203

INV. NO. 12-1094

DATE 1 December 1980

SHIPPED TO

IN ACCOUNT WITH

Wood Treating Chemicals Dept.
Koppers Company
5137 Southwest Ave.
St. Louis, Missouri 63110

VO. NO.
D. O. NO.
CONT. NO.
P. O. NO.

To Invoice you for Facility Rental for the month of December 1980 and for Handling Charge for the month of November 1980 at the Time Oil Company Terminal, 12005 N. Burgard St., Portland, Oregon.

Facility Rental	@.03975	$615.00	
Concentrates Blended and Shipped - 11,385 Net Cls. @ $0.03715		422.95	45.55
Filling Drums - 20755 @ $0.019 .656		704.73	746.83
		$1,742.68	@1814.41

I hereby certify that the above bill is correct and just; that payment therefor has not been received; that all statutory requirements as to American production and labor standards, and all conditions of purchase applicable to the transactions have been complied with; and that State and local taxes are not included in the amounts billed.

TIME OIL CO.

BY Neil J. Gallagher

Neil J. Gallagher
Terminal Supt.

BZTO104(e)011187

PHONE AVENUE 6-1611

SEATTLE
TACOMA
PORTLAND
STOCKTON
OAKLAND
SAN PEDRO
LOS ANGELES

TIME
ETHYL
GASOLINE

TIME OIL COMPANY

12005 N. BURGARD, P. O. BOX 2537, ST. JOHNS STATION, PORTLAND, OREGON 97203

03117

Mr. H. E. Morissette
District Sales Manager
Wood Treating Chemicals Co.
7320 S. W. 102nd Ave.
Beaverton, Oregon

Dear Mr. Morissette:

Attached in duplicate is our Agreement for the storage and handling of mineral spirits with additives as we have discussed.

I will appreciate it if you will present it to your people for approval, if you find it in order.

A few additions will need to be made by you to the Agreement:

1. The State of incorporation of Wood Treating Chemicals inserted at the top of page 1.
2. Address where any Notices are to be sent to Wood Treating Chemicals Co. on page 5.
3. A clause can be added on the Schedule page, if you wish, wherein Operator agrees not to offer for sale products of a similar nature for wood treating purposes during the term of this agreement.

Rube
we talked
about this

If you find everything in order in the Agreement, please have your people execute the same and return to us for execution. The starting date of the Agreement can be confirmed by letter when our tanks are ready for storage and blending. We estimate that we will be ready to operate within three weeks from the time the Agreement is accepted. We have been promised delivery in two weeks on the heating elements from date of order.

Yours very truly,

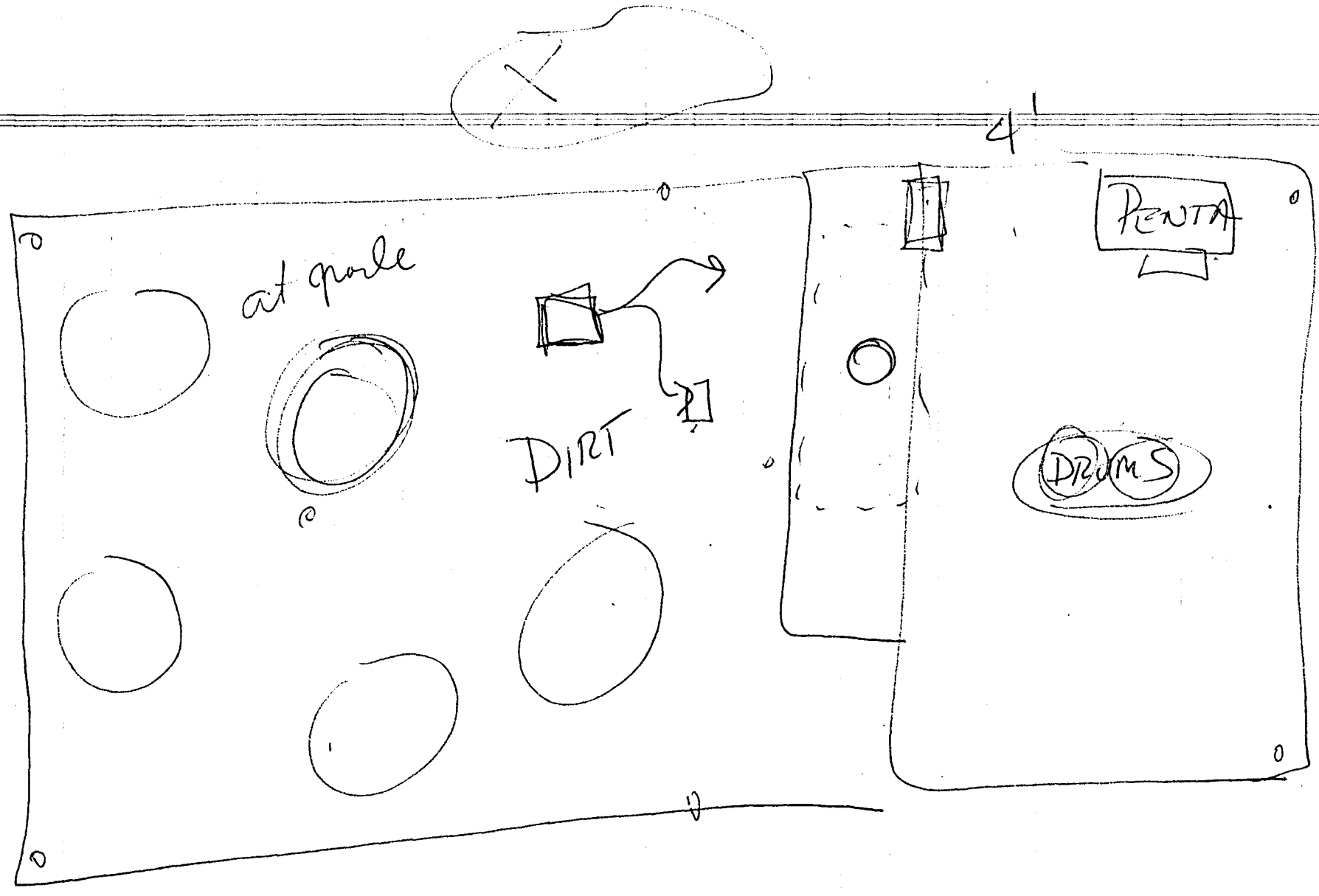
TIME OIL CO.

By Newton P. Lesh

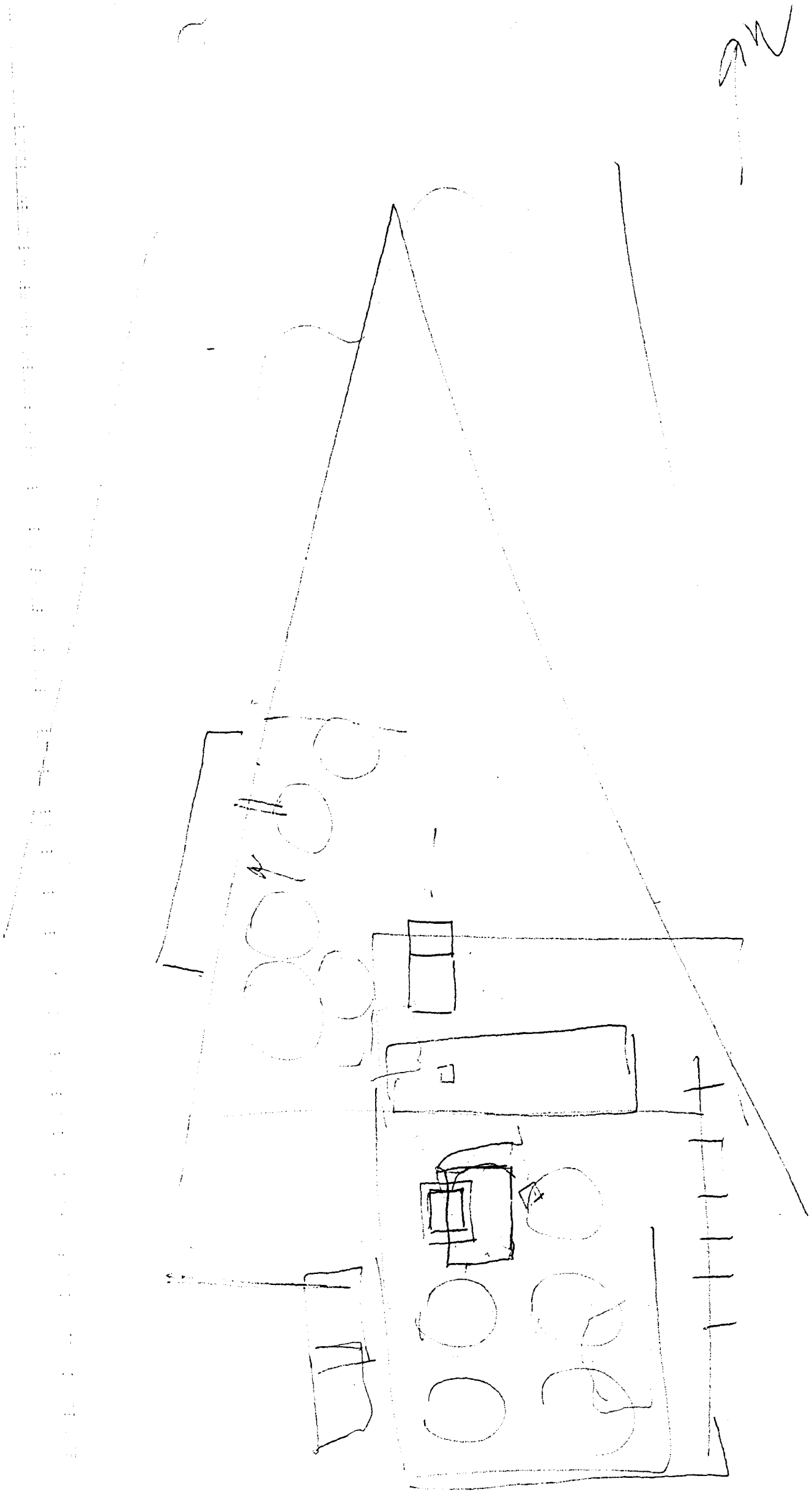
NPL/s

Newton P. Lesh

BZTO104(e)011188



BZTO104(e)011189



TIME OIL CO.

2737 W. COMMODORE WAY, SEATTLE 98199

FRED PROBY
ENVIRONMENTAL SPECIALIST

(206) 285-2400

TIME OIL CO.

2737 W. COMMODORE WAY • SEATTLE, WA

ROBERT D. ABENDROTH
VICE PRESIDENT - OPERATIONS

P.O. BOX 24447
TERMINAL STATION
SEATTLE, WA 98124-0447
(206) 285-2400

TIME OIL CO.

2737 W. COMMODORE WAY, SEATTLE 98199

RICHARD GORDON
CORPORATE COUNSEL

Seattle — (206) 285-2400

NEIL WALLIS

TIME OIL CO.
P.O. Box 03137
12005 N. Burgard St.
Portland, Oregon 97203

Phone: (503) 286-1611

BZTO104(e)011191

BZTO104(e)011192

TIME OIL CO. / U.S. OIL & REFINING CO.
5150 Wilshire Blvd. • Los Angeles, California 90036 • U.S.A.

TO:

AFFIX STAMP HERE

TIME OIL CO. / U.S. OIL & REFINING CO.
SUBSIDIARIES AND AFFILIATES
TEN (10) TERMINALS
DOMESTIC AND WORLDWIDE
RELIABLE AND EFFICIENT SERVICE
REFINING, MARKETING, STORAGE AND HANDLING
OF LIQUID PRODUCTS

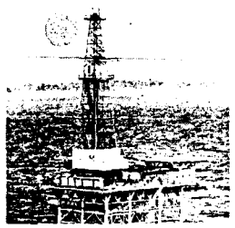
HEADQUARTERS: Supply and Distribution Planning and Policy
5150 Wilshire Blvd.
Los Angeles, California 90036
Phone (213) 938-7151

MAIN OPERATING OFFICES: 2737 W. Commodore Way
Seattle, Washington 98199
Phone (206) 285-2400

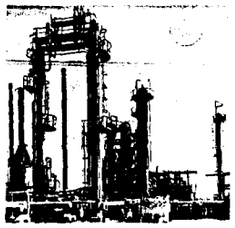
DOMESTIC TERMINALS
Bellingham, Washington • 1030 Hilton Street
Portland, Oregon • 12005 N. Burgard Street
Portland, Oregon • 9100 N.W. St. Helens Road
Richmond, California • 488 Wright Ave.
Seattle, Washington • 2737 W. Commodore Way
Sparks, Nevada • 1819 Glendale Road
Stockton, California • 3000 Navy Drive
Tacoma, Washington • 250 East D Street

AFFILIATES
International Oil Terminals, Co., Ltd. • Manila, Philippines
U.S. Oil & Refining Co. • Tacoma, Washington
3001 Marshall Avenue

3-80

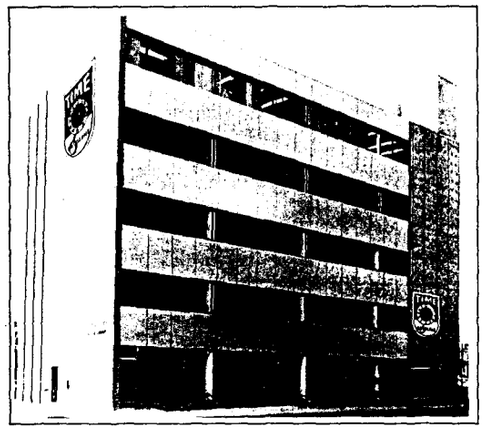


PRODUCING

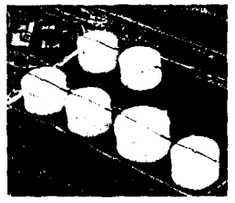


REFINING

TIME OIL CO. / U.S. OIL & REFINING CO.
SUBSIDIARIES AND AFFILIATES



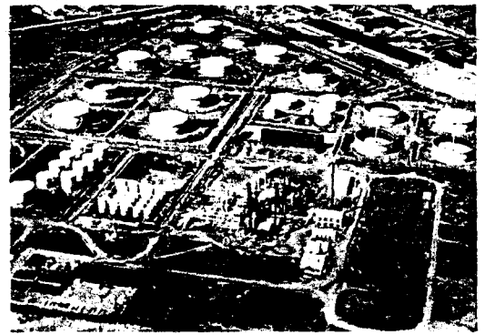
TIME OIL BUILDING – LOS ANGELES
Policy making headquarters. From this location, executive staff maintain close contact with the widespread operations.



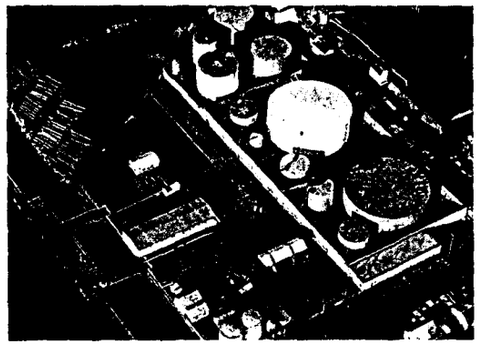
TERMINALING

MARKETING

TACOMA – WASHINGTON

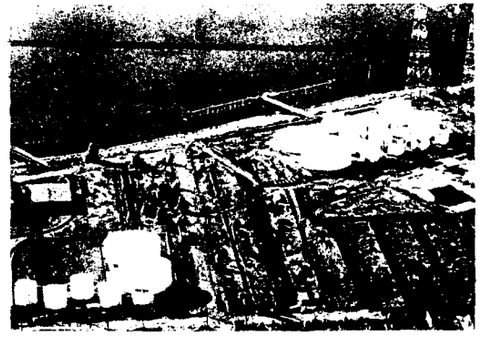


U.S. OIL & REFINING – TACOMA PLANT
Located with deep water access near Tacoma harbor. This modern plant is the largest independent refinery in the northwest United States with a designed crude input capacity of approximately 33,000 barrels per day, and modern downstream facilities including catalytic, reforming, and hydrotreating, and manufacturing a full range of petroleum products. Total storage capacity is approximately 2,000,000 barrels.

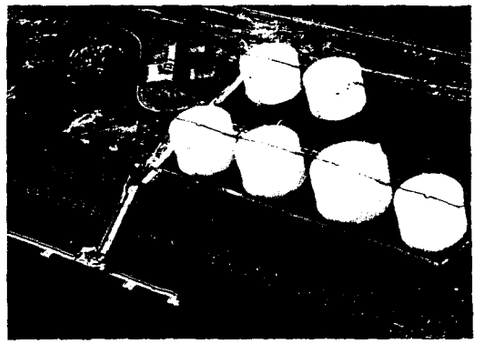


TACOMA TERMINAL
Accessible to ocean-going vessels, connected to Olympic pipelines. Total storage capacity approximately 200,000 barrels.

PORTLAND – OREGON



TIME OIL'S NORTHWEST TERMINAL – PORTLAND
Located on the Willamette River at Portland. Its tank car facilities are connected with four major railroads and its docks are accessible to ocean going tankers, thus making this terminal the ideal point of distribution for Oregon, southwest Washington and Idaho. Total storage capacity approximately 800,000 barrels.



TIME OIL'S PORTLAND TERMINAL CO.
The Portland Terminal Co. is the second of two terminals owned and operated by Time Oil Co. on the Willamette River at Portland. With docks accessible to ocean-going tankers, pipeline connections with Southern Pacific Pipelines and Olympic Pipelines – this terminal handles all grades of gasoline and diesel oil – modern truck loading facilities – storage capacity approximately 200,000 barrels.

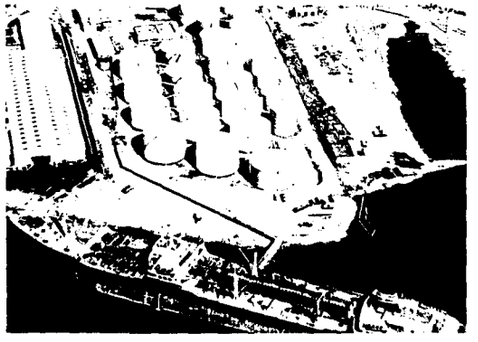
BZTO104(e)011193

MANILA – PHILIPPINES

INTERNATIONAL OIL TERMINALS CO., LTD.

This petroleum products terminal is located in Manila on the Bataan Peninsula, Philippine Islands. Dock accessible to ocean-going tankers. Total storage capacity approximately 300,000 barrels.

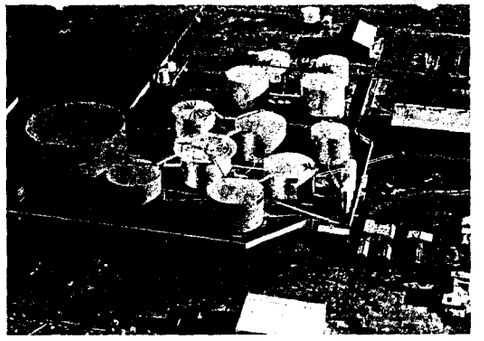
RICHMOND (SAN FRANCISCO BAY AREA) CALIFORNIA



TIME OIL TERMINAL AT RICHMOND

Situated on deep water at Richmond, this terminal is accessible to ocean-going tankers, and the rail facilities of the Santa Fe, Southern Pacific and Union Pacific railroads. Connected to Southern Pacific Pipeline system. It is, thus, in an excellent position to serve southern Oregon, northern and central California, and northern Nevada by pipeline, and/or rail, tank truck and barge. Storage capacity approximately 620,000 barrels.

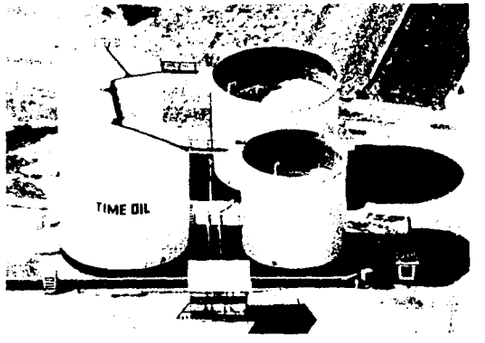
STOCKTON – CALIFORNIA



TIME OIL TERMINAL AT STOCKTON

This terminal is located at the busy inland port of Stockton and is accessible to ocean-going tankers as well as large river barges. Equipped with modern truck loading facilities, connected to Southern Pacific Pipeline systems. Total storage capacity approximately 140,000 barrels.

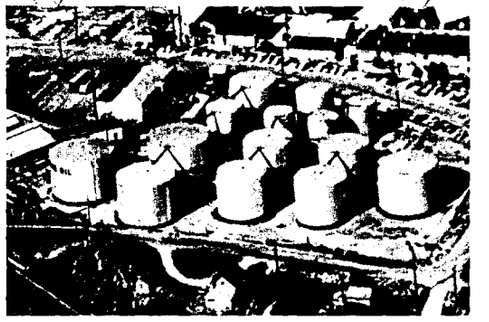
SPARKS – NEVADA



TIME OIL TERMINAL AT SPARKS

This Time Oil terminal is located in the heavily traveled tourist region of the state of Nevada. Connected directly to the Southern Pacific Pipeline system. Modern truck loading facilities. Total storage capacity approximately 52,000 barrels.

SEATTLE – WASHINGTON



TIME OIL OFFICES AND TERMINAL AT SEATTLE

Headquartered in Seattle, the main operating offices of Time Oil adjoin the Seattle Marine Terminal which is located on Salmon Bay just inside the Lake Washington ship canal. The terminal docks in this ice-free port are capable of berthing ocean-going tankers. Additionally, the terminal is served by the Great Northern Railroad, with freight yards of three other major railroads nearby. Equipped with modern drumming, packaging and distribution facilities. Total storage capacity is approximately 200,000 barrels.

BELLINGHAM – WASHINGTON

TIME OIL TERMINAL AT BELLINGHAM

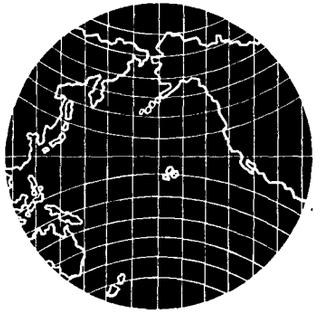
Located on Bellingham Bay on the coast of Washington, approximately 25 miles from the Canadian border – this terminal has a rail spur, truck loading facilities and total storage capacity of approximately 23,000 barrels.

MARKETING

TIME OIL SERVICE STATIONS

Time Oil owns and operates approximately 250 service stations throughout the states of California, Idaho, Nevada, Oregon and Washington. These modern, electronically equipped stations handle three grades of gasoline and other motor vehicle fuels on a self-service basis.

GLOBAL OPERATIONS



Activities of the companies extend from the Orient across the globe to the Atlantic Coast and from the Canadian border south to Mexico and the Caribbean. As a matter of policy, management is flexible and moves easily to decisions on opportunities for expansion based upon experience and conservative judgment.

COMMITTMENTS

DEQ per OAR 240-102-065	3,500.00
* Riedel Environmental Services (Amendment 2)	25,000.00 + $84,162.43
50% =	$42,081.21

* Name change from Environmental Emergency Services

Should you have any questions regarding the above, please give me a call.

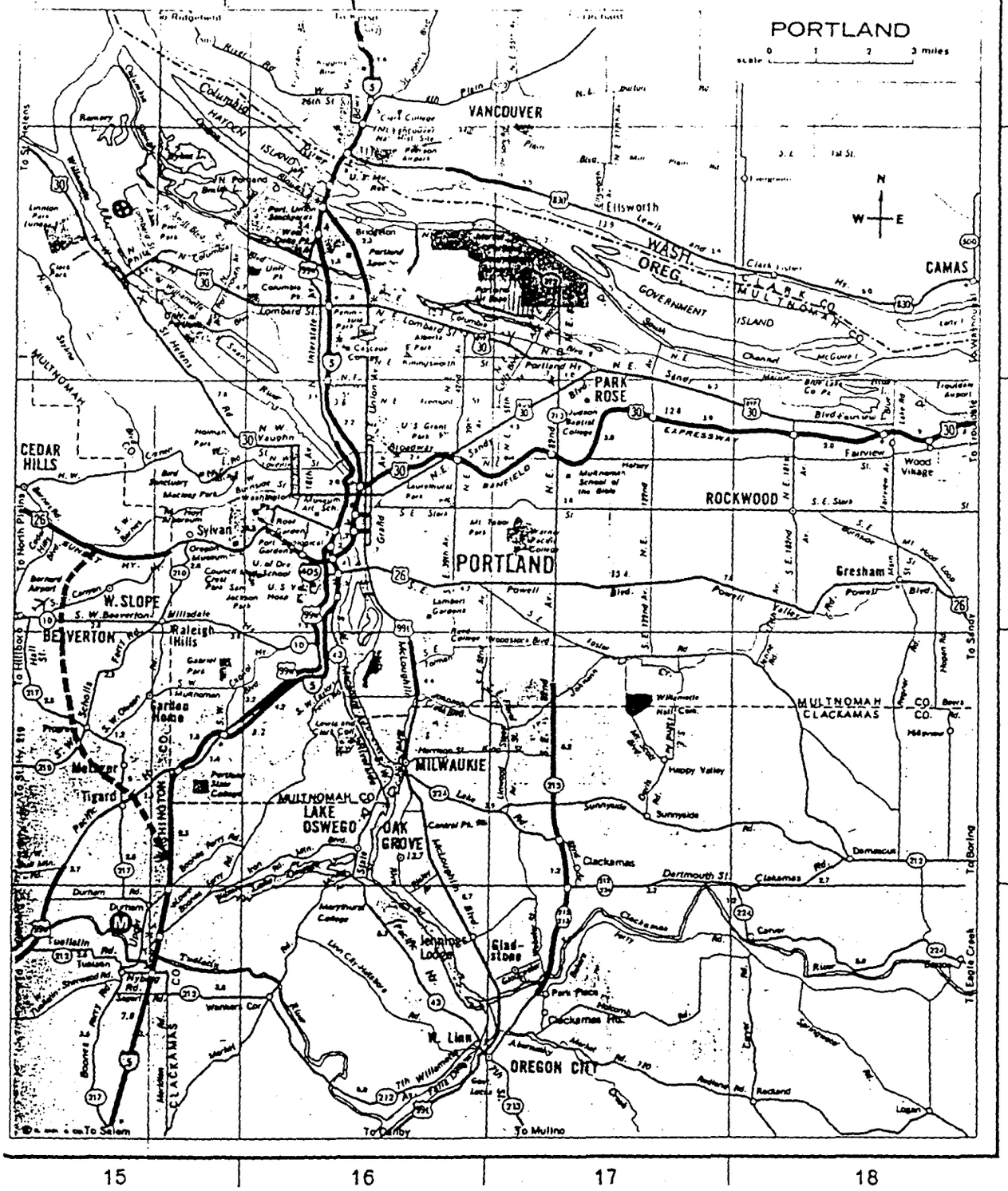
Sincerely,

Robert D. Abendroth
Operations Manager

RDA/ch

Title Oil Location -⊕-

FOR MORE INFORMATION on State Parks and Forests write to State Parks Division, Highway Department, 301 Highway Commission Building, Salem, Oregon 97310



BZTO104(e)011195

BZTO104(e)011196

WILDMAN, HARROLD, ALLEN & DIXON
225 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60606-1229
(312) 201-2000
FAX: (312) 201-2555

ANTHONY G. HOPP
(312) 201-2537

February 6, 1995

Ms. Patricia M. Dost
Schwabe, Williamson & Wyatt
Pacwest Center, Suite 1600-1950
1211 Southwest 5th Avenue
Portland, Oregon 97204-3795

Re: Time Oil Northwest Terminal
Your File No.: 89360/82295
Our File No.: K7528-097

Dear Patty:

Attached please find two versions of the proposed revised agreement between Time Oil Company and Beazer East, Inc. The first version is a "redlined" version. It should help you to easily identify the changes that I have made. The second version is a non-"redlined" version. Please call me after you have had an opportunity to discuss this proposed revised draft with your client.

Very truly yours,

Tony Hopp

Anthony G. Hopp

AGH:kma
Enclosures
cc: Robert L. Shuftan, w/enc.
Jill M. Blundon, w/enc.

DRAFT
2-6-95

This Agreement ("Agreement") is entered into by Time Oil Company ~~(Time Oil)~~("Time Oil") and Beazer East, Inc., formerly known as Beazer Materials and Services, Inc. and Koppers Company, Inc. (collectively "Beazer") as of December __, 1994.

RECITALS

1. Time Oil owns and operates a facility located at 1205 North Burgard Road, Portland, Oregon ~~and known as the Northwest Terminal.~~(the "Northwest Terminal".)

2. Pentachlorophenol-formulating operations were formerly conducted at a portion (the ~~Mixing Area~~)"Mixing Area") of the Northwest Terminal under a contract between Time Oil and Beazer.

3. The Oregon Department of Environmental Quality ("DEQ") has requested that Time Oil investigate whether and to what extent the pentachlorophenol-formulating operations may have impacted soil or ground water at the Northwest Terminal.

4. Time Oil and Beazer anticipate that the DEQ may require that Time Oil ~~and Beazer~~ take action to remedy or otherwise mitigate ~~contamination of~~ any impact on the Northwest Terminal caused by the pentachlorophenol-formulating operations.

5. Time Oil has requested that Beazer assist Time Oil in completing the investigation of the Northwest Terminal and, if necessary, assist Time Oil in negotiating the scope, extent, and description of any remedial action requested by the DEQ.

AGREEMENT

Time Oil and Beazer agree as follows:

1. Definitions. Terms used in this Agreement have the following meanings:

DRAFT
2-6-95

a. "The Mixing Area" means that area of the Northwest Terminal where pentachlorophenol-formulating operations were formerly conducted and where mixed formulations were stored or loaded for shipment.

b. "Investigation" means investigation or investigations into the nature and extent of ~~contamination of~~ impact on the Mixing Area. "Investigation" includes studies to assess site conditions and evaluate alternatives to the extent necessary to select a remedy.

c. "Remedial Action" means those actions taken to clean up, remove or remediate the release or threatened release of a hazardous substance, including actions to monitor, assess or evaluate the release or threat of release of a hazardous substance and actions taken to prevent, minimize or mitigate damage or risk, if any, to health, welfare or the environment.

d. "Hazardous Substance" means any substance defined as "hazardous" or "toxic" under any applicable federal, state or local law, regulation, rule, ordinance or order pertaining to the protection of human health, welfare or the environment, including, but not limited to, the federal Comprehensive Environmental Response, Compensation and Liability Act, 42 USC § 9601 et seq., and the Oregon Hazardous Substance Removal and Remedial Action Statute, ORS 465.200 et seq.

2. Beazer Technical Assistance. Beazer agrees to provide technical assistance, as further defined in Subparagraphs 2a, 2b and 2d of this Agreement, to Time Oil in investigating the nature and extent of contamination at the Mixing Area and, if necessary, in negotiating the scope, extent and description of any ~~remedial action~~ Remedial Action.

a. Beazer shall provide to Time Oil the services of Jane Patarcity, a Beazer employee, or another Beazer employee similarly situated ("Patarcity") as well as the services of any assistants or consultants selected by Patarcity ~~(Others)~~ ("Others"), for the purpose of providing to Time Oil information and advice related to the ~~investigation~~ Investigation and, if necessary, information and advice relating to negotiations with the DEQ concerning the scope, extent and description of any Remedial Action.

b. Time Oil agrees and represents that it has retained a consultant to assist Time Oil in completing the ~~investigation~~ Investigation and performing the Remedial Action. Time Oil agrees that it will continue to retain and employ a consulting firm to assist Time Oil in completing the ~~investigation~~ Investigation and performing the Remedial Action, and in no event shall this Agreement entitle Time Oil to professional consulting or engineering services from Beazer. Time Oil further agrees that Time Oil has paid and will continue to pay all reasonable invoices received from any consulting firm retained by Time Oil in connection with the Investigation and Remedial Action. Nothing in this Agreement shall be construed as obligating Beazer to pay any portion of any invoice received by Time Oil by any consulting firm retained by Time Oil.

c. Beazer agrees that it shall provide the services of Patarcity and Others to Time Oil on an as-needed basis, and it will endeavor to make Patarcity available to Time oil, on reasonable notice, for consultation; provided, however, that should Time Oil request that Patarcity travel outside of Pittsburgh, Pennsylvania, Time Oil will provide Beazer and Patarcity with at least seven (7) business days' advance notice.

d. Beazer agrees that it will pay all expenses incurred by Patarcity and Others in connection with any services to be performed by Patarcity and Others pursuant to this Agreement.

3. Time Oil Information. Time Oil agrees to provide Beazer with Confidential Information necessary for Beazer to provide technical assistance in the Investigation or Remedial Action.

a. Time Oil will not furnish Beazer with any information Time Oil knows to be inaccurate. Time Oil does not vouch for the accuracy or completeness of any information generated, collected or assembled by any entity including Time Oil and its employees, agents and representatives.

b. The term "confidential information" shall mean and include any and all data, field notes, investigative notes, drawings, tests, photographs, records, analyses, calculations, summaries, reports, recommendations and conclusions, as well as any work product developed, generated, produced, received and collected by Time Oil or its agents, contractors, subcontractors or attorneys. All confidential information is and shall remain the property of Time Oil, whether in its possession or otherwise, unless Time Oil agrees in writing to waive such right. All confidential information shall be delivered to Time Oil upon request.

c. The term "confidential information" does not include information that (1) Time Oil makes or has made generally available to the public; ~~or~~(2) Beazer receives other than from Time Oil, its agents, employees, contractors, subcontractors or attorneys and otherwise than in breach of a duty or confidence; or (3) Beazer has received from Time Oil prior to the date of execution of this Agreement.

d. Except as expressly provided herein, Beazer shall not, without the previous written consent of Time Oil, use, publish, or disclose to any other person any confidential information. Beazer may disclose confidential information when required to comply with a valid order of a governmental entity or a court of competent jurisdiction. ~~Beazer and Time Oil agree that all information developed by Time Oil and/or Beazer in connection with Investigation or Remedial Action at the Mixing Area is generated in anticipation of litigation or for trial.~~

e. Beazer agrees that breach of this paragraph 3 may cause irreparable harm which may not be adequately remedied by money damages. Accordingly, Beazer and Time Oil stipulate that in the event of any breach or a threatened breach, Time Oil may have equitable relief, without bond, including a temporary restraining order and preliminary injunction, barring further prohibited conduct. Such equitable relief shall be in addition to any other remedies which Time Oil may have under this contract at law or in equity.

4. Beazer Liability. Except as otherwise provided in this Agreement, Beazer denies any obligation to pay any losses, damages, attorneys fees, costs or expenses incurred or to be incurred by Time Oil. This Agreement shall not be treated as an admission of liability or responsibility by Beazer at any time for any purpose, such liability having been and continuing to be expressly denied by Beazer.

5. Time Oil agrees to defend, hold harmless and indemnify Beazer and its parents, subsidiaries, affiliated companies, successors and assigns, their employees, agents, consultants, attorneys, officers and directors from all claims, demands, damages, expenses, costs, attorneys' fees, actions, and liabilities of any kind and nature that have been or may be brought, known and unknown, against Beazer by any person or entity seeking compensation or damages from

Beazer related to or in any way arising out of the following: the Investigation; any Remedial Action; the transportation or disposal of any material removed from the Northwest Terminal in connection with the Investigation and the Remedial Action; Time Oil's failure to timely comply with any order or request by the DEQ, or any other state or federal agency, related to the Investigation, any Remedial Action or the Northwest Terminal.

~~5.~~ 6. No ~~waiver~~ Waiver, Exceptions. This Agreement does not constitute an accord and satisfaction. In entering into this Agreement, neither Beazer nor Time Oil waives any claims, counterclaims, cross claims, affirmative defenses, actions, or causes of actions it has or may have in any future litigation or administrative proceeding, other than the following:

a. Beazer and Time Oil agree that the period of time beginning with the date of execution of this Agreement and ending with the date of termination of the Agreement as provided in Paragraph ~~6~~ 7 will not be included in the application of any statute of limitations to any future litigation between Beazer and Time Oil.

b. Beazer waives any affirmative defense, claim, counterclaim, crossclaim, action or cause of action based upon Time Oil's failure to comply or substantially comply with any provision the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300 et seq., ("NCP") in performing any future Remedial Action at the Mixing Area, unless Beazer makes specific written objection at least ten (10) ~~days prior to Time Oil's commencement of~~ business days after receipt of written notice from Time Oil that it intends to commence the objectionable item of Remedial Action. This Subparagraph does not apply to, and Beazer does not waive, any affirmative defense related to or based on any failure by Time Oil to comply or substantially comply with the NCP in performing any Investigation or Remedial Action

commenced or completed prior to the date of execution of this Agreement, or after the termination of this Agreement.

~~6~~ 7. Termination. Either party may terminate this Agreement at any time upon ten (10) days' prior written notice to the other party. Termination under this provision shall in no way affect Beazer's obligation to maintain the confidentiality of Time Oil's ~~Confidential Information.~~ confidential information. In the event of termination, Beazer shall be entitled to claim any defense, claim, counterclaim, crossclaim, cause of action or action based upon Time Oil's failure to comply or substantially comply with the NCP with respect to any Investigation or Remedial Action occurring after the date of termination.

~~7~~ 8. Duplicate Originals. This Agreement is executed in duplicate originals.

~~8~~ 9. No Third Party Beneficiaries. This Agreement is entered into for the express benefit of Time Oil and Beazer and is not intended and with the exception of the defense and indemnity obligations set forth in paragraph 5 hereof, shall not be deemed to create any rights or interests whatsoever in any other person, including without limitation, any right to enforce the terms hereof.

~~9~~ 10. Severability. Each provision of this Agreement shall be interpreted in such a manner as to be valid and enforceable under applicable law, but if any provision hereof shall be or become prohibited or invalid under any applicable law, that provision shall be ineffective only to the extent of such prohibition or invalidity, without thereby invalidating the remainder of that provision or any other provision hereof.

~~10~~ 11. Governing Law. This Agreement shall be governed by and considered in accordance with the laws of the State of Oregon.

DRAFT
2-6-95

~~11~~ 12. Integration. This Agreement constitutes the entire agreement by and among all of the parties hereto and integrates and supersedes all prior understandings or agreements with respect to the subject matter.

~~12~~ 13. Modification. This Agreement may not be altered, amended, modified or otherwise changed except by writing, duly executed by authorized representatives of Beazer and Time Oil.

~~13~~ 14. Notices. Notices required or permitted to be given under the Agreement shall be sent via first class mail to the following addresses:

For Time Oil: Richard Gordon
Time Oil Company
2737 W. Commodore Way
Seattle, Washington 98199

With copy to: Patricia Dost
Schwabe, Williamson & Wyatt
1211 S.W. Fifth Avenue - Suite 1700
Portland, Oregon 97204-3795

For Beazer: Jane Patarcity
~~Beazer East Inc.~~
~~436 Seventh Avenue~~
~~Pittsburgh,~~
Pennsylvania 15219

With copy to: Anthony Hopp
Wildman, Harrold, Allen & Dixon
225 West Wacker Drive
Chicago, Illinois 60606-1229

~~14~~ 15. Warranty of Representation. Each party executing this Agreement represents that it has been represented by counsel of its own choosing regarding the preparation and negotiation of this Agreement and all the matters set forth herein and that each of them has read this Agreement and is fully aware of the contents thereof and its legal effect.

~~15. Attorney Fees. If any dispute should arise with respect to this Agreement, the prevailing party in any ensuing litigation or controversy shall be entitled to reasonable attorney fees.~~

16. Arbitration.

a. All disputes arising under this Agreement shall be submitted to arbitration. If a dispute arises, the party desiring arbitration shall give written notice to the other party and in such notice shall appoint a disinterested person of recognized competence in the field involved as the arbitrator on its behalf. Within five (5) business days thereafter, the other party by written notice may appoint a second disinterested person of recognized competence in such field as the arbitrator on its behalf. The arbitrators thus appointed shall appoint a third disinterested person of recognized competence in such field, and such three arbitrators shall as promptly as possible, but not later than ten (10) business days later, determine such matter; provided, however, if the second arbitrator shall not have been appointed as described above, the first arbitrator shall proceed to determine the matter as the sole arbitrator.

b. The determination of the majority of the arbitrators, or the sole arbitrator, as the case may be, shall be conclusive upon the parties and judgment upon the same may be entered in any court having jurisdiction thereof. The arbitrators or the sole arbitrator, as the case may be, shall give written notice to the parties stating the determination, and shall furnish to each party a signed copy of such determination.

TIME OIL COMPANY

~~Beazer~~ BEAZER EAST INC.,
~~fka Beazer~~ f/k/a BEAZER
MATERIALS AND SERVICES, INC.
and KOPPERS COMPANY INC.

DRAFT
2-6-95

By:	_____	By:	_____
Title:	_____	Title:	_____
Date:	_____	Date:	_____

DRAFT
2-6-95

This Agreement ("Agreement") is entered into by Time Oil Company ("Time Oil") and Beazer East, Inc., formerly known as Beazer Materials and Services, Inc. and Koppers Company, Inc. (collectively "Beazer") as of December __, 1994.

RECITALS

1. Time Oil owns and operates a facility located at 1205 North Burgard Road, Portland, Oregon (the "Northwest Terminal".)

2. Pentachlorophenol-formulating operations were formerly conducted at a portion (the "Mixing Area") of the Northwest Terminal under a contract between Time Oil and Beazer.

3. The Oregon Department of Environmental Quality ("DEQ") has requested that Time Oil investigate whether and to what extent the pentachlorophenol-formulating operations may have impacted soil or ground water at the Northwest Terminal.

4. Time Oil and Beazer anticipate that the DEQ may require that Time Oil take action to remedy or otherwise mitigate any impact on the Northwest Terminal caused by the pentachlorophenol-formulating operations.

5. Time Oil has requested that Beazer assist Time Oil in completing the investigation of the Northwest Terminal and, if necessary, assist Time Oil in negotiating the scope, extent, and description of any remedial action requested by the DEQ.

AGREEMENT

Time Oil and Beazer agree as follows:

1. Definitions. Terms used in this Agreement have the following meanings:

a. "The Mixing Area" means that area of the Northwest Terminal where pentachlorophenol-formulating operations were formerly conducted and where mixed formulations were stored or loaded for shipment.

b. "Investigation" means investigation or investigations into the nature and extent of impact on the Mixing Area. "Investigation" includes studies to assess site conditions and evaluate alternatives to the extent necessary to select a remedy.

c. "Remedial Action" means those actions taken to clean up, remove or remediate the release or threatened release of a hazardous substance, including actions to monitor, assess or evaluate the release or threat of release of a hazardous substance and actions taken to prevent, minimize or mitigate damage or risk, if any, to health, welfare or the environment.

d. "Hazardous Substance" means any substance defined as "hazardous" or "toxic" under any applicable federal, state or local law, regulation, rule, ordinance or order pertaining to the protection of human health, welfare or the environment, including, but not limited to, the federal Comprehensive Environmental Response, Compensation and Liability Act, 42 USC § 9601 et seq., and the Oregon Hazardous Substance Removal and Remedial Action Statute, ORS 465.200 et seq.

2. Beazer Technical Assistance. Beazer agrees to provide technical assistance, as further defined in Subparagraphs 2a, 2b and 2d of this Agreement, to Time Oil in investigating the nature and extent of contamination at the Mixing Area and, if necessary, in negotiating the scope, extent and description of any Remedial Action.

a. Beazer shall provide to Time Oil the services of Jane Patarcity, a Beazer employee, or another Beazer employee similarly situated ("Patarcity") as well as the services of any assistants or consultants selected by Patarcity ("Others"), for the purpose of providing to Time Oil information and advice related to the Investigation and, if necessary, information and advice relating to negotiations with the DEQ concerning the scope, extent and description of any Remedial Action.

b. Time Oil agrees and represents that it has retained a consultant to assist Time Oil in completing the Investigation and performing the Remedial Action. Time Oil agrees that it will continue to retain and employ a consulting firm to assist Time Oil in completing the Investigation and performing the Remedial Action, and in no event shall this Agreement entitle Time Oil to professional consulting or engineering services from Beazer. Time Oil further agrees that Time Oil has paid and will continue to pay all reasonable invoices received from any consulting firm retained by Time Oil in connection with the Investigation and Remedial Action. Nothing in this Agreement shall be construed as obligating Beazer to pay any portion of any invoice received by Time Oil by any consulting firm retained by Time Oil.

c. Beazer agrees that it shall provide the services of Patarcity and Others to Time Oil on an as-needed basis, and it will endeavor to make Patarcity available to Time oil, on reasonable notice, for consultation; provided, however, that should Time Oil request that Patarcity travel outside of Pittsburgh, Pennsylvania, Time Oil will provide Beazer and Patarcity with at least seven (7) business days' advance notice.

d. Beazer agrees that it will pay all expenses incurred by Patarcity and Others in connection with any services to be performed by Patarcity and Others pursuant to this Agreement.

3. Time Oil Information. Time Oil agrees to provide Beazer with Confidential Information necessary for Beazer to provide technical assistance in the Investigation or Remedial Action.

a. Time Oil will not furnish Beazer with any information Time Oil knows to be inaccurate. Time Oil does not vouch for the accuracy or completeness of any information generated, collected or assembled by any entity including Time Oil and its employees, agents and representatives.

b. The term "confidential information" shall mean and include any and all data, field notes, investigative notes, drawings, tests, photographs, records, analyses, calculations, summaries, reports, recommendations and conclusions, as well as any work product developed, generated, produced, received and collected by Time Oil or its agents, contractors, subcontractors or attorneys. All confidential information is and shall remain the property of Time Oil, whether in its possession or otherwise, unless Time Oil agrees in writing to waive such right. All confidential information shall be delivered to Time Oil upon request.

c. The term "confidential information" does not include information that (1) Time Oil makes or has made generally available to the public; (2) Beazer receives other than from Time Oil, its agents, employees, contractors, subcontractors or attorneys and otherwise than in breach of a duty or confidence; or (3) Beazer has received from Time Oil prior to the date of execution of this Agreement.

d. Except as expressly provided herein, Beazer shall not, without the previous written consent of Time Oil, use, publish, or disclose to any other person any confidential information. Beazer may disclose confidential information when required to comply with a valid order of a governmental entity or a court of competent jurisdiction.

e. Beazer agrees that breach of this paragraph 3 may cause irreparable harm which may not be adequately remedied by money damages. Accordingly, Beazer and Time Oil stipulate that in the event of any breach or a threatened breach, Time Oil may have equitable relief, without bond, including a temporary restraining order and preliminary injunction, barring further prohibited conduct. Such equitable relief shall be in addition to any other remedies which Time Oil may have under this contract at law or in equity.

4. Beazer Liability. Except as otherwise provided in this Agreement, Beazer denies any obligation to pay any losses, damages, attorneys fees, costs or expenses incurred or to be incurred by Time Oil. This Agreement shall not be treated as an admission of liability or responsibility by Beazer at any time for any purpose, such liability having been and continuing to be expressly denied by Beazer.

5. Time Oil agrees to defend, hold harmless and indemnify Beazer and its parents, subsidiaries, affiliated companies, successors and assigns, their employees, agents, consultants, attorneys, officers and directors from all claims, demands, damages, expenses, costs, attorneys' fees, actions, and liabilities of any kind and nature that have been or may be brought, known and unknown, against Beazer by any person or entity seeking compensation or damages from Beazer related to or in any way arising out of the following: the Investigation; any Remedial Action; the transportation or disposal of any material removed from the Northwest Terminal in

connection with the Investigation and the Remedial Action; Time Oil's failure to timely comply with any order or request by the DEQ, or any other state or federal agency, related to the Investigation, any Remedial Action or the Northwest Terminal.

6. No Waiver, Exceptions. This Agreement does not constitute an accord and satisfaction. In entering into this Agreement, neither Beazer nor Time Oil waives any claims, counterclaims, cross claims, affirmative defenses, actions, or causes of actions it has or may have in any future litigation or administrative proceeding, other than the following:

a. Beazer and Time Oil agree that the period of time beginning with the date of execution of this Agreement and ending with the date of termination of the Agreement as provided in Paragraph 7 will not be included in the application of any statute of limitations to any future litigation between Beazer and Time Oil.

b. Beazer waives any affirmative defense, claim, counterclaim, crossclaim, action or cause of action based upon Time Oil's failure to comply or substantially comply with any provision the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300 et seq., ("NCP") in performing any future Remedial Action at the Mixing Area, unless Beazer makes specific written objection at least ten (10) business days after receipt of written notice from Time Oil that it intends to commence the objectionable item of Remedial Action. This Subparagraph does not apply to, and Beazer does not waive, any affirmative defense related to or based on any failure by Time Oil to comply or substantially comply with the NCP in performing any Investigation or Remedial Action commenced or completed prior to the date of execution of this Agreement, or after the termination of this Agreement.

7. Termination. Either party may terminate this Agreement at any time upon ten (10) days' prior written notice to the other party. Termination under this provision shall in no way affect Beazer's obligation to maintain the confidentiality of Time Oil's confidential information. In the event of termination, Beazer shall be entitled to claim any defense, claim, counterclaim, crossclaim, cause of action or action based upon Time Oil's failure to comply or substantially comply with the NCP with respect to any Investigation or Remedial Action occurring after the date of termination.

8. Duplicate Originals. This Agreement is executed in duplicate originals.

9. No Third Party Beneficiaries. This Agreement is entered into for the express benefit of Time Oil and Beazer and is not intended and with the exception of the defense and indemnity obligations set forth in paragraph 5 hereof, shall not be deemed to create any rights or interests whatsoever in any other person, including without limitation, any right to enforce the terms hereof.

10. Severability. Each provision of this Agreement shall be interpreted in such a manner as to be valid and enforceable under applicable law, but if any provision hereof shall be or become prohibited or invalid under any applicable law, that provision shall be ineffective only to the extent of such prohibition or invalidity, without thereby invalidating the remainder of that provision or any other provision hereof.

11. Governing Law. This Agreement shall be governed by and considered in accordance with the laws of the State of Oregon.

12. Integration. This Agreement constitutes the entire agreement by and among all of the parties hereto and integrates and supersedes all prior understandings or agreements with respect to the subject matter.

13. Modification. This Agreement may not be altered, amended, modified or otherwise changed except by writing, duly executed by authorized representatives of Beazer and Time Oil.

14. Notices. Notices required or permitted to be given under the Agreement shall be sent via first class mail to the following addresses:

For Time Oil: Richard Gordon
Time Oil Company
2737 W. Commodore Way
Seattle, Washington 98199

With copy to: Patricia Dost
Schwabe, Williamson & Wyatt
1211 S.W. Fifth Avenue - Suite 1700
Portland, Oregon 97204-3795

For Beazer: Jane Patarcity
Beazer East Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

With copy to: Anthony Hopp
Wildman, Harrold, Allen & Dixon
225 West Wacker Drive
Chicago, Illinois 60606-1229

15. Warranty of Representation. Each party executing this Agreement represents that it has been represented by counsel of its own choosing regarding the preparation and negotiation of this Agreement and all the matters set forth herein and that each of them has read this Agreement and is fully aware of the contents thereof and its legal effect.

DRAFT
2-6-95

16. Arbitration.

a. All disputes arising under this Agreement shall be submitted to arbitration. If a dispute arises, the party desiring arbitration shall give written notice to the other party and in such notice shall appoint a disinterested person of recognized competence in the field involved as the arbitrator on its behalf. Within five (5) business days thereafter, the other party by written notice may appoint a second disinterested person of recognized competence in such field as the arbitrator on its behalf. The arbitrators thus appointed shall appoint a third disinterested person of recognized competence in such field, and such three arbitrators shall as promptly as possible, but not later than ten (10) business days later, determine such matter; provided, however, if the second arbitrator shall not have been appointed as described above, the first arbitrator shall proceed to determine the matter as the sole arbitrator.

b. The determination of the majority of the arbitrators, or the sole arbitrator, as the case may be, shall be conclusive upon the parties and judgment upon the same may be entered in any court having jurisdiction thereof. The arbitrators or the sole arbitrator, as the case may be, shall give written notice to the parties stating the determination, and shall furnish to each party a signed copy of such determination.

TIME OIL COMPANY	BEAZER EAST INC., f/k/a BEAZER MATERIALS AND SERVICES, INC. and KOPPERS COMPANY INC.
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

BZTO104(e)011217

SCHWABE WILLIAMSON & WYATT
ATTORNEYS AT LAW

PACWEST CENTER, SUITES 1600-1950
1211 SOUTHWEST FIFTH AVENUE • PORTLAND, OREGON 97204-3795
TELEPHONE: 503 222-9981 • FAX: 503 796-2900 • TELEX: 4937535 SWK UI

PATRICIA M. DOST
DIRECT LINE: 503 796-2449

December 16, 1994

Anthony G. Hopp
Wildman, Harrold, Allen & Dixon
225 West Wacker Drive
Chicago, Illinois 60606-1229

Re: Time Oil Northwest Terminal
Our File No.: 89360/82295

Dear Tony:

Since we last spoke, our efforts to convince the Oregon Department of Environmental Quality that its RCRA program is not the most appropriate or expeditious manner of managing investigation and remediation of the Northwest Terminal have borne fruit. Recently, DEQ agreed to allow us to leave the RCRA program and enter its Voluntary Cleanup Program, which we hope will allow us much more flexibility in investigating the nature and extent of the pentachlorophenol contamination and in selecting and implementing a remedy. DEQ has not yet assigned us a project manager, and so the project remains on hold. DEQ has, however, promised to assign someone to us before the end of the year.

At the risk of being overly optimistic that this project will finally get off the ground, I am forwarding to you some draft terms and conditions to formalize Beazer's earlier agreement to provide Time Oil technical assistance at the Northwest Terminal. Please let me know what you think.

Very truly yours,

Patty M. Dost

PMD:smp
Enclosure
cc: Richard Gordon
Kevin Murphy

PORTLAND OREGON 503 222-9981 • SEATTLE WASHINGTON 206 622-1711 • VANCOUVER WASHINGTON 206 694-7551 • WASHINGTON DISTRICT OF COLUMBIA 202 785-5960

BZTO104(e)011218

TIME OIL CO.
Correspondence - 1993

BZTO104(e)011219

BZTO104(e)011220

MEMORANDUM

TO: Fred Proby
FROM: Gary Wells
SUBJECT: NW & Bell Terminal, Pent' area
CC: Rail spur proposal 1992, (file)
DATE: February 7, 1992

Fred,

This morning I received a message from David Taylor of Northwest Natural Gas regarding a natural gas line main (6") which crosses our property perpendicular to the proposed rail spur we have recently discussed. I had inquired with the gas company as to a budget figure for "casing" the gas line under a proposed rail spur. NWNG was going to go out to the site and dig down to confirm the existing line and burial conditions and from their assessment give me a $$ amount for the necessary work.

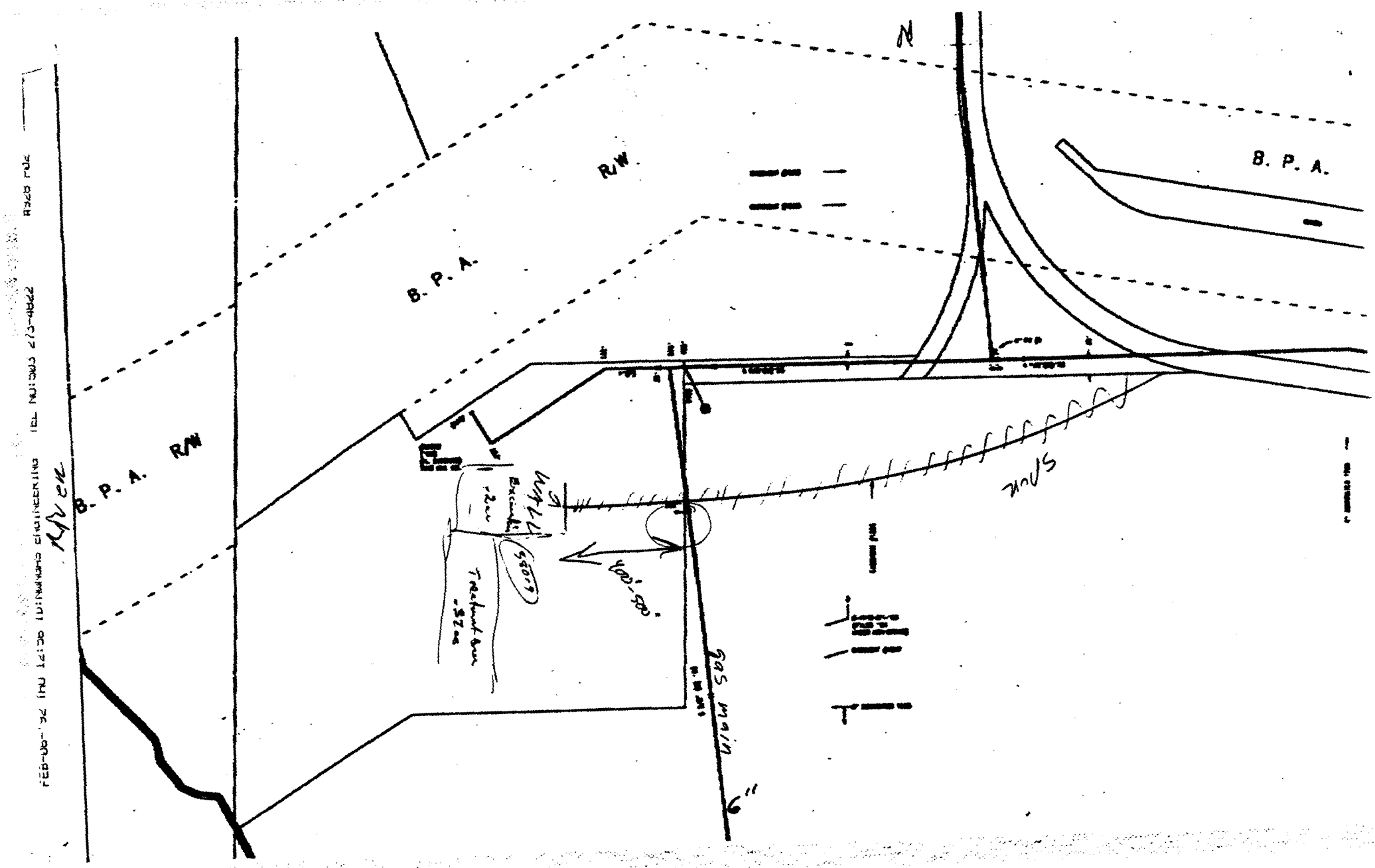
This morning's message was that NWNG could not do any work at the site in the area because of a note in their files stating that the soils in the area where their gas line are contaminated. The existing service was cut at the main and the buried service line was abandoned in place because of the contamination in 1985. Mr. Taylors initial response is that he will need documentation from the DEQ that the site has been "cleared" ***and*** he would need indemnification from us to work in the area.

The proposed project could be delayed or in jeopardy without the area East of the concrete wall where the excavation of soil stopped having some sort of "blessing" bestowed upon it which would allow work to be done there. The railroad contractor has also expressed concern about any contaminated soils in the area and to my knowledge they are not aware of the cleanup in progress. The Union Pacific Railroad could also raise questions if the project progresses to the point of talking to them.

Is it possible to give contractors of various types an assurance which will allow them to work in the area? We <u>may</u> not need to work in the area <u>immediately</u>, but should the need arise, the response time for the customer (as always) will be critical. If we can get the information gathered **now** we can be prepared rather than being in a mad scramble at the last minute.

The rail spur project is being discussed on a daily basis and I would like to be able to assemble a budget price A.S.A.P. To do this accurately I need to have the gas company do their investigation.

Can you provide Northwest Natural Gas with the proper documentation or give them some form of assurance so that they can proceed? Mr. Taylor can be contacted at NWNG in Portland @ 503-226-4211 ext. 4326. Contact me when you have a chance to read this and I will help in any way I can.



N
B. P. A.
R/W
B. P. A.
B. P. A.
R/W
Gas main
6"

M E M O R A N D U M

February 6, 1992

TO: H. Roger Holliday — Seattle
Jock Streidl — Seattle

FROM: Joe Sanzo — Seattle

SUBJECT: NW TERMINAL RAIL SPUR

I have recently been advised that the Engineering Department is considering extending the existing rail spur at the Northwest Terminal and adding a second spur. As proposed, both spurs would extend into the area of the former pentachlorophenol blending operations. I do not recommend construction in this area at this time for the following reasons:

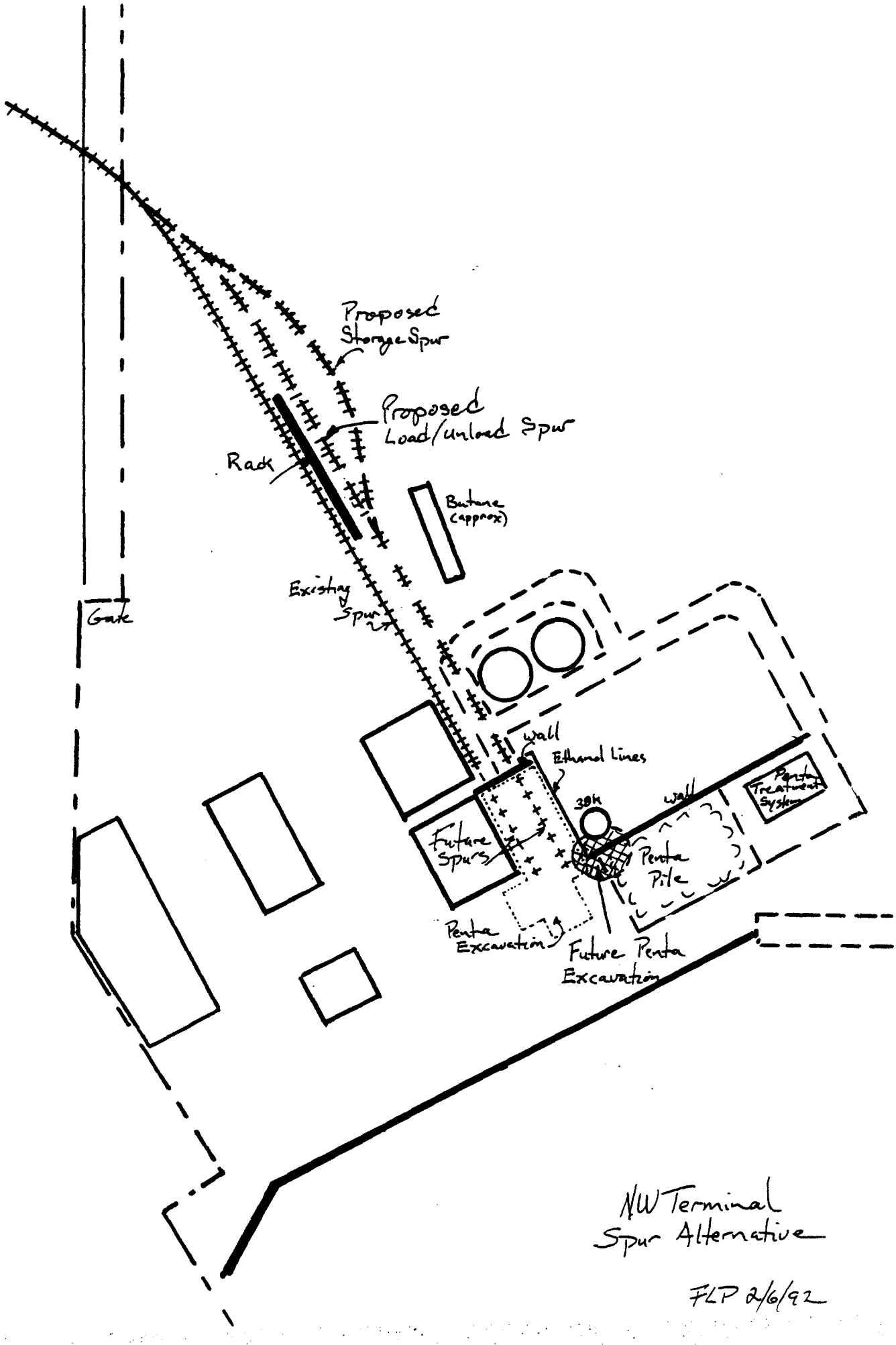
1. The penta blending compound was excavated to the water table and several feet beyond. Three of six confirmation samples showed remaining concentrations of penta ranging from 113 ppm to 258 ppm. We do not yet know what level of penta the Oregon DEQ will allow to remain. The DEQ is presently reviewing our report and has advised us that they will not be able to begin negotiations on a cleanup level until mid-March. While it is unlikely that we will be required to re-excavate this area, it is possible that some form of in situ treatment may be requested or that additional samples may be required. Extension of the spur at this time would preclude these activities.

2. After the penta excavation had been completed and the soil pile constructed, a penta "hot spot" was found at the corner of the dike wall around the former Crosby & Overton tanks near the point where lines from the rail loading rack go underground. This was discovered while excavating for a sump to collect water runoff within the penta storage berm. After the soil pile is treated, this hot spot will have to be excavated and the soil treated in ECOVA's system. Due to the loose nature of the soils, it would require the installation of sheet piling in order to excavate this area without damage to the proposed second rail spur.

3. The penta excavation was backfilled without compaction. It will be costly to excavate and re-compact this soil to provide enough support for the proposed rail spurs. However, if we can use this area to dispose of the treated soil slurry, the wet soil surcharge may provide enough compaction to allow future spur construction without added expense.

As an alternative to extending both spurs into the penta blending compound, it is recommended that they be terminated at the existing dike wall with provisions made for future extension. If additional trackage is needed now for operational flexibility and car storage, it is suggested that a third spur be constructed with a tie back into the proposed new spur. Once the penta cleanup has been completed to the DEQ's satisfaction, both rail spurs could be extended into the penta compound and two additional off-loading points installed. A sketch of this alternative proposal is attached.

C:\WP51\FLP\FEB92\NWSPUR.MO



NW Terminal
Spur Alternative

FLP 2/6/92

BZTO104(e)011224

TIME OIL CO.
Correspondence - 1991

BZTO104(e)011225

September 4, 1991

To: Fred Proby

From: Michael Wilkinson

Subject: Northwest Terminal, E.C.O.V.A. site

During my inspection of the Northwest terminal in Portland,OR, I observed the area where E.C.O.V.A. has placed their contaminated soil pile and the subsequent material which is littering Time Oil property.

This area was cited previously on November 5, 1990 for being uncovered during high winds and rain which could have led to the distribution of the soil into uncontaminated areas.

Attached are three photographs that I took of this area. As you will notice in photo number #1, the soil pile is adequately covered. However, there is no indication of the fact that this is contaminated soil and could be inadvertently used by an employee that was not aware of these conditions. This area should be clearly labeled as a hazardous area so that there is no possibility of employees exposing themselves or others to this soil.

Photograph #2 illustrates the need for this area to be cleaned up. The general disarray produces an unsafe area for employees to operate.

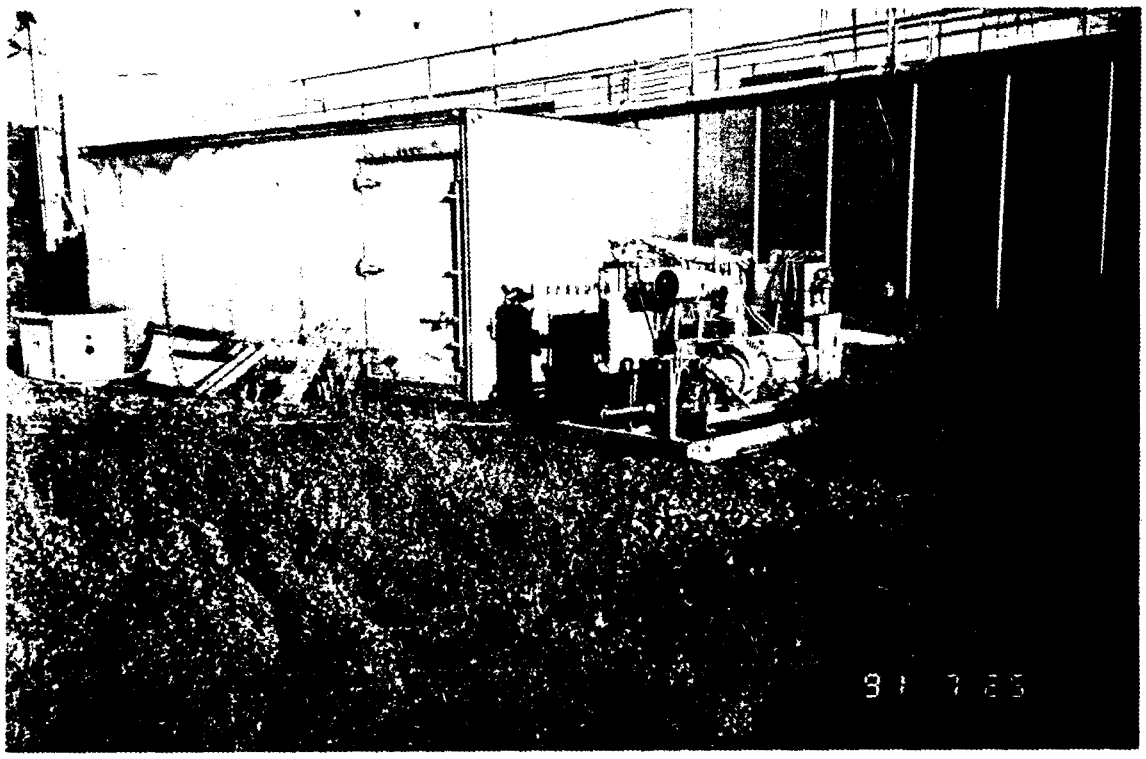
Photograph #3 is the southeast side of the E.C.O.V.A. area and shows an accumulation of grass and wood in the area of a gas powered unit. This area should be maintained in a better condition with the combustible materials kept away from a possible source of ignition.

I would like to recommend that you take this opportunity to address this area so as to reduce the possibility of exposure to our employees. If there are any questions that you may have, or if you need assistance with this situation, please feel free to contact me at your convenience.

Michael Wilkinson
Safety Specialist

91 7 26

91 7 26


31 7 65

— TIME OIL CO.
Correspondence - 1990

BZTO104(e)011234

cc: RGH - It's obviously not safe / (7/31/90)
to mention dormant matters.

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED
TEN TO ONE IT'S TIME

TIME OIL CO.

PHONE 206-285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION
SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

RECEIVED
JUL 30 1990
BEAZER MATERIALS & SERVICES, INC.

Bill

Per our discussion here is letter from Time Oil + copy of part of contract we discussed from Monsanto for your review + comment regarding claim. Thanks RGH 7/31

July 26, 1990

Mr. William F. Giarla, Counsel
Mr. Robert Hamilton
The Koppers Company
c/o Beazer Materials & Services, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

Re: Northwest Terminal - Pentachlorophenol Contamination

Gentlemen:

Some time ago you asked that we provide you with the authority upon which Time Oil Co. relies for claiming that Koppers is liable for the cleanup of the pentachlorophenol at Time Oil Co.'s terminal in Portland, Oregon. Additionally, it is our recollection that you were to look into the issue of whether we might jointly seek contribution from Monsanto for those past and on-going cleanup expenses.

As so much time has passed since we last discussed this matter, we are enclosing letters dated November 17, 1988 and September 19, 1988, which provide some of the background of this matter.

The right of Time Oil Co. for reimbursement against Koppers can be found both in the contract itself and in the terms of CERCLA (42 USC Section 9601, et seq.).

Under Paragraph D.15 of the Koppers/Time Oil Co. contract dated March 1, 1967, Koppers agreed to remove all of its product from Time Oil Co.'s premises at the conclusion of the lease term. The money expended by Time Oil Co. which is presently in question was expended for the express purpose of removing product owned by Koppers from the soil at the Time Oil Co. storage terminal. It is our position that Koppers' failure to remove or to pay for the removal of such product is in violation of Paragraph D.15 of the Storage Contract, and that Koppers is thereby liable for damages suffered by Time Oil Co.; namely the cost of removal of Koppers' material.

0181C

Additionally, the contract was amended by Amended Schedule, dated August 1, 1970 to provide, in pertinent part,

> "Disposal of waste shall be for Customer's account but subject to prior approval of expenditure for that purpose." (Emphasize supplied)

This provision evidences a clear recognition by the parties that waste material would be generated in the storage process and that the Customer (Koppers) would pay for such disposal. Contract Paragraph D.7b, in providing that Operator shall not be liable for "normal spillage", makes it clear that some amount of waste would "normally" be encountered. Reading these two paragraphs together makes it clear that the cost of dealing with this "normal" waste would be for Koppers' account.

Accordingly, we believe the facts demonstrate that the penta in the soil belongs to Koppers and either consisted of Koppers' product which Koppers had agreed to remove from the premises upon termination of the lease, or was waste which Koppers had agreed would be disposed of for the account of Koppers. Under either scenario, Koppers' liability is clear.

In addition to these contractual obligations, the increasing body of recent expansive readings of CERCLA by the courts provides Time Oil Co. with a statutory claim against Koppers for the continuing costs of the penta removal.

Recent cases have held that the owner of a hazardous material (i.e. Koppers) that had contracted with a third party (i.e. Time Oil Co.) for the processing and re-packaging of the material was liable for the cost of cleanup attributable to spills and leaks that had occurred during this process (U.S. v. Velsical Chemical, 14 Chem Waste Litigation Reporter, 9/78 [September 15, 1987] and U.S. v. Acteo Agricultural Corp., 21 Environmental Reporter, 13/88).

As the natural expectations and industry experience with re-packaging of penta would necessarily anticipate some spillage during the process of re-packaging (and, as discussed above, as the same was expressly anticipated in Agreement, Paragraph D.7b, in providing that Operator shall not be liable for "normal spillage"), the owner of the substance was an arranger for disposal of the waste and therefore liable under CERCLA. While this may appear a rather draconian result, it is

BZTO104(e)011236

nevertheless entirely consistent with the expansive reading by the courts in defining parties responsible for the cleanup of hazardous substances.

CERCLA's joint and several strict liability under which either party might actually be liable for the full cost of cleanup with a right of contribution against the other, would seem to provide added reason for our continuted cooperation in the sharing of cleanup expenses. Since the date of your last payment, Time Oil Co. has expended an additional $166,888.04 in cleanup costs. A further $409,132.00 is expected to be expended through the end of the ECOVA cleanup contract. Although we firmly believe that under the pertinent facts and law Koppers is liable for the full amount of all such cleanup costs, we nevertheless remain willing to continue to share the costs on an equitable basis. It remains our belief that continuing to share the costs is both our and your most efficient and expedient alternative to the protracted litigation which would otherwise result.

We appreciate that a substantial amount of time has gone by since we last addressed this issue, but it is one that nevertheless needs to be resolved. We look forward to hearing from you on this matter, as well as with respect to any information you may have on the potential liability for contribution of Monsanto.

Very truly yours,

TIME OIL CO.

Richard Gordon
Corporate Counsel

RG:mw

Enclosures

0181C

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

November 17, 1988

Mr. Frederick C. Moore
President
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Moore:

I am writing to you in hopes of resolving a situation that exists between Time Oil Co. and Koppers before it develops into a needless and costly dispute.

Briefly, the situation arises out of an agreement dated March 1, 1967 under which Time Oil agreed to provide certain labor and services to store and blend wood preservatives containing pentachloraphenol belonging to Koppers Company at our Portland, Oregon terminal. After the agreement was terminated in 1982 it was discovered that the ground at the terminal contains substantial quantities of the product belonging to Koppers. As you know pentachloraphenol is a hazardous substance under federal and state law and gives rise to authority by the federal and state governments to compel cleanup of the product by responsible parties including the owner of the product.

Since the problem first materialized Time Oil has been in contact with Koppers Company and initially there appeared to be willingness on the part of Koppers to work with Time to resolve this problem as inexpensively as possible and without exciting the interest of the federal and state authorities. To that end we met with Koppers personnel on January 23, 1986 in Pittsburgh where an agreement in principle was reached under which the cost of resolving this problem would be shared on a fifty fifty basis.

It is not my purpose here to detail the efforts that Time Oil has undertaken to resolve this environmental problem nor the efforts it has taken to obtain the continued cooperation of Koppers. Suffice it to say here that within the last year and half Koppers Company appears to be simply ignoring the problem and our communications.

0297C

BZTO104(e)011238

I would appreciate anything you might be able to do to advise us as to how this matter may be resolved. My telephone number is (206) 285-2400.

Very truly yours,

TIME OIL CO.

Robert D. Abendroth
Vice President

RDA:TLH:pjv

cc Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburgh, Pennsylvania 15219

0297C

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TEN TO ONE IT'S TIME

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson
Corporate Counsel

TLH:pjv

Enclosures

0297C

BZTO104(e)011240

cc: RGH - It's obviously not safe to mention dormant matters. (7/31/90) Bill

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED
TEN TO ONE IT'S TIME

TIME OIL CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

PHONE 206-285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

RECEIVED
JUL 30 1990
BEAZER MATERIALS & SERVICES INC.

July 26, 1990

Mr. William F. Giarla, Counsel
Mr. Robert Hamilton
The Koppers Company
c/o Beazer Materials & Services, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

Re: Northwest Terminal - Pentachlorophenol Contamination

Gentlemen:

Some time ago you asked that we provide you with the authority upon which Time Oil Co. relies for claiming that Koppers is liable for the cleanup of the pentachlorophenol at Time Oil Co.'s terminal in Portland, Oregon. Additionally, it is our recollection that you were to look into the issue of whether we might jointly seek contribution from Monsanto for those past and on-going cleanup expenses.

As so much time has passed since we last discussed this matter, we are enclosing letters dated November 17, 1988 and September 19, 1988, which provide some of the background of this matter.

The right of Time Oil Co. for reimbursement against Koppers can be found both in the contract itself and in the terms of CERCLA (42 USC Section 9601, et seq.).

Under Paragraph D.15 of the Koppers/Time Oil Co. contract dated March 1, 1967, Koppers agreed to remove all of its product from Time Oil Co.'s premises at the conclusion of the lease term. The money expended by Time Oil Co. which is presently in question was expended for the express purpose of removing product owned by Koppers from the soil at the Time Oil Co. storage terminal. It is our position that Koppers' failure to remove or to pay for the removal of such product is in violation of Paragraph D.15 of the Storage Contract, and that Koppers is thereby liable for damages suffered by Time Oil Co.; namely the cost of removal of Koppers' material.

0181C

Additionally, the contract was amended by Amended Schedule, dated August 1, 1970 to provide, in pertinent part,

> "Disposal of waste shall be for Customer's account but subject to prior approval of expenditure for that purpose." (Emphasize supplied)

This provision evidences a clear recognition by the parties that waste material would be generated in the storage process and that the Customer (Koppers) would pay for such disposal. Contract Paragraph D.7b, in providing that Operator shall not be liable for "normal spillage", makes it clear that some amount of waste would "normally" be encountered. Reading these two paragraphs together makes it clear that the cost of dealing with this "normal" waste would be for Koppers' account.

Accordingly, we believe the facts demonstrate that the penta in the soil belongs to Koppers and either consisted of Koppers' product which Koppers had agreed to remove from the premises upon termination of the lease, or was waste which Koppers had agreed would be disposed of for the account of Koppers. Under either scenario, Koppers' liability is clear.

In addition to these contractual obligations, the increasing body of recent expansive readings of CERCLA by the courts provides Time Oil Co. with a statutory claim against Koppers for the continuing costs of the penta removal.

Recent cases have held that the owner of a hazardous material (i.e. Koppers) that had contracted with a third party (i.e. Time Oil Co.) for the processing and re-packaging of the material was liable for the cost of cleanup attributable to spills and leaks that had occurred during this process (U.S. v. Velsical Chemical, 14 Chem Waste Litigation Reporter, 9/78 [September 15, 1987] and U.S. v. Acteo Agricultural Corp., 21 Environmental Reporter, 13/88).

As the natural expectations and industry experience with re-packaging of penta would necessarily anticipate some spillage during the process of re-packaging (and, as discussed above, as the same was expressly anticipated in Agreement, Paragraph D.7b, in providing that Operator shall not be liable for "normal spillage"), the owner of the substance was an arranger for disposal of the waste and therefore liable under CERCLA. While this may appear a rather draconian result, it is

BZTO104(e)011242

nevertheless entirely consistent with the expansive reading by the courts in defining parties responsible for the cleanup of hazardous substances.

CERCLA's joint and several strict liability under which either party might actually be liable for the full cost of cleanup with a right of contribution against the other, would seem to provide added reason for our continuted cooperation in the sharing of cleanup expenses. Since the date of your last payment, Time Oil Co. has expended an additional $166,888.04 in cleanup costs. A further $409,132.00 is expected to be expended through the end of the ECOVA cleanup contract. Although we firmly believe that under the pertinent facts and law Koppers is liable for the full amount of all such cleanup costs, we nevertheless remain willing to continue to share the costs on an equitable basis. It remains our belief that continuing to share the costs is both our and your most efficient and expedient alternative to the protracted litigation which would otherwise result.

We appreciate that a substantial amount of time has gone by since we last addressed this issue, but it is one that nevertheless needs to be resolved. We look forward to hearing from you on this matter, as well as with respect to any information you may have on the potential liability for contribution of Monsanto.

Very truly yours,

TIME OIL CO.

Richard Gordon
Corporate Counsel

RG:mw

Enclosures

0181C

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

November 17, 1988

Mr. Frederick C. Moore
President
Koppers Company, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Moore:

I am writing to you in hopes of resolving a situation that exists between Time Oil Co. and Koppers before it develops into a needless and costly dispute.

Briefly, the situation arises out of an agreement dated March 1, 1967 under which Time Oil agreed to provide certain labor and services to store and blend wood preservatives containing pentachloraphenol belonging to Koppers Company at our Portland, Oregon terminal. After the agreement was terminated in 1982 it was discovered that the ground at the terminal contains substantial quantities of the product belonging to Koppers. As you know pentachloraphenol is a hazardous substance under federal and state law and gives rise to authority by the federal and state governments to compel cleanup of the product by responsible parties including the owner of the product.

Since the problem first materialized Time Oil has been in contact with Koppers Company and initially there appeared to be willingness on the part of Koppers to work with Time to resolve this problem as inexpensively as possible and without exciting the interest of the federal and state authorities. To that end we met with Koppers personnel on January 23, 1986 in Pittsburgh where an agreement in principle was reached under which the cost of resolving this problem would be shared on a fifty fifty basis.

It is not my purpose here to detail the efforts that Time Oil has undertaken to resolve this environmental problem nor the efforts it has taken to obtain the continued cooperation of Koppers. Suffice it to say here that within the last year and half Koppers Company appears to be simply ignoring the problem and our communications.

0297C

BZTO104(e)011244

I would appreciate anything you might be able to do to advise us as to how this matter may be resolved. My telephone number is (206) 285-2400.

Very truly yours,

TIME OIL CO.

Robert D. Abendroth
Vice President

RDA:TLH:pjv

cc Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburgh, Pennsylvania 15219

0297C

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TEN TO ONE IT'S TIME

PRODUCTS TIME TESTED

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

September 19, 1988

Mr. Bill Giarla
Koppers Company, Inc.
Koppers Building, Room 750
Pittsburg, Pennsylvania 15219

Dear Mr. Giarla:

On July 27, 1988 you and I discussed the matter of the costs incurred in the cleanup of Koppers' pentachlorophenol at Time Oil's Northwest Terminal in Portland. Since that time, Time Oil has been searching for an economic and effective method of disposing of the problem. In that regard, enclosed is a preliminary work plan prepared by Ecova Corporation for the cleanup of the pentacholorophenol contaminated soils. Although Time Oil is still in the process of evaluating the merits of the work plan, we anticipate following it subject to approval by the Oregon Department of Environmental Quality.

The cost of the proposed cleanup and related work is estimated at $400,000. Pursuant to the January 23, 1986 agreement between Koppers and Time Oil, Kopper's share would be $200,000.

As a reminder, Time Oil has spent $118,371.10 to date on investigation and cleanup of our mutual problem. Of this we have invoiced you $54,780.28 by invoices dated 3/6/86 and 4/17/87 (copies enclosed). We have not yet received payment for those invoices. Also enclosed is our invoice dated 9/21/88 for $4,405.27, which brings Kopper's total share of moneys spent to date to $59,185.55.

Very truly yours,

TIME OIL CO.

Terrill L. Henderson
Corporate Counsel

TLH:pjv

Enclosures

0297C

BZTO104(e)011246

U.S. EPA FOIA
REQUESTS

K7528-097

K7528.00097

BEAZER EAST, INC.

OPENED: 08-30-1990

SHUFTAN, ROBERT L.

TIME OIL
TIME OIL - GENERAL CASE
BEAZER CASE NO.: 8232

GENERAL - AS REQUIRED

BZTO104(e)011247

[redacted]

TIME OIL CO. —
KOPPERS SAFETY SHEETS,
CHEMICAL INFO SHEETS, MSDS's —

BZTO104(e)011248

Wood Treating Chemicals

A complete line of high quality wood preservative chemicals for:

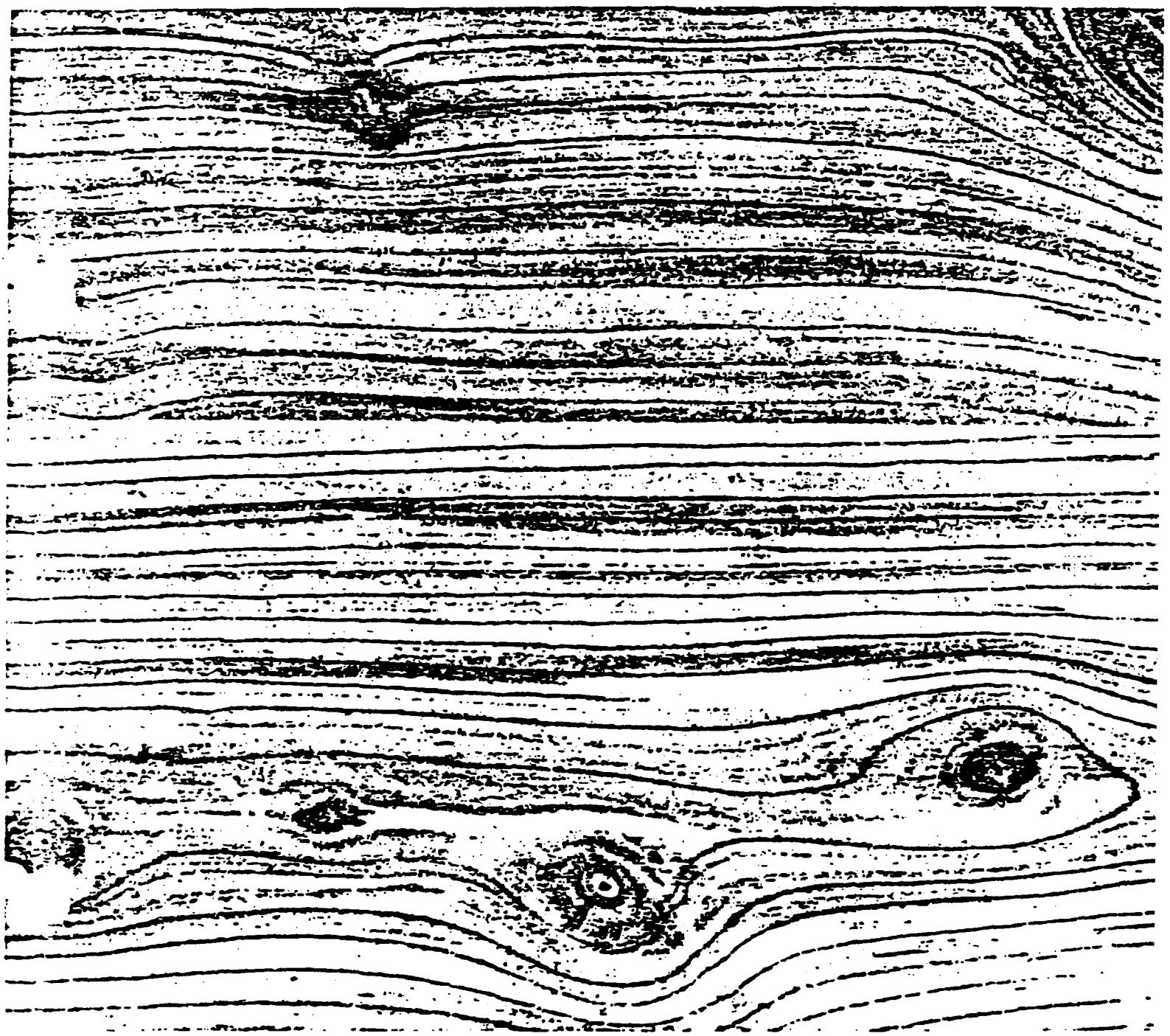
Lumber Industry

Industrial Products

Utility Industry

Commercial Wood Preserving Industry

KOPPERS



BZTO104(e)011249

Lumber Industry Chemicals

End Coatings

End Sealer. A fast-drying heavy wax emulsion, provides maximum protection for green lumber against end splitting and checking while drying during seasoning. Available in clear and a number of colors. Do not freeze.

End Spray 400 Green and Red. Pigmented color concentrate for application to lumber ends and plywood edges to give uniform color coating to enhance the product appearance. Water reducible—do not freeze. Can be applied to wood by brush or spray. Normally applied at ratio of 1 gallon 400 End Spray to 7-12 gallons of water, depending on the desired color intensity.

Wood Seal Wax. A light-lemon color, highly refined wax end sealer free of oil and tackiness. Provides maximum protection for green lumber against end splitting and checking during seasoning. Do not freeze.

Sap Stain Control

Liquid Azide 200. A 200-1 concentrate chemical specially designed to prevent "enzymatic brown stain" on sugar pine. Can be used alone or with other sap stain control chemicals adaptable for mixing with proportioning equipment.

Liquid Noxtane® SS-1. A specially formulated sapstain chemical concentrate for the prevention of blue stain end mold in lumber operations of southern and western wood species. Can be mixed with automatic proportioning equipment. Dilute before use either 100 to1, 66 to 1 or 50 to 1 depending on stain hazard.

Super Noxtane®. A dry powder. General purpose chemical to control sap stain and mold in freshly cut lumber. Buffered for dip tank use or used at double strength in spray systems.

Liquid Noxtane® 1. Liquid sapstain control chemical concentrate dilutable at a rate of 80 to1 or 50 to1, depending on stain hazard. Liquid Noxtane 1 contains sodium pentachlorophenate and sodium metaborate mixed in a water-organic hydrocarbon solvent system.

Dimension Lumber Protection

Lumbrella® Coating. A specially formulated weather protective coating. Provides water repellency and dimensional stability. Replaces paper wrap in protecting quality lumber from sawmill to building site or lumber yard. Available in clear, yellow, brown and redwood colors. Dilutable in water in accordance with the recommended mixtures.

Timbertreat™ Chemicals—Concentrate. Protects freshly cut logs and lumber against insect attack. Dilutes at a rate of one gallon to 160 gallons of water, specific protection against Ambrosia and Lyctus beetles. Active ingredient—Gamma Isomer of BHC.

Dowicide G-ST Beads—Sodium Pentachlorophenate. A water soluble fungicide for control of sap stain on lumber when used with buffering agents.

Industrial Products

Penta Stain® Coating. A top quality, quickly penetrating outdoor wood stain, containing 5% pentachlorophenol by weight. Also, contains quality resins to give good water repellency. Available in nine basic colors which can be intermixed by the buyer for wider color selection.

Penta Wood Preservative—Concentrate (East of the Rockies). A concentrated solution of pentachlorophenol to be diluted with fuel oil, kerosene, range oil, or diesel fuel. Contains 41% technical pentachlorophenol. Use on wood in contact with ground or other severe exposure applications.

Timbertox 40 Preservative—Concentrate (West of the Rockies). A concentrated solution of pentachlorophenol to be diluted with fuel oil, kerosene, range oil, or diesel fuel. Contains 40.5% technical pentachlorophenol. Use on wood in contact with ground or other severe exposure applications.

Penta Wood Preservative—Ready-to-Use. A clear, ready-to-use liquid containing 5% pentachlorophenol by weight. Solvents used are residual in the wood and do not provide a paintable surface. Use on wood in contact with ground or other severe exposure applications.

Woodtox® Preservative—Ready-to Use. A clear water repellent preservative. Use on wood where cleanliness and paintability are desired. Contains 5% pentachlorophenol by weight.

Woodtox® Preprime Preservative. A high quality water repellent preservative for treatment of millwork prior to factory paint priming. Available as a 1:4 concentrate or a ready-to-use solution. Meets National Woodwork Manufacturers Association Standards for water repellency and preservative effectiveness.

KOPPERS

Woodtox® 140 Preservative. An economical water repellent preservative for dip treatment of millwork, boxes and pallets. Available in a 1:4 concentrate or ready-to-use solution. Meets Federal Specification TT-W-572B and National Woodwork Manufacturers Association Standards for water repellency and preservative effectiveness.

Woodtox® 152 Preservative—Ready-to-Use. Water repellent wood preservative with dark brown color added. For treatment of wood parts used in truck or wagon body construction, other miscellaneous fabricated lumber items.

Coppertreat® 00 Preservative. Copper naphthenate specially formulated to meet MIL-W-18142B, Amendment 3. Assay 2% copper metal by weight in ready-to-use solution. Use on wood in contact with ground or other severe decay hazard areas.

Utility Industry Chemicals

Pole-Life.® Ready-to-use, grease-like penetrating coating for ground line remedial treatment of standing poles, poles to be relocated, or poles stored for prolonged periods. Can also be used to treat piling cut-offs. Conforms to Bell Laboratories Specification for C Wood Preservative. There are two formulations: one contains 15% Sodium Fluoride and the other containing 15% Sodium Borate, in addition to 10% penta and 15% creosote.

Pole-Treat® 15. A preservative grease for use in ground line remedial treatment of standing poles, relocated poles held too long in storage, piling cut-offs, and other wood maintenance uses. Contains 15% pentachlorophenol and 15% creosote.

Tritox. Tritox Preservative Paste is a ready-to-use, grease-like preservative for remedial treatment of standing poles, relocated poles, poles stored too long, and piling cut-offs. It has a combination of oil soluble and water soluble preservative materials. The mixture of preservatives (10% penta, 35% creosote, 40% sodium fluoride) provides the combined preservative effect considered more effective by some authorities than a single preservative. The water soluble salts are considered necessary by many people for fast penetration results in poles with high moisture content.

Woodtreat® AA Preservative. A paste-like, tan colored emulsion preservative for remedial treatment of dry wood in buildings and structures. This product is useful for the treatment of gains and holes made in poles after treatment that expose untreated wood such as pile cut-offs; for treatment of bridge timbers and other uses where a "loading" of preservative is desired. This product contains 10% pentachlorophenol.

Groundline Treating Accessories. Kraft Paper and dating tags and nails, are available as accessories to groundline products.

Commercial Wood Preserving Industry

Prilled and Block Monsanto Pentachlorophenol. Highly toxic to fungi, termites, many forms of bacteria. Use for pressure and thermal treatment of utility transmission poles, fence posts, guard rails, timber and other industrial wood products. Meets American Wood Preservers' Specification and Fed. Spec. TT-W-570.

Flocculating Agents. WTC-71 and WTC-74 are products designed for the treatment of oil in water emulsions to allow the removal of oil, wood extractives and suspended solids from effluents found in recovery and waste disposal systems, wood treating plant operations.

WTC 7-11 Emulsion Prevention Aid. This product is designed to prevent the formation of oil-water emulsions in penta solutions used in pressure treating. It is added in small quantities to the treating solution.

WR-340. Straw-colored liquid containing a blend of resins and solvents. Combined with pentachlorophenol and mineral spirits, it produces a paintable preservative water-repellent solution.

Timbertox D-5. 5% penta in petroleum solvent which meets AWPA Standard P-9 hydrocarbon solvent Type A. Dark amber color solution.

LST Cosolvent II. Anti-blooming additive and co-solvent for light solvent pentachlorophenol solutions. Meets AWPA Standard P-9 for hydrocarbon solvent Type C cosolvent system.

Petroset II. This product is a blend of solubilizers, inhibitors and anti-oxidants designed to prevent the oxidation, sludging, polymerization, and darkening of pentachlorophenol solutions employed in thermal or pressure treating or Boulton drying of wood poles, piling, and lumber. This product is oil soluble and water insoluble.

Woodtox® Pre-Prime

Ready-to-Use

Specialty Wood Chemicals Group
Forest Products Division
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, Missouri 63110
Telephone: 314—772-2200

Product Description	Woodtox Pre-Prime Ready-to-Use is a liquid water repellent chemical. This water repellent wood preservative has been specially formulated for treatment of millwork prior to factory or field priming. Woodtox Pre-Prime Ready-to-Use meets National Woodwork Manufacturers Association (NWMA) standards.
Physical Description	Clear, light amber colored solution.
Penta Content	5.2% by weight technical pentachlorophenol meeting Federal Specification TT-W-570. Contains minimum of 154 gm of penta/gallon as determined by AWPA A-5, Section 5 method.
Flash Point	Minimum 100°F. (Tag Closed Cup) (Typical).
Dilution Data	DO NOT DILUTE. This is a 5% Ready-to-Use solution.
Swellometer Efficiency	Meets or exceeds NWMA Swellometer test of 60% minimum.
Paintability	Woodtox Pre-Prime has been specially formulated for maximum compatibility with paint primer and finish coatings applied at the factory. The mineral spirits carrier may be "trapped" when sash parts are bulk stacked or bundled too tightly and dip treated; doors or plywood flat stacked is another problem. However, where there is free air circulation to volatize the light solvent from the wood surfaces, Woodtox Pre-Prime open tank treated millwork, lumber or plywood can usually be finished within 24-60 hours after treatment.
Corrosion	Contains corrosion inhibitor to aid in the prevention of color formation in shipping containers or storage tanks, and to minimize corrosion and/or discoloration of metal fasteners.
Storage Precautions	None, other than to keep out water. Stable over the normal range of storage conditions.
Uses of WOODTOX PRE-PRIME Ready-to-Use	Woodtox Pre-Prime is used for the treatment of sash and other millwork to meet the Seal of Approval program of the NWMA for a preservative water repellent (IS-4). It is also useful for the treatment of other wood products where the benefits of a preservative and water repellent solution are desired that will help control stain, decay (rot), termites, and other wood boring insects; that will not cause grain raising, and that will leave the wood paintable.

Treating Data	Woodtox Pre-Prime may be applied by the vacuum, immersion, brush, or spray methods. The effectiveness of the treatment is in proportion to the distribution and retention of solution in the treated item.
Safe Handling of Pentachlorophenol Solutions	See Koppers Company, Inc. Bulletin – "Safety Measures & Precautions for Handling Solutions Containing Pentachlorophenol".
Packaging	Bulk – 4,000 to 10,000 gallon tank cars; or in minimum tariff tank truck transports. Also available in 5 gallon and 55 gallon drums.
Shipping Classification	Chlorinated phenol petroleum solution – Wood Preservative Liquid, Not Exceeding 5% of chlorinated phenol by weight.
Production points and shipping points	St. Louis, Missouri, Portland, Oregon

KOPPERS
Chemicals and Coatings

The information given herein is based on our experience, represents our best judgment in the matter, and is intended to be helpful. But we cannot assume responsibility for any loss or accident that may result from its use.

Woodtox is a registered trademark of Koppers Company, Inc.

FP-879
October, 1976

Litho in U.S.A.

BZTO104(e)011253

WOOD TREATING CHEMICALS DEPT.
KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110
314 - 772-2200

PRODUCT INFORMATION DATA

WOODTOX* PRE-PRIME CONCENTRATE

October 1, 1969

Trade Name	Penta water repellent preservative concentrate
Wood Treating Name	Woodtox* Pre-Prime Concentrate
Chemical Name	Penta water repellent preservative concentrate
Description	Clear, medium amber color solution
Penta Content	21.2% by weight technical pentachlorophenol meeting Federal Specification TT-W-570
Non-Volatile Content	53.0% by weight
Specific Gravity	0.9784 at 15.5 deg. C. (typical)
Weight per Gallon	8.15 pounds at 15.5 deg. C. (typical)
Pour Point	Plus 18 deg. F.
Flash Point	100 deg. F. (Tag. Closed Cup) (minimum)
Dilution Instructions	Woodtox* Pre-Prime concentrate is readily miscible with minera spirits or other light petroleum solvents without heat or special agitation. To cut back to the normal 5% pentachlorophenol ready-to-use strength, one gallon or part by volume of the concentrate should be diluted with four gallons or parts by volume of mineral spirits to make five gallons of Woodtox* Pre-Prime. Heavier petroleum solvents than mineral spirits are not recommended as diluents since paintability of the treated wood would be affected. Federal Specification TT-T-0291a, Grade 1, or ASTM Standard D-235-39 can be used for procurement of a suitable mineral spirits diluent. A distillation range of 330 to 385 deg. F. for this type of light petroleum solvent is typical of current refinery production, but in many areas and for a small price differential LEP mineral spirits with an end point as low as 350 deg. F. is readily available. The LEP mineral spirits is also readily miscible with Woodtox* Pre-Prime concentrate and the speed upon drying of the treated wood may be as much as 25%. Xylol and other lighter solvents are not recommended.

*Trade Mark Registered U. S. Patent Office

THE INFORMATION GIVEN HEREIN IS BASED ON OUR EXPERIENCE, REPRESENTS OUR BEST JUDGMENT IN THE MATTER, AND IS INTENDED TO BE HELPFUL. BUT WE CANNOT ASSUME RESPONSIBILITY FOR ANY LOSS OR ACCIDENT THAT MAY RESULT FROM ITS USE

WOODTOX* PRE-PRIME CONCENTRATE

Swellometer Efficiency	This concentrate, when properly diluted, will make a water repellent solution having a swellometer efficiency of 60% minimum.
Paintability	The ready-to-use solution made with this concentrate dries to a firm film and contains a minimum of paraffin or other water repellent ingredients that tend to interfere with paintability. The length of time that should elapse between the time the wood is treated and the time that paint, varnish, or other finishes are applied depends upon how soon the excess mineral spirits used as a carrier can get out of the wood. The mineral spirits carrier may be "trapped" when sash parts are bulk stacked or bundled too tightly and dip treated; doors and plywood flat stacked are another problem. However, where there is free air circulation to volatilize the light solvent from the wood surfaces, Woodtox* Pre-Prime open tank treated millwork, lumber, or plywood can usually be finished within 48 to 72 hours after the treatment. Woodtox* Pre-Prime Concentrate meets paintability tests or standards of Federal Specification TT-W-00572a, the NWMA, and CS 262-63.
Storage Precautions	Some sedimentation may occur after long standing, but this is relatively insignificant on a weight basis and should not reduce the efficiency of the product after dilution. This concentrate thickens when exposed to low temperature, but returns to normal fluidity when stored at ordinary room temperatures. Containers should be thoroughly agitated before removing contents when temperature of the concentrate is below 40 deg. F.
Safe Handling of Pentachlorophenol	See Wood Treating Chemicals Co. Bulletin 1049 entitled "Safety Measures and Precautions for Handling Solutions Containing Pentachlorophenol."
Packaging	5 gallon and 55 gallon drums, and bulk shipments in tank cars
Shipping Class	Wood Preservative, Liquid NOIBN
Production Points	Saint Louis, Missouri and Portland, Oregon
›ing Points	Saint Louis, Missouri and Portland, Oregon

Printed in U. S. A.

Woodtox® 140 Ready-to-Use
Liquid Water Repellent Solution

Product Data

Specialty Wood Chemicals Group
Forest Products Division
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, Missouri 63110
Telephone: 314—772-2200

Product Description	Woodtox 140 Ready-to-Use is a liquid water repellent solution. This water repellent wood preservative has been specially formulated for the treatment of ammunition boxes, millwork and other exterior wood. Woodtox 140 meets NWMA Standards and Federal Specification TT-W-572B.
Physical Description	Clear, light amber colored solution.
Penta Content	5.2% by weight technical pentachlorophenol meeting Specification TT-W-570.
Flash Point	Minimum 100°F (Tag Closed Cup)
Dilution Data	DO NOT DILUTE. This is a 5% Ready-to-Use solution.
Swellometer Efficiency	Meets or exceeds NWMA Swellometer test of 60% efficiency.
Paintability	Woodtox 140 Ready-to-Use has been formulated for good compatibility with most finishes, including those used for finishing by the millwork industry.
Corrosion	Contains corrosion inhibitor to aid in the prevention of color formation in shipping containers or storage tanks, and to minimize corrosion and/or discoloration of metal fasteners.
Storage Precautions	None other than to keep out water. Stable over the normal range of storage conditions.
Uses of Woodtox 140 Ready-to-Use	Woodtox 140 Ready-to-Use is used for the treatment of ammunition boxes, millwork and exterior wood, where the benefits of a preservative and water repellent solution are desired that will help control stain, decay (rot), termites, and other wood boring insects; that will not cause grain raising, and that will leave the wood still paintable.
Treating Data	Woodtox 140 Ready-to-Use may be applied by conventional methods such as vacuum, immersion, brush, etc. The effectiveness of the treatment is in proportion to the distribution and retention of solution in the treated item.

Safe Handling of Pentachlorophenol Solutions	See Koppers Company, Inc., Wood Treating Chemicals Dept. Bulletin — "Safety Measures & Precautions for Handling Solutions Containing Pentachlorophenol". Do not use this product indoors.
Packaging	Bulk — 4,000 to 10,000 gallon tank cars; or in minimum tariff tank truck transports. Also available in 5 gallon and 55 gallon drums.
Shipping Classification	Chlorinated phenol petroleum solution — Wood Preservative Liquid, Not Exceeding 5% of chlorinated phenol by weight.
Product Points and Shipping Points	St. Louis, Missouri Warehouse Portland, Oregon

Koppers Company, Inc.
Pittsburgh, Pa. 15219

KOPPERS
Chemicals and Coatings

The information given herein is based on our experience, represents our best judgment in the matter, and is intended to be helpful. But we cannot assume responsibility for any loss or accident that may result from its use.

Woodtox is a registered trademark of Koppers Company, Inc.

WOL-15
October, 1976

Litho in U.S.A.

BZTO104(e)011257

Woodtox® 140 Concentrate

Water Repellent Pentachlorophenol Preservative

Specialty Wood Chemicals Group
Forest Products Division
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, Missouri 63110
Telephone: 314—772-2200

Product Description	Woodtox 140 — Concentrate is a water repellent pentachlorophenol preservative.
Physical Description	Clear — Reddish-Amber colored solution.
Penta Content	22.0% by weight Technical Pentachlorophenol meeting Federal Spec. TT-W-570.
Specific Gravity	.959 at 15.5°C (60°F.) (Typical)
Weight per Gallon	7.99 lbs. at 15.5°C (60°F.) (Typical)
Pour Point	−1°C (30°F.)
Flash Point	43°C (110°F.) (Typical)
Dilution Data	Before using, dilute at the ratio of one part this product to four parts by volume of a mineral spirits, naphtha, or equivalent solvent weighing not more than 6.46 lbs/gal. to make a ready-to-use solution containing not less than 5.2% Technical Pentachlorophenol by weight. The diluent should have an end point no greater than 360°F. for quick drying and paintability. Agitate thoroughly before using. It is recommended that the solvent used should be L.A. Rule 66 exempt.
Swellometer Efficiency	Woodtox 140 Concentrate when diluted at the rate of one to four as suggested above and with a suitable mineral spirits will exceed swellometer efficiency of 60%.
Storage Precautions	As Woodtox 140 Concentrate is made with technical grade materials, upon long standing some sedimentation may occur. This sedimentation is relatively insignificant on a weight basis and does not reduce the efficiency of the product after dilution. This concentrate increases in viscosity when exposed to low temperatures, but returns to normal fluidity if stored or used at ordinary room temperatures.

Use Data	This concentration is to be used for the preparation of a ready-to-use solution which conforms to NWMA IS-4 and Federal Specification TT-W-572B when diluted according to label directions.
Safe Handling of Pentachlorophenol	For additional information see: "Safety Measures & Precautions for Handling Solutions Containing Pentachlorophenol".
Packaging	55 gallon drums, 5 gallon drums and tank cars.
Shipping Classification	Wood Preservative, NOI LIQUID OR PASTE
Production Point	St. Louis, Missouri Portland, Oregon
Shipping Point	St. Louis, Missouri Portland, Oregon

Koppers Company, Inc.
Pittsburgh, Pa. 15219
KOPPERS
Chemicals and Coatings

The information given herein is based on our experience, represents our best judgment in the matter, and is intended to be helpful. But we cannot assume responsibility for any loss or accident that may result from its use.

Woodtox is a registered trademark of Koppers Company, Inc.

WOL-14
October, 1976

Litho in U.S.A.

BZTO104(e)011259

WOOD TREATING
CHEMICALS CO.

5137 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

PRODUCT INFORMATION DATA

Sheet No. 125
March 15, 1967

WR CONCENTRATE 340

Trade Name	Water Repellent Concentrate
Wood Treating Name	WR CONCENTRATE 340
Chemical Name	Same as Trade Name
Description	Straw colored liquid containing the proper blend of water repellent and co-solvents so that when blended with Monsanto Penta and with mineral spirits, meeting specifications indicated below, a non-blooming, paintable preservative water repellent solution will result which will meet the requirements of Federal Specification TT-W-572 and AWPI Standard LP-3.
Penta Content	None
Specific Gravity	0.889 at 15.5° C. (60° F.) (typical)
Weight per Gallon	7.49 pounds at 15.5° C. (60° F.) (typical)
Pour Point	65° F. (approximate for homogeneity)
Flash Point	105° F. minimum - Tag. Closed Cup
Mixing Data	The following mixing instructions are given in units of 405 lbs. of WR CONCENTRATE 340 as that is the weight of the concentrate packed in 55-gallon drums:

WR CONCENTRATE 340	405 pounds
Monsanto Technical Penta	200 pounds
Mineral Spirits (500 Gals.)	3241 pounds

This will yield 566 gallons of water repellent solution containing 5% by weight of Pentachlorophenol if the Mineral Spirits has a weight of 6.5 lbs. per gallon which is typical. Weight of treating solution will be approximately 6.80 pounds per gallon. The volume yield will vary with the weight of the Mineral Spirits or equivalent light petroleum solvent used.

See Wood Treating Chemicals Company Bulletin 1108 and 1513

THE INFORMATION GIVEN HEREIN IS BASED ON OUR EXPERIENCE, REPRESENTS OUR BEST JUDGMENT IN THE MATTER, AND IS INTENDED TO BE HELPFUL; BUT WE CANNOT ASSUME RESPONSIBILITY FOR ANY LOSS OR ACCIDENT THAT MAY RESULT FROM ITS USE.

	for typical specifications for a suitable Mineral Spirits.
Mixing Procedure	Mixing will be facilitated by bringing the WR CONCENTRATE 340 to a temperature of 65° F., or higher, to insure homogeneity and to facilitate removal from drums or to pump from tank cars or storage tanks. In blending, first add Mineral Spirits or equivalent light petroleum solvent to the blending tank. Heat to 90° F., or higher; then add the WR CONCENTRATE 340 and before adding penta. Mix thoroughly and then add the Monsanto Penta. Mix until dissolved. Agitation and/or heating while mixing the penta will greatly hasten the rate of solution.
Treating Data	See Wood Treating Chemicals Co. Bulletin #1513 entitled "Pressure Treatment with Penta Water Repellent Preservative."
Safe Handling of Penta and Penta Solutions	See Wood Treating Chemicals Co. Bulletin #1049 entitled "Safety Measures And Precautions For Handling Solutions Containing Pentachlorophenol."
.ckaging	8,000 gallon tank cars 6,000 gallon tank cars 4,000 gallon tank cars 55-gallon open-head drums (net 405 pounds)
Shipping Classification	Wood Preservative Liquid, N.O.I.
Production Point	St. Louis, Missouri
Shipping Point	St. Louis, Missouri

Printed in U.S.A.

Timbertox 40
Penta Wood Preservative Concentrate

Product Data

Specialty Wood Chemicals Group
Forest Products Division
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, Missouri 63110
Telephone: 314—772-2200

Product Description Timbertox 40 Penta Wood Preservative Concentrate contains pentachlorophenol and solvents. This product was designed as a freight saving method of supplying pentachlorophenol so that ready-to-use penta solutions could be prepared with locally available diluents and without the necessity of heat or special mixing equipment.

Physical Description Timbertox 40 penta wood preservative concentrate is a clear-dark amber colored solution.

Penta Content 40.5% by weight technical pentachlorophenol meeting federal specification TTW-570.

Specific Gravity 1.12 at 15.5°C (60°F.) (Typical)

Weight per Gallon 9.32 lb./gallon at 15.5°C (60°F.) (Typical)

Pour Point Below −26°C (15°F.)

Flash Point 85°C (185°F.) (Typical)

Dilution Data The amount of diluent used with this concentrate depends upon the concentration of penta desired in the ready-to-use solution and on the weight per gallon of the diluent. Furthermore, the choice of diluent depends upon the end use for the diluted material. It should be recognized that if light oils such as mineral spirits are used as a diluent, the penta may bloom (crystallize on the surface of the wood). Any oil with over 50% of its distillation range falling under 500°F. will probably allow blooming.

Since a 5.2% solution is generally desired for wood preservation the following formulation will show how much diluent oil is required:

$$\frac{\text{\% active ingredient in concentrate} \quad \text{Minus} \quad \text{\% active ingredient desired}}{\text{\% of active ingredient desired}} \times$$

$$\frac{\text{Weight of concentrate per gallon}}{\text{Weight of solvent per gallon}} = \text{Gallons of solvent desired.}$$

Dilution Data (Continued)

Using the foregoing formula as an example, and using a fuel oil weighing 7.0 pounds per gallon, to make a 5.2% ready-to-use solution would require:

$$\frac{40.5 - 5.2}{5.2} \times \frac{9.32}{7.0} = 9.04 \text{ gallons of oil}$$

Timbertox 40 penta wood preservative concentrate is made with technical grade materials; therefore, when this concentrate is diluted with certain low aromatic petroleum products, a slight sedimentation in the finished solution may appear. This sedimentation is relatively insignificant on a weight basis, and if it is detrimental it can be removed by filtration or by settling for 48 hours and drawing it off the bottom of the container.

Uses

Follow detailed instructions on the label for the use of Timbertox 40 penta wood preservative concentrate in wood preservation, and termite control.

Storage

Timbertox 40 penta wood preservative concentrate has a very good low temperature stability. Its viscosity increases as the temperature decreases, and it finally becomes so viscous that it will not pour. Upon return to room temperature it again becomes fluid. If it is known that it has been chilled to, or near, the solidification point, it is always good practice to agitate the container (roll the drums) to insure uniformity of product each time before any product is withdrawn from the container.

Safe Handling

For additional information please see Koppers bulletin titled "Safety Measures and Precautions for Handling Solutions Containing Pentachlorophenol".

Packaging

55 gallon drums and bulk shipment in tank trucks.

Shipping Classification

Wood Preservative NOI Liquid or Paste

Production and Shipping Point

Portland, Oregon

Koppers Company, Inc.
Pittsburgh, Pa. 15219
KOPPERS
Chemicals and Coatings

The information given herein is based on our experience, represents our best judgment in the matter, and is intended to be helpful. But we cannot assume responsibility for any loss or accident that may result from its use.

WOL-22
January, 1977 1M

Litho in U.S.A.

Safety Measures and Precautions for Handling Solutions Containing Pentachlorophenol

Specialty Wood Chemicals Group
Forest Products Division
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, Missouri 63110
Telephone: 314—772-2200

All users of Koppers pentachlorophenol solutions should give careful attention to these safe handling instructions to avoid unnecessary exposure that might cause skin irritation or other health hazards.

Chemicals which are sufficiently toxic to control various wood degrading organisms and insects may generally be considered as substances which should be handled with due care to avoid irritation or other harmful effects to human beings and to prevent contamination of food stuffs. Although millions of pounds of pentachlorophenol has been sold since its commercial manufacture was started in the United States in 1936, and billions of pounds of penta solutions have been used, occasionally troubles arise because of the improper handling of the dry chemical or solution. The purpose of this bulletin is to give information that will help prevent health hazards and to also suggest action to be taken if the product has caused a health hazard.

For toxicological information on pentachlorophenol crystals, or prills, refer to Monsanto Chemical Company — Technical Bulletin No. IC/PS-3 titled "Handling Precautions for Penta and Santobrite".

Safe Handling Penta Formulations
In general, there are two types of penta formulations, Concentrates and 5% Ready-to-Use Solutions. Most of these solutions contain alcohols and/or aromatic petroleum oils as the solvents and carriers, and these materials as well as the penta can cause health problems if not handled properly.

The greatest chance for harmful amounts of penta formulations to get into the body is through the skin. Of course, swallowing could occur, but this is rare. The oils and solvents used to dissolve penta are usually nasal or respiratory irritants, so they also often cause sneezing, coughing or eye irritation; so a person tends to get out of the areas causing these health discomforts. The chief method of body damage is apt to come from the solutions that get on the skin. Since individuals vary considerably as to their susceptibility to skin irritation, no set rules can be devised, but a very simple rule can be followed: Keep the solutions off the skin, and if they get on the skin wash them off with soap and water. Do not allow the solutions to saturate clothing and then continue to wear such contaminated clothing.

Koppers sells a number of penta formulations under such trademarks as Woodtox®, Timbertox®, Woodtreat® and Liquid Noxtane® to name some of the most common ones. These materials may be for use as preservatives in or on wood, as termite control materials, or for the control of other insects or fungi. Safe handling data can be divided into two parts — health and use practices.

Health and First Aid Measures in Connection With The Use of Penta Formulations
Users of any of Koppers formulations should give careful consideration to the safety measures and precautions given on the label for each product. Since these products are registered with the EPA under the Federal Insecticide, Fungicide and Rodenticide Act, the labels on eac package must carry an approved caution statement. (Since penta is not defined as a highly toxic poison, the skull and cross bones marking is not required. This marking is a DOT requirement but is not required on EPA registered labels.) The precaution on any Penta containing product contains in essence all or some part of the following information, depending upon the product:

> Do not breathe vapor. Do not get in eyes, on skin or on clothing. Keep away from foodstuffs, children, pets and livestock. If swallowed, induce vomiting by administering emetic — call a physician. To remove from skin, wash with plenty of soap and warm water. Flammable — keep away from fire and flame.

Solutions of pentachlorophenol are irritating to the skin of most individuals and will be absorbed on contact, and if repeated contacts occur, the rate of absorption varies depending on the solvent used and the individual's susceptibility. Some

of the lighter petroleum solvents are irritating to the skin with or without an admixture of pentachlorophenol to the oil solution. However, the safety and comfort of the worker handling pentachlorophenol solution such as Woodtox, Timbertox, Woodtreat or Liquid Noxtane will be assured if he follows such precautionary measures as his particular application makes necessary. These measures will vary from simple washing of the hands with soap and water at the completion of the handling operations to the wearing of protective garments and accessories for a workman continually on duty at a treating tank is subject to possible contact with the preservation formulations. Rubber gloves and protective clothing should be worn when handling the freshly treated wood.

Safe handling measures may be summarized briefly:

DO NOT SWALLOW

Solutions containing penta should not be taken internally. They should not be placed so that children or animals will get into them, and opened or discarded containers should not be left where the contents could cause a health hazard. If any penta solution is swallowed, vomiting should be induced by administering mustard and water, and a physician should be called.

PROTECT EYES, NOSE AND THROAT

Formulations containing penta should not be used in enclosed areas without adequate ventilation. Eyes should be protected from splash, drip or spray by the use of goggles. If any penta solutions get into the eyes, flood the eyes with water (do not rub the material into the eyes!), and if irritation continues after thorough bathing of the eyes, call a physician. Workmen handling penta solutions should be taught to cleanse the face and hands promptly after working with penta formulations to avoid having the material get in or on sensitive body parts or be absorbed by the skin.

DO NOT GET ON SKIN

Pentachlorophenol solutions are irritating to the skin of most individuals. Whether the irritation comes from the carriers or the penta is immaterial – penta formulations should not be left in contact with the skin. Long exposures or frequent short contacts can result in Penta being absorbed through the skin. This hazard can be avoided by the use of synthetic rubber gloves and/or other protective garments.

IT IS EASIER TO AVOID TROUBLE THAN CORRECT IT

Commercial wood treating plants, formulations manufacturers, and termite and other pest control operators are accustomed to handling chemicals and formulations of them, and usually take precautions to protect themselves, their workmen and their clients. The above precautionary measures are reviewed in order to help maintain the good records that have accompanied the successful use of penta formulations.

Simple precautions as given above include washing the exposed body parts with soap and water at the completion of a handling operation and the wearing of adequate protective garments. Clothing that becomes contaminated with solutions containing penta should be changed to avoid skin contamination. Washing with soap and water should be routine practice before eating, drinking or smoking and at the close of the working period. It may be advisable at other times, under particular conditions, and should always be practiced in cases of contact. The secret of safe handling of penta preparation is simply to avoid direct physical contact with them.

PRECAUTIONS RELATIVE TO THE USE OF PENTA FORMULATIONS

Besides health hazards, there are problems that can arise because of the misuse of penta formulations. Know your product! Know what it was designed to be used for, and read the directions for use on the label. It is a violation of Federal Law to use any EPA registered product in a manner inconsistent with its labeling.

Wood preservations formulations can affect subsequent paint coats, therefore select the proper formulations and use them properly.

Termite control or wood preservation solutions containing penta can kill vegetation unless properly used. They may also impart odors. Follow the manufacturer's recommendations for use. Pentachlorophenol is toxic to fish, therefore, do not dispose of near water drainage to streams or bodies of water. Consult the label for pesticide disposal and container disposal directions.

Free access of air should be provided for all surfaces of wood after its treatment with pentachlorophenol solutions and before the wood is used so that the preservation liquids will not be on the wood surfaces when the wood is put in use.

Woodtox, Timbertox, Woodtreat and Noxtane are registered trademarks of Koppers Company, Inc.

FP-877

Litho In U. S. A. October, 1976

KOPPERS
Chemicals and Coatings

BZTO104(e)011265

Oil-Penta

1. **Fire Hazards:** This solution will burn if exposed to an open flame. Tanks or lines must be thoroughly cleaned before burning or welding may take place. Clean up spills promptly and observe good housekeeping practices.

   The location and operation of fire fighting equipment should be known to all employees. Definite procedures to be followed in case of a fire should be prepared and posted.

2. **Personnel Hazards:** Oil-Penta will cause skin irritation on contact. Oil-Penta solutions are more hazardous than penta alone.

3. **Protective Equipment:** Wear rubber gloves and goggles when handling Oil-Penta solutions. Rubber overshoes should be worn when foot contamination is possible.

4. **First Aid:** Eye Contact: Flush the eye with water and see a physician immediately.

   Skin Contact: Wash the affected area with soap and water. Launder clothing before re-use. Discard contaminated shoes.

See Pentachlorophenol.

Pentachlorophenol (Penta)

1. **Fire Hazards:** None

2. **Personnel Hazards:**

   A. *Do not swallow.* Penta should not be taken internally. If it is accidentally swallowed, either as a solid or in solution, vomiting should be induced by administration of mustard and water, or other emetic, and a physician should be called.

   B. *Protect eyes, nose, throat.* Penta dust is irritating to the mucous membranes of the eyes, nose and throat It may provide violent sneezing and coughing when inhaled. For prolonged exposure to the dust, a respirator or a folded gauze should be worn over the nose and mouth. The eyes should be protected by goggles. Indoors a forced-draft ventilating system is highly desirable. The worker should be taught to wash his face and hands promptly of any penta dust since this might later find its way into sensitive regions such as the eyes, or be absorbed by the skin.

   C. *Do not inhale vapors.* Penta formulations should not be breathed or allowed to contact mucous membranes of the eyes, nose, throat or skin. Where formulations are being used in weed control work, for example, the worker's respiratory system should be fully protected from inhalation of the spray and his body protected with suitable clothing.

   D. *Avoid skin contact.* Both the solid penta and its solutions are irritating to the skin of most individuals. They may be absorbed if contact is prolonged beyond five to ten minutes, or if repeated contacts occur for shorter periods.

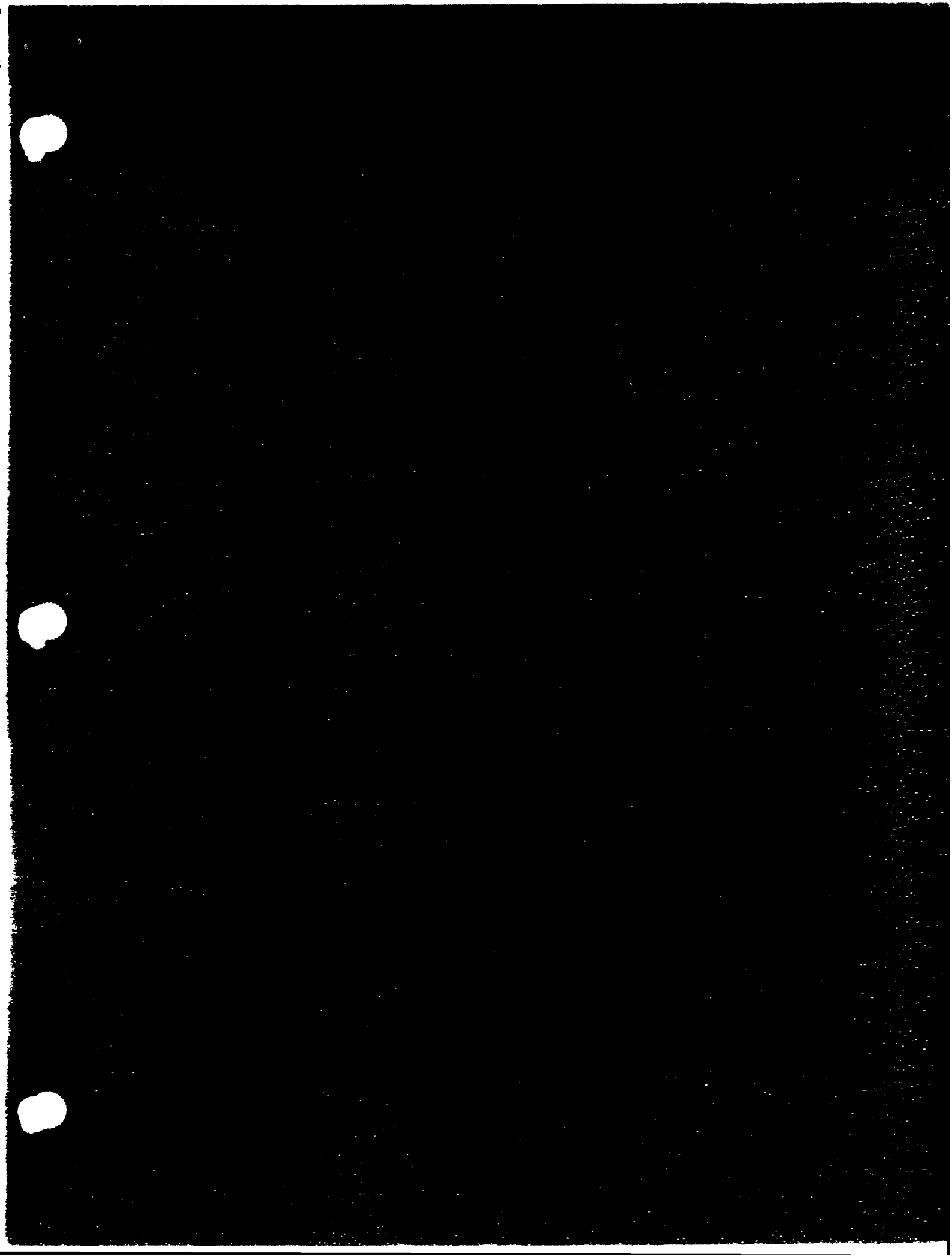
3. **Protective Equipment:** Wear gloves whenever handling penta, penta solutions or penta treated wood. Wear goggles whenever there is the possibility of penta or penta solutions coming in contact with the eye. Wear a face mask when handling dry penta to prevent inhalation of the dust.

   Wear protective garments and accessories. Clothing which becomes wet with penta preparations should be promptly changed for clean items since skin absorption can take place even from diluted solutions.

   Finally, washing with soap and water should be routine practice before eating, drinking or smoking and at the close of the working period. The secret of safe handling of penta preparations is simply to avoid direct physical contact.

4. **First Aid:** For external exposure, wash affected area with soap and water. For internal exposure, induce vomiting if conscious. Contact a physician at once.

BZTO104(e)011266



PROCEDURES FOR ENTERING AND CLEANING TANKS AND OTHER ENCLOSED SPACES

A. Responsibility

Responsibility for safety rests with the SUPERVISOR at all times. This responsibility covers conditions of work for contractors' employees, workmen from other divisions, and his own men. He must make sure that adequate steps have been taken to eliminate or control the hazards. He must also make sure that all personnel understand the nature of such hazards which remain and the precautions to follow.

B. Description

"Enclosed spaces" is defined as, but not limited to, the following:

1. Enclosures with limited access openings for personnel, such as closed storage tanks, tank cars, process vessels (usually with only a man-hole for entering).
2. Tanks, pits, tubs, vaults, vessels, or other confined spaces with one side open to the air but so deep as to require entrance and aid of an assistant in case of emergency.
3. Confined spaces, such as ventilation or exhaust ducts, sewers, underground utility tunnels or pipelines.

C. Hazards

The hazards commonly encountered are:

1. Toxic vapors in fatal concentrations. This may result from known material in the tank, by gradual release from sludge or scale, or by leakage from interconnected systems due to failure to blank off or disconnect pipelines or ducts.
2. Inflammable gases, with potential of fire or explosion.
3. Lack of oxygen, causing asphyxiation. This may result from chemicals absorbing or replacing oxygen in the tank air, or from inert gas often used to exclude oxygen to reduce the possibility of explosions. Air in clean tanks closed for an extended period may become deficient in oxygen because of rusting (or oxidation) of the metal of the tank. Improper or inadequate ventilation during tank work may also result in a lack of oxygen.
4. Electric shock from portable lights, tools, or associated electrical equipment.
5. Injury from mechanical e. ment such as mixers, conveyors, etc., that are inadvertently activated.
6. Bodily injury from direct contact with corrosives or dermatitis-producing chemicals.
7. Physical hazards such as slipping, falling, and falling objects.
8. Burns resulting from accidental opening of a steam valve in a line which has not been blanked off or disconnected.

D. Procedures

The hazards inherent in tank entry can be avoided or overcome if the following principles are applied properly each and every time a tank is entered.

No one is to be allowed to enter a treating cylinder, work tank or mix tank which has contained Cellon solution without prior permission from the Manager of Plant Operations, Manager of Engineerin[g] the Division Safety Director. permission may be requested verbally but written confirmation is to be made. At the conclusion of the project, a written report will be made to the Division Safety Director including the following information:

1. Description of the work done.
2. Names of employees involved.
3. Total exposure time of each employee.
4. Personal protective equipment that was used.
5. Any other pertinent comments or occurrences.

Provisions for bathing or showering must be provided. The use of the bathing facility is mandatory at the end of the shift or the finish of the job, whichever comes first.

1. Pre-Planning and Education

Survey all tanks requiring entry. Evaluate the hazard potential. All concerned should agree to the detailed standards and proced[ures] established. Be sure every[one] understands exactly what is meant.

BZTO104(e)011268

be fully informed both as to fundamentals and specific requirements. There should be appropriate follow-up to insure that the system is being followed exactly. It is not sufficient merely to set standards; follow-up is necessary for full compliance. Close liaison and job planning between various groups such as production and maintenance is essential. Have specific instructions and a pertinent check list printed on a permit which must be displayed at the job site.

2. Preparation of Tank

A. Cleaning: According to the nature of the product, clean and void the tank of residual product by hot or cold water flush, by steaming, by chemical neutralization or by air purge. Harmful vapors should be vented safely to the outdoors.

If the tank is steamed, allow it to cool before entry. Do not steam below liquid surfaces in tanks being cleaned. Non-miscible solvents sometimes stratify and bump out at almost explosive pressures due to the difference in boiling point temperatures between the water layer and the solvents.

After the material in the tank has been evacutated to a safe point of discharge, the sludge or incrustation should be removed, to the greatest degree, by operation from outside of the tank. If the tank contained radioactive materials, ascertain in the type and magnitude of radioactivity remaining after cleaning. A time limit for exposure may then be established. Protective clothing and respiratory protection should not be used as a substitute for cleaning and ventilating. Except in extreme emergency-for example, saving of a life-no one should enter a tank containing a flammable atmosphere or one which because of oxygen deficiency or contamination may be so immediately harmful as to prevent escape from the tank in case of failure of the respiratory equipment. be thoroughly ventilated. Make sure that the mechanical exhaust ventilation is arranged to avoid recirculation of contaminated air. After the tank is cleaned and ventilated, keep the mechanical exhaust ventilation equipment operating to provide secondary protection in case of accidental introduction of harmful chemicals; to remove contamination that may be produced by work in the tank such as welding and cutting, painting, coating; and to cool the tank and improve working conditions.

Should decontamination involve flammable liquids, vapors, gases, or dusts, all sources of ignition should be eliminated. For example, to eliminate any accumulation of static electricity and prevent autogenous ignition of flammables which may be in the tank, steam should be introduced at relatively low pressure and velocity. Steam lines should be electrically bonded to the tank if it contains any flammable material.

C. **Isolation:** The tank should be completely isolated from all other systems and equipment. For example, lines connected to the tanks should be physically disconnected and blanked off. Positive and adequate measures must be taken to prevent harmful material-solid, liquid, or vapor-from entering the tank while workmen are inside or after cleaning. This work should be coordinated with cleaning operations to prevent re-contamination. In all cases where lines have contained hazardous fluids or inert gas, or where they contain fluids at high pressures or temperatures, the lines should be physically disconnected by removal of valves, spool pieces, or expansion joints, and blank flanges placed in the lines. Exceptions to normal blanking procedure, such as bleeder valves tagged in the open position, should be approved only

BZTO104(e)011269

by qualified supervision. Exceptions should be made only when thoroughly justified and not as a matter of expediency. In these cases, adequate alternative measures must be taken to protect the worker.

Experience has shown that valves although closed, may leak dangerous liquid or gas. This will require either disconnecting, capping, or blanking all service, process, vent, or overflow lines on a given unit to prevent entrance of material by leakage through (or accidental opening of) a valve. This should include steam connections to a jacket. In case of welding on the wall between the inner tank and jacket, it should also include water, brine, or air lines to the jacket. Open ends of disconnected lines should be blanked or capped to prevent any flow from the disconnected end of the line entering a tank opening or draining onto assistants on the outside. Blanks should be installed as close to the tank as practicable to prevent drainage from trapped sections. Drains or overflow lines should be disconnected or blanked if they extend into a sewer from which steam or fumes could be conducted back to the tank, or if they connect to other equipment or extend to a remote location. All blanks should be of materials which are not susceptible to corrosion by the chemicals to which they are exposed with different types adequately identified. Blanks should be of such thickness and tensile strength as to satisfy the maximum pressure which may be imposed upon them without distortion or failure.

D. Lock Out. (See MCA Safety Guide No. 8- Electrical Switch Lock-Out Procedure.) Line-disconnect switches supplying power to any mechanical apparatus in the tank such as mixers, conveyors, etc. should be tagged and locked in the "off" position. It is not adequate to lock a push button station as it still may be possible to energize the circuit. The key should be kept by the man in the tank, and he alone should be authorized to unlock the switch and remove the tag on completion of the job. Where more than one man is exposed, each should place his own lock on the switch. In certain cases it may be advisable, as further protection, to have a plant electrician pull the line fuses in the electrical circuit involved or take other positive steps to guard against accidental energization. Where there is a line shaft, the belt or chain drive should be removed or similar positive measures provided, such as mechanical latches.

E. **Testing:** If the tank has held any flammable or harmful product before flushing; if it contains any residue or sludge which may release flammable or harmful gases or vapors; or if oxygen deficiency or excess is suspected or even possible, a test of the atmosphere in the tank should be made immediately before entering and before performing any hot work such as the lighting of torc Presence of flammable or to... vapors, excess oxygen or oxygen deficiency should be determined by direct reading instruments or chemical analysis. Single-fluid instruments which absorb both oxygen and carbon dioxide should not be used for oxygen determination. Interim tests of the atmosphere in the tank should be made as often as necessary while the work is in progress. Continuous sampling and analysis with automatic alarm may be indicated.

3. **Issuance of Safety Work Permit for Entry**
The Safety Work Permit is authorization and approval in writing. It serves as a method of formalizing agreed upon procedures. It is also a check list to insure that all existing hazards are considered, evaluated, and correct protective measures taken.

No employee should enter any tank without reporting to and securing

BZTO104(e)011270

visor. The supervisor in turn secures entry approval from the supervisor to whom the tank is assigned. The tank supervisor should then discuss the project in detail with those entering the tank. He should review the hazards of the product or other materials to which they may be exposed and furnish all the safety information he may be able to provide. Then supervisors of the men involved should review and complete the permit form jointly. Appropriate supervisors must be certain by personal investigation, immediately before entry and before signing the permit, that the entry and its incidental work will be safe. If a pause of appreciable duration occurs during the carrying out of a job, the site must be re-investigated by the authorized signer before the job can be allowed to resume. Commencement of a new shift should always require re-investigation and a new permit. No permit should be valid except for the job, location, persons, and time specified.

E. Precautions

1. Tools

Hand tools should be clean, in good condition, and selected carefully according to the uses intended. Spark-resistant hand tools are preferred where a possibility of flammable vapors or gases exists unless the area is well wetted down with water. Portable power tools and equipment should be clean and in good condition. Electrical tools and equipment (such as hand lamps and extension cords) should be grounded. If the tank is a "Hazardous Location" under the definitions of the National Electrical Code, it should be of the explosion proof type. If any Class I exposure (also Class II in dangerous flammable dust concentrations) it may be found preferable to use air-operated power tools. Even in these circumstances, careful thought must be given to the possibility of fire or explosion arising from struck sparks, overheating of the tool (as in drilling), electrostatic generation from discharge of compressed air, or other mechanical sources. The use of low voltage (32 volts or less) lighting and e- minimize further the possible hazard of electric shock.

Ladders used in tanks should be lashed at the top, and, if possible, at the bottom. Employees performing electrical welding in tanks should be provided and required to use rubber blankets and such other personal protective equipment as may be required. Welding and cutting torches must not be taken into the tank until ready to be used. They must be removed from the tank immediately after use. Cylinders of oxygen or other gas should never be taken into tanks, and should be turned off at the cylinder valve when not in use.

Special signs posted near the tank help keep unnecessary people away. They insure that potentially harmful operations will not be started independently nearby. And they help guide rescuers should they be necessary.

2. Personal Protective Equipment

Proper protection may range from complete coverage suits to chemical goggles, hard hats, gloves, and safety shoes.

Employees should never unduly expose the skin when working in tanks. They should wear full coverage of clothing at all times. When burning or welding is done inside a tank, supervision should consider the use of flame-proofed clothing by the employees involved. Working bareheaded, with shirt sleeves rolled up, or in an undershirt is considered hazardous.

Certified breathing air, from self-contained units, central systems such as cylinders of air, or suitable compressors should be supplied if a safe atmosphere cannot be guaranteed and if there is any possibility of air contamination or if there is oxygen deficiency while employees are within an enclosed vessel. The use of canister type masks (which operate on the principle of chemical absorption of mechanical filtration) may not afford adequate protection and should,

BZTO104(e)011271

therefore, not be used.

Equipment should bear Bureau of Mines approval. It should be suited specifically to the type of exposure and protect against the worst condition that might be encountered. For specifically recommended protection refer to MCA Chemical Safety Data Sheets or another authoritative source. The best type of respiratory protection should be ascertained in advance according to the specific exposure involved.

3. Emergency and Rescue

Where the potential exposure in the tank is acute, or requires an employee to wear respiratory protection, or rescue may be difficult, a body harness with lifeline must be provided. It is good practice to use a body harness for any vessel entry work. A safety harness or safety coveralls with a built-in harness and lifeline shall be used when tank space permits the safe emergency removal of personnel by standby manual personnel without requiring entry of the tank.

When the tank space does not meet this requirement a specific procedure for the rescue of personnel must be developed in the pre-planning stage of the tank entry work. It must be made a specific part of the Safety Work Permit. In some cases it is advisable to have a block and tackle positioned on a tripod or otherwise fastened above the manhole. For obvious reasons, manholes large enough to accommodate the man and his safety gear should be provided, such as a 24" diameter for circular ones. If manholes are smaller than 20" in the largest dimension, wrist harnesses often are practical.The free end of the lifeline should be secured to a fixed object. It should be attended by an observer who will keep the man in the tank always within his vision. The observer may pass tools. He must have no other job which will take his attention away from the man in the tank; which will interfere with his attempts to withdraw the victim by use of the lifeline; or which will require his leaving the vicinity of the tank for any time whatever.

In case of emergency, the outside observer must never enter the tank until he is relieved at his post. It is his job to summon immediately (various alarms such as a whistle, may be used); to attempt to remove the victim by use of the lifeline, and to perform all other necessary rescue functions from outside. Upon the arrival of help, he may enter the tank for rescue work only when he is assured that his outside assistance is adequate. Such safety observers should be well trained in basic First Aid principles, such as rescue breathing techniques. Rescuers entering tank must be protected with the safety facilities required by the situation, i.e., lifeline and harness, and proper personal protective equipment. For rescue purposes at least one unit of self-contained breathing equipment should be located outside and convenient to the tank together with harness, rope, and such other emergency equipment as may be indicated. It is better to have too much equipment at the job site than a little-too late! Where hazardous chemicals may be contacted in the course of tank work or where the possibility of fire is involved, a charged hose line with spray nozzle should be available nearby. The number of men in a tank, particularly at the time of burning or welding, must be reduced to the absolute minimum necessary for the work itself.

The supervisors concerned must be trained to be on the alert, before and during the job to detect and correct immediately new and different hazards or to stop the work until the new hazards are corrected.

F. Cleaning Tanks Containing Flammable Materials

1. General Precautions

A. Workmen must be familiar with fire and accident prevention regulations and comply with them in every respect. These regulations cover fire, explosion, as-

BZTO104(e)011272

phyxiation, and possible poisoning from toxic material.

B. Before tank cleaning operations are started, all sources of ignition such as open fires, trucks, automobiles, etc., must be removed or eliminated from the vicinity. Wind and weather conditions must be considered. Work must not be started if the wind might carry highly inflammable vapors into an area where they could create a fire hazard. No matches or lighters may be carried, and smoking must be strictly prohibited.

C. Workmen will be provided with proper equipment, including suitable clothing, proper eye or face protection, tools, safety belts, safety lines, and fresh air hose masks when required. The foreman should see that the equipment is of proper type, clean, and in good condition, and that the workmen are properly instructed in its use.

D. Workmen are not permitted to enter tanks until the tank has been tested and it is definitely determined that the vapor concentration has been reduced to the point where there is no danger. At all times flammable or toxic mixtures must be assumed to be present until tests have been proven otherwise.

NOTE: Tank vapor concentrations should be tested with an approved gas detector only such as the EXPLOSIMETER. See Proper Operation of Explosimeters.

E. While working in the tanks, the atmosphere inside must be rechecked periodically for dangerous vapor mixtures.

REMEMBER: Combustible mixtures may again be formed through admission of flammable vapors or liquids from other sources such as an unblanked line or connection, a break in the tank bottom, sludge, sediment, sidewall scale, etc.

F. Workers must always have a clear path of escape from the tank. They should bear in mind that they may have to use it in a hurry. Ladders should be used when a tank must be entered from above. They should be left secured until the last man is out of the tank.

G. A safety man (commonly called "fire watch") must be outside the tank anytime anyone is inside. In case of an emergency, the safety man must not enter the tank until he secures more help.

H. Where lights are needed, use only lights approved for combustible atmospheres by Underwriters Laboratories.

I. Where power tools are used to clean tanks, extreme care must be exercised to keep from damaging or marring the tank.

J. Goggles must be worn when cutting rivets, scraping scale, operating power tools, and digging residue with a pick or shovel.

K. Where gas or vapor may be present and where a spark may cause ignition, use tools and equipment of non-sparking material such as wood, fiber, bronze or beryllium copper.

L. Steam lines, if used for heating and ventilating the tank, must br grounded to the tank shell to prevent static accumulation.

M. Hot work (welding, riveting, etc.) shall be permitted in tanks only after the tanks are reasonably clean and tests have determined it to be free of flammable and toxic mixtures.

N. If a possibility of an oxygen deficiency exists in a tank, blow fresh air into it. When a tank has been closed for some time, rusting (oxidation) of the tank metal or materials in the tank may cause a deficiency. In that case, no one may enter the tank without a supplied air hose mask before the tank has been properly ventilated. Do not use Canister masks where there is a

BZTO104(e)011273

possible oxygen deficiency.

O. Tank workers overcome by vapors must be removed to fresh air immediately and artificial respiration administered until breathing resumes. Call a doctor at once and keep the resuscitated man quiet and warm until breathing and circulation become normal.

P. Report all injuries to your foreman immediately.

Q. A work order must be properly authorized before work of any kind is performed where there is a possible explosive vapor concentration.

R. Adequate fire fighting equipment must be on hand for any fire which may result from any phase of the tank cleaning operation. **OBSERVE THE PLANT FIRE RULES.**

S. When the tank is clean, care must be exercised to see that all foreign material such as tools, pieces of pipe, etc., are removed from the tank before it is placed back in service.

2. Proper Use of Fresh-Air Hose Masks:

When fresh-air hose masks are used, the following safety precautions must be observed:

A. Approved fresh-air hose masks and lifelines must be worn by men entering tanks unless ventilation has reduced flammable vapors to 0.1%.

B. The mask must be thoroughly inspected and found to be in safe operating condition before using.

C. Hats or caps should be removed. The mouth shall be cleared of tobacco, etc., before adjusting mask to the head.

D. All fittings on the hose and mask must be tight. There should be no leaks around the face piece.

E. The air intake to the hose leading to the mask must be kept in fresh uncontaminated air.

F. Any person wearing the gas mask must be under constant observation by another man while he is in the tank. Two or more men should be available to aid in his rescue should he become unconscious.

G. If a workman is overcome by vapors, he must be moved to fresh air immediately. Artificial respiration must be administered until he resumes breathing.

H. A doctor must be called at once. The resuscitated man must be kept quiet and warm until breathing and circulation have become normal.

I. When it is necessary for the rescuer to go inside the tank, the rescuer first must get help and then equip himself with adequate respiratory protection before entering the tank.

J. Gas-mask face pieces must be cleaned and sterilized after use and put into condition for use again.

K. Workmen are not permitted to enter tanks containing toxic or inflammable mixtures without the expressed permission of plant superintendent or supervisor delegated by him.

L. All injuries must be reported to your foreman immediately.

3. Proper Operation of Explosimeters:

The individual making tests with the Explosimeter must be thoroughly familiar with the instrument and be satisfied that it is in proper working order. The following recommendations should be observed to insure proper operation of the Explosimeter:

A. The batteries in the Explosimeter should be replaced monthly with fresh batteries, or more often if used frequently.

B. The instrument should be checked before it is used by placing the open end of the sample line into the neck of a bottle containing be (**CAUTION:** Do not allow the open end of the sample

BZTO104(e)011274

line to touch the liquid benzol.) The aspirator bulb should be squeezed until the instrument definitely shows an explosive material. The sample line should then be removed to normal atmosphere and the instrument purged, by squeezing the aspirator, until the needle goes back to zero.

C. After checking the Explosimeter, the needle is again adjusted to zero, by means of the rheostat, and the tank is then tested.

D. Tank tests should not be made in the presence of steam.

E. After testing the tank, the Explosimeter should be again recalibrated and rechecked by sampling the benzol bottle.

4. **Tank Preparation:**

A. Contents of the tank must be pumped out as completely as possible through the regular pump-out line. When desirable, water can be added to raise the liquid level to the pump suction to remove additional or possibly all of the liquid contents.

B. Supply lines and swing lines must be thoroughly washed out and either blanked off close to the tank with slip blanks between flanges, or disconnected and provided with bull plugs or blank flanges. Do not rely on valves for positive shutoff.

C. The tank must be purged of all toxic or explosive vapors before workmen may enter the tank to remove residue, perform repair work, etc.

D. Preparing Underground Storage Tanks:

This type of vessel requires extra care to prevent leakage of flammable liquids or vapors from the outside ground area into the tank after it has been tested and found vapor-free. Lines into or from the tank should be isolated so that vapors cannot drift into the area or into the tank.

E. The time periods listed for shore tanks are not applicable for tank barges. Such vessels are all subject to the regulations of the U.S. Coast Guard for tank vessels.

F. Preparing Tank Cars:

The material in tank cars can be divided roughly into two divisions; those containing oils such as creosote, etc., and those containing the heavier material such as tars, pitches, etc.

The cars containing oils should be thoroughly steamed. Then the steam should be shut off; the tank car should be permitted to cool; it should be ventilated, and gas tests should be made.

Tank cars, which have been used for tar or similar material, should be ventilated for at least five hours before gas tests are made. Steaming should be used if desirable.

G. Tank cars must be steamed clean when welding and cutting operations are done inside the car. When welding is performed on the outside of the car, the tank should be live steamed for 20 minutes and steam should be left in car while welding.

H. A safety man must be placed in attendance until the operation is proven safe.

I. When the cars are not provided with a permanent inside ladder, a removable ladder must be used. It should be a well constructed, light metal ladder that will extend from the bottom of the car into the dome. However, it should not protrude through the hole in the dome of the car. This would not allow a man to enter through the dome into the car.

BZTO104(e)011275

5. Ventilating

Before workmen enter tanks, satisfactory ventilation must be established in the tank. Quite often natural ventilation is not satisfactory. This is true in underground storage tanks and tank cars which normally are equipped with one opening. Therefore, the use of wind sails, steam or air operated exhausters, or electrically driven blowers may be required. Air movers or exhausters should be bonded to the tank and all electric motors must be spark-proof.

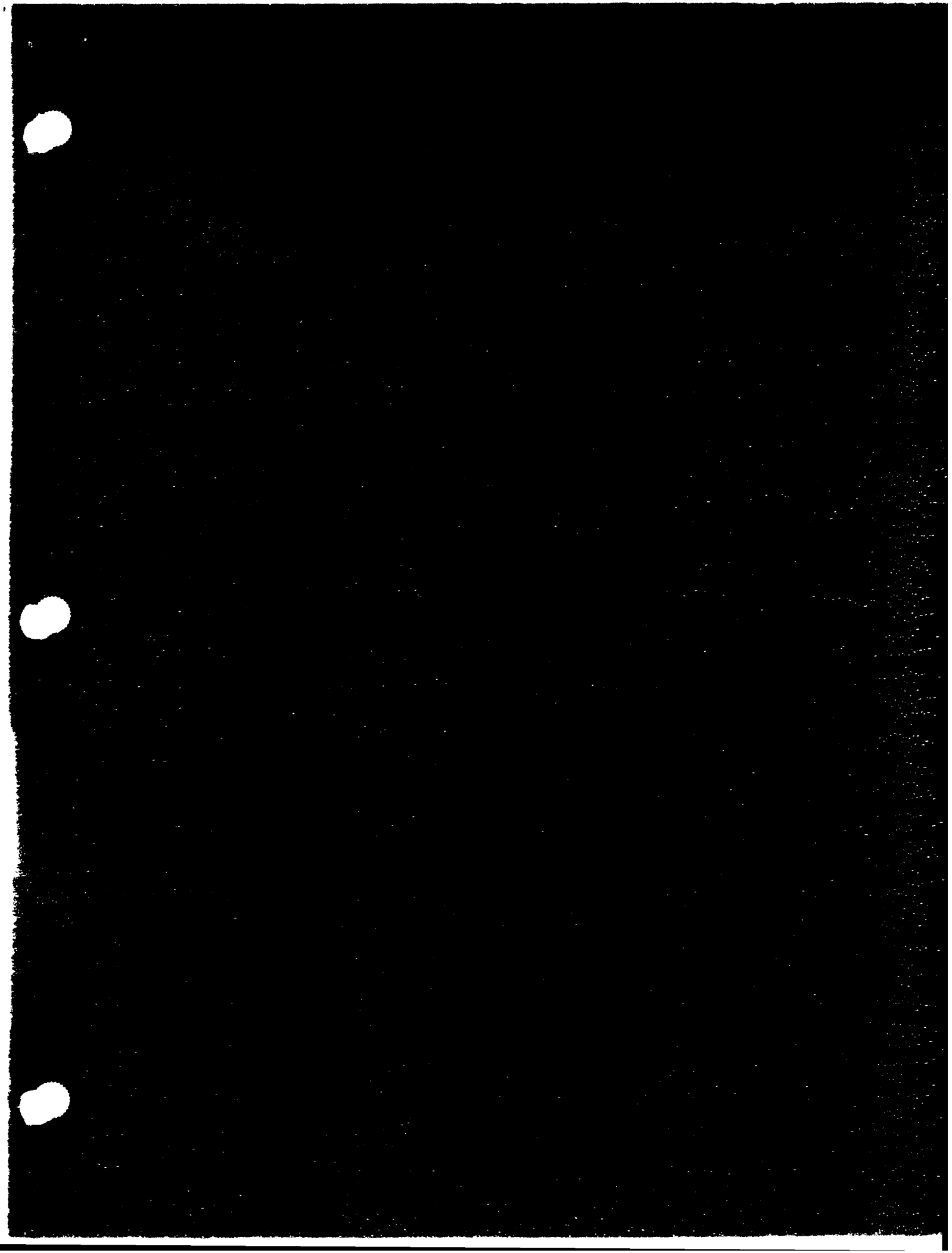
Additional ventilation may be obtained in tank cars by the use of water. With a "bare-back" shell car, water may be sprayed on the outside of the car. With an insulated car, cold water may be sprayed on the inside of the car shell, or the car filled with cold water and then drained. Cold water running through steam coils in the cars will considerably reduce the temperature in the car.

6. Sweetening Tanks

After a tank has been purged and tested to be free of all dangerous gas, some plants have distributed slaked lime on the remaining residue (before workmen enter the tank) with good results. The slaked lime tends to rid the tank of undesirable odors. It has also been found desirable to add lime to the water when boiling out tanks.

7. Cylinder Entry

A. Entry of a cylinder is prohibited until the bridge rail has been removed or the track taken out of service by posting signs or blue flags.
B. The door secured to prevent closure.



KOPPERS
Chemicals and Coatings

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-005-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Specialty Wood C

DATE OF PREP.
May 23, 1977

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Koppers Company., Inc., Wood Treating Chemicals Dept.	314/772-2200

STREET ADDRESS
5137 Southwest Avenue

CITY, STATE, AND ZIP CODE
St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION

PRODUCT CLASS	TRADE NAME
Wood Preservative (Water Repellent)	Woodtox Preprime T-RTU

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
Pentachlorophenol	5		0.5	
Mineral Spirits	85	500	2000	

Section III — PHYSICAL DATA

BOILING RANGE 760 mm Hg: 300-700°F	FREEZING POINT: < -10°F
PERCENT VOLATILE BY VOLUME: 85	VAPOR PRESSURE AT 20° C: mineral spirits 2mm; pentachlorophenol <1mm
SPECIFIC GRAVITY (H_2O = 1): .808	EVAPORATION RATE (BUTYL ACETATE = 1): slower than ether
VAPOR DENSITY: heavier than air	SOLUBLE IN WATER - % WT.: Insoluble

APPEARANCE AND ODOR: Amber; mild solvent odor

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
115°F	mineral spirits	0.7	6.0

EXTINGUISHING MEDIA
Class B Extinguisher, Water fog, foam, Co_2, Dry Chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS
NA

SPECIAL FIRE FIGHTING PROCEDURES
Wear full protection clothing. Do not allow any exposed body surfaces. Toxic vapo given off from a fire. Use self-contained breathing apparatus. Burning may produce hydrochloric acid, carbon monoxide.

MATERIAL SAFETY DATA SHEET

Section V — HEALTH HAZARD DATA

ESHOLD LIMIT VALUE
ec tion II

FF OVEREXPOSURE
ig, coughing, irritation of nose, throat, eyes, respiratory difficulty. This product
s a metabolic stimulant, causes hyperthermia.

ERGENCY AND FIRST AID PROCEDURES
case of inhalation, remove to fresh air. In case of eye contact, flush eyes with water
or at least 15 minutes. Get medical attention. Wash off skin immediately. If swallowed,
educe vomiting by sticking finger down throat or giving mustard, soapy, or strong salty
ater. AVOID ASPIRATION. Repeat until vomit is clear. Get medical attention.

Section VI — REACTIVITY DATA

ABILITY (Check One)		CONDITIONS TO AVOID
	☐ UNSTABLE	Keep contents and freshly treated articles away from flame, food,
	☒ STABLE	and living plants.

OMPATABILITY (materials to avoid)
xidizing agents

ZARDOUS DECOMPOSITION PRODUCTS
O, CO_2, HCL, Phenolics

ZARDOUS YMERIZATION (Check One)		CONDITIONS TO AVOID
	☐ MAY OCCUR	
	☒ WILL NOT OCCUR	

Section VII — SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove sources of ignition. Avoid contact, avoid breathing vapors, Use protective mea-
outlined in Section VIII below. Absorb spills with an absorbant such as Speedi-Dry
rocessed clay. Large spills can be diked and pumped into a waste container. See
ection IX below.

STE DISPOSAL METHOD
Disposal must be carried out in accordance with local, state and federal regulations.
Pentachlorophenol is toxic to fish. Do not dispose near water drainage to streams or
odies of water. Bury absorbant material in an approved chemical landfill, or high
emperature incineration may be used. Do not incinerate closed containers.

Section VIII — SPECIAL PROTECTION INFORMATION

SPIRATORY PROTECTION (specify type)
S. Bureau of Mines approved organic vapor and particulate matter masks (Type BE)

ENTILATION		
LOCAL EXHAUST	To control vapors to concentrations below TLV in Section II.	SPECIAL
MECHANICAL (General)		OTHER

OTECTIVE GLOVES	EYE PROTECTION
Rubber gloves	Chemical goggles

HER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

ECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in closed, properly labeled containers. Avoid prolonged and/or repeated breathing
of mist, vapors, or substantially saturated atmosphere. Avoid contact with skin. Wear
approved goggles. Do not atomize. Use only in well ventilated area. Keep contents and
treated articles away from flame, food and living plants.

ECAUTIONS
Do not take internally. Wash contaminated clothing before reusing. Discard contaminated
shoes. Approved (USBM) respirators can be used if oxygen level above 16% and vapor con-
centration below 2%, otherwise use self-contained units. Do not use when temperature
exceeds 120°F. If spilled, blot up with an absorbant material such as Speedi-Dry absorbant.
processed clay sold by Mineral & Chemicals Co., Edison, N. J.

KOPPERS
Chemicals and Coatings

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-005-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Specialty Wood Chemi

DATE OF PREP.
May 25, 1977

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Koppers Company, Inc., Wood Treating Chemicals Dept.	314/772-2200

STREET ADDRESS
5137 Southwest Avenue

CITY, STATE, AND ZIP CODE
St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION

PRODUCT CLASS	TRADE NAME
Wood Preservative (Conc.)	Woodtox Preprime Conc. T

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
Pentachlorophenol	22.5		0.5	
Solvents	70	500		
Ketone Mixture	< 5	50	230	suggested

Section III — PHYSICAL DATA

BOILING RANGE 760 MM Hg: 175-700	FREEZING POINT: 10-15°F
PERCENT VOLATILE BY VOLUME: 75	VAPOR PRESSURE AT 20° C: Pentachlorophenol < 1mm
SPECIFIC GRAVITY (H_2O = 1): .97	EVAPORATION RATE (BUTYL ACETATE = 1): slower than ether
VAPOR DENSITY: > 4.7	SOLUBLE IN WATER - % WT.: Insoluble

APPEARANCE AND ODOR: Amber; mild solvent odor

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
120°	mineral spirits	0.7	6.0

EXTINGUISHING MEDIA
Class B Extinguisher, Water fog, foam, CO_2, Dry Chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS
N.A.

SPECIAL FIRE FIGHTING PROCEDURES
Wear full protection clothing. Do not allow any exposed body surfaces. Toxic vapors given off from a fire. Use self-contained breathing apparatus. Burning may produc hydrochloric acid, carbon monoxide.

MATERIAL SAFETY DATA SHEET

Section V—HEALTH HAZARD DATA

CSHO[illegible]LIMIT VALUE
ee [illegible]tion II

[illegible] - OVEREXPOSURE
[illegible]ng, coughing, irritation of nose, throat, eyes, respiratory difficulty. This product is a metabolic stimulant, causes hyperthermia.

olvents: irritating to eyes and mucous membranes. Inhalation may cause headache drowsiness, and nausea.

[illegible]RGENCY AND FIRST AID PROCEDURES
n case of inhalation, remove to fresh air. In case of eye contact, flush eyes with water for at least 15 minutes. Get medical attention. Wash off skin immediately. If swallowed, induce vomiting by sticking finger down throat or giving mustard, soapy, or strong salty water. AVOID ASPIRATION. Repeat until vomit is clear. Get medical attention.

Section VI—REACTIVITY DATA

[illegible]ABILITY (Check One)		CONDITIONS TO AVOID
	☐ UNSTABLE	Keep contents and freshly treated articles away from flame, food,
	☒ STABLE	and living plants.

INCOMPATABILITY (materials to avoid)
Oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS
CO, CO_2, HCL, Phenolics

[illegible]ZARDOUS [illegible]LYMERIZATION (Check One)		CONDITIONS TO AVOID
	☐ MAY OCCUR	
	☒ WILL NOT OCCUR	

Section VII—SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Re[illegible]ve sources of ignition. Avoid contact, avoid breathing vapors. Use protective measures outlined in Section VIII below. Absorb spills with an absorbant such as Speedi-Dry processed clay. Large spills can be diked and pumped into a waste container. See Section IX below.

WASTE DISPOSAL METHOD
Disposal must be carried out in accordance with local, state and federal regulations. Pentachlorophenal is toxic to fish. Do not dispose near water drainage to streams or bodies of water. Bury absorbant material in an approved chemical landfill, or high temperature incineration may be used. Do not incinerate closed containers.

Section VIII—SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
U.S. Bureau of Mines approved organic vapor and particulate matter masks (Type BE)

VENTILATION	LOCAL EXHAUST	SPECIAL
	To control vapors to concentrations below TLV in Section II.	
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Rubber gloves	Chemical goggles

OTHER PROTECTIVE EQUIPMENT

Section IX—SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in closed, properly labeled containers. Avoid prolonged and/or repeated breathing of mist, vapors, or substantially saturated atmosphere. Avoid contact with skin. Wear approved goggles. Do not atomize. Use only in well ventilated area. Keep contents and [illegible]ly treated articles away from flame, food and living plants.

OTHER PRECAUTIONS
[illegible] not take internally. Wash contaminated clothing before reusing. Discard contaminated shoes. Approved (USBM) respirators can be used if oxygen level above 16% and vapor concentration below 2%, otherwise use self-contained units. Do not use when temperature exceeds 120°F. If spilled, blot up with an absorbant material such as Speedi-Dry absorbant, a processed clay sold by Mineral & Chemicals Co., Edison, N.J.

KOPPERS
Chemicals and Coatings

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-00S-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Specialty Wood Chemica

DATE OF PREP.: May 25, 1977

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME: Koppers Company, Inc., Wood Treating Chemicals Dept.

EMERGENCY TELEPHONE NO.: 314/772-2200

STREET ADDRESS: 5137 Southwest Avenue

CITY, STATE, AND ZIP CODE: St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION:

PRODUCT CLASS: Wood Preservative (Water Repellent)

TRADE NAME: Woodtox 140T - Ready to Use

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
Pentachlorophenol	5		0.5	
Mineral Spirits	85	500	2000	

Section III — PHYSICAL DATA

BOILING RANGE (760 mm Hg): 300-700

FREEZING POINT: < -10°F

PERCENT VOLATILE BY VOLUME: 85%

VAPOR PRESSURE AT 20° C: mineral spirits 2mm; pentachlorophenol < 1mm

SPECIFIC GRAVITY (H_2O = 1): .837

EVAPORATION RATE (BUTYL ACETATE = 1): slower than ether

VAPOR DENSITY: heavier than air

SOLUBLE IN WATER - % WT.: Insoluble

APPEARANCE AND ODOR: Amber; mild solvent odor

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
104° F PMCC (Mineral Spirits)	mineral spirits	0.7	6.0

EXTINGUISHING MEDIA: Class B: Water Fog, Alcohol Foam, CO_2, Dry Chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protection clothing. Do not allow any exposed body surfaces. Toxic vapors given off from a fire. Use self-contained breathing apparatus. Burning may produc hydrochloric acid, carbon monoxide.

MATERIAL SAFETY DATA SHEET

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
Section II.

EFFECTS OF OVEREXPOSURE
Burning, coughing, irritation of nose, throat, eyes, respiratory difficulty. This product is a metabolic stimulant, causes hyperthermia.

EMERGENCY AND FIRST AID PROCEDURES
In case of inhalation, remove to fresh air. In case of eye contact, flush eyes with water for at least 15 minutes. Get medical attention. Wash off skin immediately. If swallowed, induce vomiting by sticking finger down throat or giving mustard, soapy, or strong salty water. AVOID ASPIRATION. Repeat until vomit is clear. Get medical attention.

Section VI — REACTIVITY DATA

STABILITY (Check One)	☐ UNSTABLE	CONDITIONS TO AVOID: Keep contents and freshly treated articles away from flame, food, and living plants.
	☒ STABLE	

INCOMPATABILITY (materials to avoid)
Oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS
CO, CO_2, HCL, Phenolics

HAZARDOUS POLYMERIZATION (Check One)	☐ MAY OCCUR	CONDITIONS TO AVOID
	☒ WILL NOT OCCUR	

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove sources of ignition. Avoid contact, avoid breathing vapors. Use protective measures outlined in Section VIII below. Absorb spills with an absorbant such as Speedi-Dry processed clay. Large spills can be dike and pumped into a waste container. See Section IX below.

WASTE DISPOSAL METHOD
Disposal must be carried out in accordance with local, state and federal regulations. Pentachlorophenol is toxic to fish. Do not dispose near water drainage to streams or bodies of water. Bury absorbant material in an approved chemical landfill, or high temperature incineration may be used. Do not incinerate closed containers.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
U. S. Bureau of Mines approved organic vapor and particulate matter masks (Type BE)

VENTILATION	LOCAL EXHAUST: To control vapors to concentrations below TLV in SectionII.	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: Rubber gloves	EYE PROTECTION: Chemical goggles

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in closed, properly labeled containers. Avoid prolonged and/or repeated breathing of mist, vapors, or substantially saturated atmosphere. Avoid contact with skin. Wear approved goggles. Do not atomize. Use only in well ventilated area. Keep contents and freshly treated articles away from flame, food and living plants.

OTHER PRECAUTIONS
Do not take internally. Wash contaminated clothing before reusing. Discard contaminated shoes. Approved (USBM) respirators can be used if oxygen level above 16% and vapor concentration below 2%, otherwise use self-contained units. Do not use when temperature exceeds 120°F. If spilled, blot up with an absorbant material such as Speedi-Dry absorbant a processed clay sold by Minteral & Chemicals Co., Edison, N. J.

KOPPERS
Chemicals and Coatings

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-005-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Specialty Wood Chemi

E OF PREP.
May 25, 1977

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Koppers Company., Inc., Wood Treating Chemicals Dept.	314/772-2200

STREET ADDRESS: 5137 Southwest Avenue

CITY, STATE, AND ZIP CODE: St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION:

PRODUCT CLASS	TRADE NAME
Wood Preservative (Water Repellent)	Woodtox 140T (Concentrate)

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
Pentachlorophenol	22		0.5	
Mineral Spirits	20-30	500	2000	

Section III — PHYSICAL DATA

BOILING RANGE 760 mm Hg: 300 - 700	FREEZING POINT: 10-15°F
PERCENT VOLATILE BY VOLUME: 30	VAPOR PRESSURE AT 20° C: mineral spirits 2mm; pentachlorophenol <1mm
SPECIFIC GRAVITY (H_2O = 1): .97	EVAPORATION RATE (BUTYL ACETATE = 1): slower than ether
VAPOR DENSITY: heavier than air	SOLUBLE IN WATER - % WT.: Insoluble

APPEARANCE AND ODOR: Amber; mild solvent odor

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
104°F PMCC (mineral spirits)	mineral spirits	0.7	6.0

EXTINGUISHING MEDIA: Class B Extinguisher, Water fog, foam, CO_2, Dry Chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS: NA

ECIAL FIRE FIGHTING PROCEDURES: Wear full protection clothing. Do not allow any exposed body surfaces. Toxic vapo given off from a fire. Use self-contained breathing apparatus. Burning may produce hydrochloric acid, carbon monoxide.

MATERIAL SAFETY DATA SHEET

Section V — HEALTH HAZARD DATA

ESHOLD LIMIT VALUE
See ction II

F OVEREXPOSURE
ing, coughing, irritation of nose, throat, eyes, respiratory difficulty. This product is a metabolic stimulant, causes hyperthermia.

Solvents: dizziness, narcosis at high exposure levels

ERGENCY AND FIRST AID PROCEDURES
In case of inhalation, remove to fresh air. In case of eye contact, flush eyes with water for at least 15 minutes. Get medical attention. Wash off skin immediately. If swallowed, induce vomiting by sticking finger down throat or giving mustard, soapy, or strong salty water. AVOID ASPIRATION. Repeat until vomit is clear. Get medical attention.

Section VI — REACTIVITY DATA

ABILITY (Check One)		CONDITIONS TO AVOID
	[ ] UNSTABLE	Keep contents and freshly treated articles away from flame, food,
	[x] STABLE	and living plants.

COMPATABILITY (Materials to avoid)
Oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS
CO, CO_2, Phenolics

HAZARDOUS POLYMERIZATION (Check One)		CONDITIONS TO AVOID
	[ ] MAY OCCUR	
	[x] WILL NOT OCCUR	

Section VII — SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove sources of ignition. Avoid contact, avoid breathing vapors. Use protective measures outlined in Section VIII below. Absorb spills with an absorbant such as Speedi-Dry processed clay. Large spills can be diked and pumped into a waste container. See Section IX below.

STE DISPOSAL METHOD
Disposal must be carried out in accordance with local, state and federal regulations. Pentachlorophenol is toxic to fish. Do not dispose near water drainage to streams or bodies of water. Bury absorbant material in an approved chemical landfill, or high temperature incineration may be used. Do not incinerate closed containers.

Section VIII — SPECIAL PROTECTION INFORMATION

SPIRATORY PROTECTION (specify type)
Normally not needed; USBM approved organic vapor and particulate matter masks (type BE)

VENTILATION			
	LOCAL EXHAUST	SPECIAL	
	MECHANICAL (General)	OTHER	

PROTECTIVE GLOVES	EYE PROTECTION
Rubber gloves	Chemical goggles

HER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

ECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in closed, properly labeled containers. Avoid prolonged and/or repeated breathing of mist, vapors, or substantially saturated atmosphere. Avoid contact with skin. Wear approved goggles. Do not atomize. Use only in well ventilated area. Keep contents and y treated articles away from flame, food and living plants.

ECAUTIONS
not take internally. Wash contaminated clothing before reusing. Discard contaminated shoes. Approved (USBM) respirators can be used if oxygen level above 16% and vapor concentration below 2%, otherwise use self-contained units. Do not use when temperature exceeds 120°F. If spilled, blot up with an absorbant material such as Speedi-Dry absorbant, a processed clay sold by Minerals & Chemical Co., Edison, N. J.

Chemicals and Coatings

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSD-005-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Specialty Wood Ch

DATE OF PREP.
June 3, 1977

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME
Koppers Company, Inc., Wood Treating Chemicals Dept.

EMERGENCY TELEPHONE NO.
314/772-2200

STREET ADDRESS
5137 Southwest Avenue

CITY, STATE, AND ZIP CODE
St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION

PRODUCT CLASS
Water Repellent

TRADE NAME
WR 340 CONCENTRATE

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
Ketone Mixture	95	200	700	These are su ted levels onl

Section III — PHYSICAL DATA

BOILING RANGE 760 mm Hg: 216°F	FREEZING POINT
PERCENT VOLATILE BY VOLUME: 95%	VAPOR PRESSURE AT 20° C
SPECIFIC GRAVITY (H₂O = 1)	EVAPORATION RATE (BUTYL ACETATE = 1): Slower than ether
VAPOR DENSITY	SOLUBLE IN WATER - % WT.: < 5%

APPEARANCE AND ODOR

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
185°F PMCC	Lower: 15,000 ppm		

EXTINGUISHING MEDIA
Dry Chemical, CO_2, Alcohol foam

UNUSUAL FIRE AND EXPLOSION HAZARDS
None

SPECIAL FIRE FIGHTING PROCEDURES
Self-contained breathing apparatus with a full facepiece operated in the pressure demand (positive pressure) mode.

BZTO104(e)011286

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
None established: See Section II

EFFECTS OF OVEREXPOSURE
Skin: mild skin and eye irritant. Inhalation: nose irritation, drowsiness, loss of consciousness

EMERGENCY AND FIRST AID PROCEDURES
Flush affected area with water, use soap or mild detergent. If swallowed, DO NOT induce vomiting. For inhalation exposure, remove to fresh air. If breathing has stopped, use artificial respiration. Get Medical attention.

Section VI — REACTIVITY DATA

STABILITY (Check One)	☐ UNSTABLE	CONDITIONS TO AVOID
	☒ STABLE	

INCOMPATABILITY (Materials to avoid)
Avoid oxidizers and sources of igniting.

HAZARDOUS DECOMPOSITION PRODUCTS
Toxic gases and vapors (such as CO) released in fire.

HAZARDOUS POLYMERIZATION (Check One)	☐ MAY OCCUR	CONDITIONS TO AVOID
	☒ WILL NOT OCCUR	

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Wipe up spill or leaks on absorbant paper; burn paper in incinerator; absorb in vermiculite.

WASTE DISPOSAL METHOD
Incineration is best method, or absorb in vermiculite and dispose in landfill. Do not contaminate water.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
Not necessary <200 ppm Organic vapor canister gas mask; self-contained or supplied air respirator.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) XX	OTHER

PROTECTIVE GLOVES Rubber gloves	EYE PROTECTION Chemical goggles (splash safety)

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid skin contact. Avoid prolonged breathing of vapors. Do not use near a source of ignition. Avoid contamination of feed or food stuffs. Store in tightly closed containers in a cool location. Ventilated area.

OTHER PRECAUTIONS
Wash contaminated clothing before reuse. Do not reuse containers. Read label thoroughly, Do not use this product is to be mixed with other toxic materials.

KOPPERS
Chemicals and Coatings

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-005-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

Specialty Wood Chem

DATE OF PREP.
May 25, 1977

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Koppers Company, Inc., Wood Treating Chemicals Dept.	314/772-2200

STREET ADDRESS: 5137 Southwest Avenue

CITY, STATE, AND ZIP CODE: St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION:

PRODUCT CLASS	TRADE NAME
Wood Preservative (concentrate)	Timbertox 40 Concentrate

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
Pentachlorophenol	40		0.5	
Ketone Mixture	40	80	230	suggested
Hydrocarbon Solvent	20	500		

Section III — PHYSICAL DATA

BOILING RANGE (760 mm Hg): 175+	FREEZING POINT: >-10°F
PERCENT VOLATILE BY VOLUME: 60	VAPOR PRESSURE AT 20° C: pentachlorophenol < 1mm
SPECIFIC GRAVITY (H₂O = 1): 1.12	EVAPORATION RATE (BUTYL ACETATE = 1): slower than ether
VAPOR DENSITY: heavier than air	SOLUBLE IN WATER - % WT.: Insoluble

APPEARANCE AND ODOR: Dark; mild solvent odor

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
> 100° F	Mineral spirits	0.7	6.0

EXTINGUISHING MEDIA:
Class B Extinguisher, Water fog, foam, CO_2, Dry Chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Ketone vapors can form explosive vapors at elevated temperatures. Control all ignition sources when in use. Ketone vapors are heavier than air.

SPECIAL FIRE FIGHTING PROCEDURES:
Wear full protection clothing. Do not allow any exposed body surfaces. Toxic vapors given off from a fire. Use self-contained breathing apparatus. Burning may produce hydrochloric acid, carbon monoxide.

MATERIAL SAFETY DATA SHEET

Section V — HEALTH HAZARD DATA

ESHO... LIMIT VALUE
ee ction II

EFFECTS OF OVEREXPOSURE
...ng, coughing, irritation of nose, throat, eyes, respiratory difficulty. This product is a metabolic stimulant, causes hyperthermia.

Solvents: irritating to eyes and mucous membranes. Inhalation may cause headache, drowsiness, and nausea.

EMERGENCY AND FIRST AID PROCEDURES
In case of inhalation, remove to fresh air. In case of eye contact, flush eyes with water for at least 15 minutes. Get medical attention. Wash off skin immediately. If swallowed, induce vomiting by sticking finger down throat or giving mustard, soapy, or strong salty water. AVOID ASPIRATION. Repeat until vomit is clear. Get medical attention.

Section VI — REACTIVITY DATA

...ABILITY (Check One)	☐ UNSTABLE	CONDITIONS TO AVOID: Keep contents and freshly treated articles away from flame, food
	☒ STABLE	and living plants.

INCOMPATABILITY (materials to avoid)
Oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS
CO, CO_2, HCL, Phenolics

HAZARDOUS POLYMERIZATION (Check One)	☐ MAY OCCUR	CONDITIONS TO AVOID
	☒ WILL NOT OCCUR	

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove sources of ignition. Avoid contact, avoid breathing vapors. Use protective measures outlined in Section VIII below. Absorb spills with an absorbant such as Speedi-Dry processed clay. Large spills can be diked and pumped into a waste container. See Section IX below.

WASTE DISPOSAL METHOD
Disposal must be carried out in accordance with local, state and federal regulations. Pentachlorophenol is toxic to fish. Do not dispose near water drainage to streams or bodies of water. Bury absorbant material in an approved chemical landfill, or high temperature incineration may be used. Do not incinerate closed containers.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
U. S. Bureau of Mines approved organic vapor and particulate matter masks (Type BE)

VENTILATION	LOCAL EXHAUST: To control vapors to concentrations below TLV in Section II.	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: Rubber gloves	EYE PROTECTION: Chemical goggles

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in closed, properly labeled containers. Avoid prolonged and/or repeated breathing of mist, vapors, or substantially saturated atmosphere. Avoid contact with skin. Wear approved goggles. Do not atomized. Use only in well ventilated area. Keep contents and ...shly treated articles away from flame, food and living plants.

OTHER PRECAUTIONS
Do not take internally. Wash contaminated clothing before reusing. Discard contaminated shoes. Approved (USBM) respirators can be used if oxygen level above 16% and vapor concentration below 2%, otherwise use self-contained units. Do not use when temperature exceeds 120°F. If spilled, blot up with an absorbant material such as Speedi-Dry absorbant a processed clay sold by Mineral & Chemicals Co., Edison, N.J.

KOPPERS

Chemicals and Coatings

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor - Essentially Similar to Form CSU-005-4)

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, KOPPERS COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON

DATE OF PREP.: December 13, 1976

Section I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME: Koppers Company, Inc. - Wood Treating Chemicals Dept.

EMERGENCY TELEPHONE NO.: 314-772-2200

STREET ADDRESS: 5137 Southwest Avenue

CITY, STATE, AND ZIP CODE: St. Louis, Missouri 63110

MANUFACTURER'S CODE IDENTIFICATION:

PRODUCT CLASS:

TRADE NAME: PETROSET II

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	REMARKS
No hazardous ingredients as defined in section 0.57 of the regulations promulgated unde				
Public Law 85-742 and incorporated in MIL - Standard - 1341A and Fed. Standard 313 o				
U.S. Department of Labor definition 29CFR 1501.2(S).				

Section III — PHYSICAL DATA

BOILING RANGE 760 MM Hg	Not defined	FREEZING POINT	Not defined
PERCENT VOLATILE BY VOLUME	Not defined	VAPOR PRESSURE AT 20° C	Not defined
SPECIFIC GRAVITY (H_2O = 1)	1.03	EVAPORATION RATE (BUTYL ACETATE = 1)	Not defined
VAPOR DENSITY	Not defined	SOLUBLE IN WATER - % WT.	Not defined

APPEARANCE AND ODOR: Dark Liquid

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): (COL) 375° F.

FLAMMABLE LIMITS: Not defined — LEL: — UEL: —

EXTINGUISHING MEDIA: CO_2, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS: CO, Oxides of sulfur, Barium and Calcium may be formed

SPECIAL FIRE FIGHTING PROCEDURES:

BZTO104(e)011290

MATERIAL SAFETY DATA SHEET

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not defined

EFFECTS OF OVEREXPOSURE: Not defined

EMERGENCY AND FIRST AID PROCEDURES: Not defined

Section VI — REACTIVITY DATA

STABILITY (Check One)	☐ UNSTABLE	CONDITIONS TO AVOID: Avoid excessive heat and strong oxidizers.
	☒ STABLE	

INCOMPATABILITY (materials to avoid): Avoid strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION (Check One)	☐ MAY OCCUR	CONDITIONS TO AVOID
	☒ WILL NOT OCCUR	under normal operating conditions.

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Handle as an oil spill.

WASTE DISPOSAL METHOD: Incineration.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type):

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) X	OTHER

PROTECTIVE GLOVES: Impervious Material

EYE PROTECTION: Face mask or safety goggles.

OTHER PROTECTIVE EQUIPMENT: Impervious outer clothing.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Standard Precautions should be observed when handling materials of this type.

Do not store at temperatures above 150°F.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with the skin.

Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: REICHHOLD CHEMICALS, INC.	EMERGENCY TELEPHONE NO.: (206) 572-5600
ADDRESS (Number, Street, City, State, and ZIP Code): 2340 Taylor Way (P. O. Box 1482), Tacoma, Wa. 98401	
CHEMICAL NAME AND SYNONYMS: Pentachlorophenol	TRADE NAME AND SYNONYMS: RCL 49 - 162 Pentachlorophenol
CHEMICAL FAMILY: Chlorinated phenols	FORMULA: C_6Cl_5OH

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	309° C.	754° F.	SPECIFIC GRAVITY (H_2O=1)	~1.86@25° C.
VAPOR PRESSURE (mm Hg.)	0.00011 20° C.	(68° F.)	PERCENT, VOLATILE BY VOLUME (%)	Negative
VAPOR DENSITY (AIR=1)		- - - - -	EVAPORATION RATE (. . . . . =1)	Negative
SOLUBILITY IN WATER	14 ppm at	68° F.		
APPEARANCE AND ODOR	Hollow shot or solid blocks	Buff colored		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): >300° C. Tagged closed cup	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA: Foam, water or carbon dioxide			
SPECIAL FIRE FIGHTING PROCEDURES: Blanket with foam, water or carbon dioxide			
UNUSUAL FIRE AND EXPLOSION HAZARDS: When subjected to high temperatures, decomposes. Decomposed products are acidic and corrosive. Volatile in steam.			

(Continued on reverse side)

BZTO104(e)011292

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: LD_{ca} ~ 29 mg/Kg man, LD_{50} ~ 146 mg/Kg Rats.

EFFECTS OF OVEREXPOSURE: Acute poisoning is marked by weakness, convulsion and collapse.

EMERGENCY AND FIRST AID PROCEDURES

EXTERNAL: Eyes-Immediately flush with copious quantities of clear water until physician arrives. Skin-Remove contaminated clothing; wash with copious amounts of soap and water. INTERNAL: Call a physician or poison Control Center immediately. CONTAMINATED CLOTHING: Thoroughly wash before re-use.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Decomposes at high temperatures; avoid exposure to
	STABLE	X	temperatures above 300° C.

INCOMPATABILITY *(Materials to avoid)*: Dissolves in alkaline solutions

HAZARDOUS DECOMPOSITION PRODUCTS: Acid fumes containing organic chlorides

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wet down spilled material to prevent dusting. Sweep up and put back into container.

WASTE DISPOSAL METHOD: Take to chemical disposal area and cover with dirt.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*: Wear air purifying respirator for dust and vapors.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL *(General)*	OTHER: Full safety goggles recommended.

PROTECTIVE GLOVES: Rubber gloves required.

EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid puncturing container. Avoid temperatures above 300° C.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN

Form OSHA-20

This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Reichhold Chemicals, Inc.'s knowledge, or obtained from sources believed by Reichhold Chemicals, Inc. to be accurate, and Reichhold Chemicals, Inc. does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, read its label.

BZTO104(e)011293

Form Approved
Budget Bureau No. 44-R1367
Approval Expires April 30, 1971

Form No. LSB-0
May

U.S. DEPARTMENT OF LABOR

WORKPLACE STANDARDS ADMINISTRATION

Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: MONSANTO COMPANY	EMERGENCY TELEPHONE NO.: (314) 694-1000
ADDRESS (Number, Street, City, State, and ZIP Code): 800 NORTH LINDBERGH BLVD., St. Louis, Mo. 63166	
CHEMICAL NAME AND SYNONYMS: Pentachlorophenol	TRADE NAME AND SYNONYMS: PENTA
CHEMICAL FAMILY: Phenol	FORMULA: $C_6 Cl_5 OH$

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°C) °C at 760 mm	310 (Decomp)	SPECIFIC GRAVITY (H_2O=1)	> 1
VAPOR PRESSURE (mm Hg.) at 50°C	< 1mm	PERCENT VOLATILE BY VOLUME (%)	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE (BOAC _____ =1)	< 1
SOLUBILITY IN WATER at 25°C Negligible	16ppm		
APPEARANCE AND ODOR Brown solid, characteristic odor			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) N.A.		FLAMMABLE LIMITS N.A.	LEL / UEL
EXTINGUISHING MEDIA: Water fog, foam, CO_2			
SPECIAL FIRE FIGHTING PROCEDURES: N.A.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: N.A.			

BZTO104(e)011294

PENTACHLOROPHENOL

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 0.5 mg/cu.m.

EFFECTS OF OVEREXPOSURE: Sneezing, coughing, irritation of nose, throat, eyes, respiratory difficulty, liver damage.

EMERGENCY AND FIRST AID PROCEDURES: Wash off immediately with soap and water. Change out of contaminated clothing. If accidentally swallowed, cause vomiting and refer to physician for systematic treatment.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	x	

INCOMPATABILITY (Materials to avoid): None

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO_2, HCl, Phenolics

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	x	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep up and dispose of in approved chemical landfill in accordance with local and state regulations.

WASTE DISPOSAL METHOD: Bury in chemical landfill

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Bureau of Mines dust respirator

VENTILATION	LOCAL EXHAUST: To control dust (or vapors if in solution)	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: Rubber

EYE PROTECTION: Chemical goggles

OTHER PROTECTIVE EQUIPMENT: Do not wear contaminated clothing.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep off skin. Keep away from mouth. Avoid dust, vapor, mist (inhalation). Wear approved goggles

OTHER PRECAUTIONS:

HOII:EPW

12/2/71

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME: Monsanto Industrial Chemical Co	REGULAR TELEPHONE NO. / EMERGENCY TELEPHONE NO.: 314-694-1000
ADDRESS: 800 North Lindbergh Blvd., St. Louis, Missouri 63166	
TRADE NAME: Pentachlorophenol	
SYNONYMS: Penta, Technical Penta, PCP	
SHIPPING NAME[1]: DOT: Not Restricted / IATA: Not Restricted	

II HAZARDOUS INGREDIENTS[2]

MATERIAL OR COMPONENT	CAS NO.	%	HAZARD DATA
Pentachlorophenol (and other chlorinated phenols)		96	29 CFR Part 1910 40 CFR Part 129

III PHYSICAL DATA

BOILING POINT, 760 MM HG	310°C (Decomp.)	MELTING POINT	174°C Min.
SPECIFIC GRAVITY (H_2O = 1)	1.8500	VAPOR PRESSURE	0.00011 mm Hg. @ 20°C
VAPOR DENSITY (AIR = 1)	Nagative	SOLUBILITY IN H_2O, % BY WT	14 ppm @ 20°C
% VOLATILES BY VOL.	Negative	EVAPORATION RATE (BUTYL ACETATE = 1)	<1
APPEARANCE AND ODOR	Brown Solid Chlorophenolic Odor	Ph (AS IS) Ph (1% SOLN.)	$Ka = 10^{-5}$ NA

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	Negative	AUTOIGNITION TEMPERATURE	Negative
FLAMMABLE LIMITS IN AIR, % BY VOL.	Negative	LOWER	UPPER
EXTINGUISHING MEDIA	Water, Fog, Foam, CO_2		
SPECIAL FIRE FIGHTING PROCEDURES	Wear full protection clothing. Do not allow exposed body surfaces. Toxic vapors given off from a fire. Use self-contained breathing apparatus. Blanket with extinguishing media.		
UNUSUAL FIRE AND EXPLOSION HAZARD	When subjected to high temperatures it decomposes to hydrochloric acid and water. Highly toxic gases (Chlorides and Chlorine) can be evolved when burned.		

1. See references 1 and 2 2. See instructions and references 1 to 8.

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA	HAZARD CLASSIFICATION	BASIS FOR CLASSIFICATION	SOURCE
ROUTES OF EXPOSURE INHALATION	TLV 0.5 mg/cu.M Skin Notation		ACG, IH 29 CFR Part
SKIN CONTACT	(Mild) Sensitizer		16CFR 1500.3 (C)(5)
SKIN ABSORPTION	Toxic	$200 < LD < 1000$ mg/kg	ANSI 2-129.1 1976
EYE CONTACT	Mild Irritant		
INGESTION	Toxic	$50 < LD_{50} < 500$ mg/kg	ANSI 2-129.1 1976

EFFECTS OF OVEREXPOSURE

ACUTE OVEREXPOSURE: Sneezing, irritation of nose, throat, eyes, respiratory difficulty liver damage.
Hyperthemia, Liver, Kidney failure and death.

CHRONIC OVEREXPOSURE: Penta is expelled quite rapidly in sub acute doseages and chronic exposure over prolonged periods can lead to liver & kidney failure and death.

EMERGENCY AND FIRST AID PROCEDURES

EYES: Rinse eyes with clean water and apply eye ointment to prevent infection and ease irritation.

SKIN: Wash with plenty of soap and water.

INHALATION: Remove patient from source.

INGESTION: Induce vomiting by drinking mustard or salt water or finger in throat. Avoid Aspiration.

NOTES TO PHYSICIAN

This product is a metabolic stimulant. Causes hyperthemia treat symtomatically.

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

Stable at temperatures < 310°C.

MPATIBILITY

Dissolves in alkaline solution

HAZARDOUS DECOMPOSITION PRODUCTS

CO, CO_2, HCL and phenolics

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII DISPOSAL, SPILL OR LEAK PROCEDURES

AQUATIC TOXICITY (E.G. 96 HR TLM):

Highly toxic to fish, especially sensitive species such as trout. Safe at 0.05 ppm in wat

WASTE DISPOSAL METHOD

Disposal must be carried out in accordance with local, state, and Federal regulations. Do not incinerate closed containers. Do not dispose near water drainage to stream or bodies of water. Bury in sanitary landfill and high temperature incineration (870°C

EPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Wet down spilled material to prevent dusting and sweep up and dispose in approved manner. Avoid contact, avoid breathing vapors.

NEUTRALIZING CHEMICALS

None.

VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

Not requiredin storage areas. In work areas use solvent type dust collectors. Maintain level below the TLV.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

Rubber Gloves, Chemical Goggles,

RESPIRATORY (SPECIFY IN DETAIL)

Bureau of Mines approved respirator (Type BE) Approved organic vapor and particulat

EYE

Chemical Goggles

OVES

Rubber, Neoprene

OTHER CLOTHING AND EQUIPMENT

Clean clothing fully covering body changed at least daily if in contact with penta.

Discard contaminated shoes.

PRECAUTIONARY STATEMENTS

Keep out of reach of children. Avoid prolonged and/or repeated breathing of vapors or dust. Avoid contact with skin. Keep contents and freshly treated articles away from flame, food, and living plants. Do not use contaminated sawdust for animal bedding.

OTHER HANDLING AND STORAGE REQUIREMENTS

Store in closed, properly labeled containers.
Do not reuse containers. Drums should be returned to drum reconditioner. Bags should be buried in sanitary landfill. Bags should be stored out of weather. Shelf life indefinite under good storage conditions.

ADDITIONAL REGULATORY CONCERNS

ERAL:

FDA

USDA

CPSC

TSCA IS THIS PRODUCT, OR ALL ITS INGREDIENTS, BEING CERTIFIED FOR INCLUSION ON THE TOXIC SUBSTANCES CONTROL ACT INVENTORY OF CHEMICAL SUBSTANCES? As a registered pesticide, this product exempt

OTHER EPA { FWPCA / FIFRA

STATE Water quality, Air quality and Health Departments in some states.

PREPARED BY J. M. Montgomery

TITLE: General Sales Manager

COMPANY: Koppers Company, Inc.

ADDRESS: 5137 Southwest Avenue
St. Louis, Missouri 63110

Form Approved OMB
No. 44-R1387.
Approval Expires:
July 30, 1972

U.S. Department of Labor

FORM NO. OSHA-20
May, 1971

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: MONSANTO COMPANY

EMERGENCY TELEPHONE NO:

ADDRESS (Number, Street, City, State, and ZIP Code): 800 North Lindbergh Boulevard, St. Louis, Missouri 63166

CHEMICAL NAME AND SYNONYMS:

TRADE NAME AND SYNONYMS: MONSANTO HEAVY OXO PRODUCT (HOE

CHEMICAL FAMILY: OXO ALCOHOL HIGH BOILERS

FORMULA:

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.) @ 20 mm Hg	290	SPECIFIC GRAVITY (H_2O=1) @ 25/25°C	0.857
VAPOR PRESSURE (mm Hg.)	<0.1	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)	NA	EVAPORATION RATE (=1)	< 1
SOLUBILITY IN WATER %	<0.1		

APPEARANCE AND ODOR: Clear, straw-colored liquid; mild characteristic odor

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
COC - 305°F			

EXTINGUISHING MEDIA: Dry powder, CO_2, Foam, Fog

SPECIAL FIRE FIGHTING PROCEDURES:

UNUSUAL FIRE AND EXPLOSION HAZARDS:

BZTO104(e)011300

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to avoid) Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Adsorb on clay, sawdust or filter-cel

WASTE DISPOSAL METHOD

Incinerate or dispose of in sanitary landfill according to local or state regulations.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

OTHER PRECAUTIONS

ile the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

RWR 9/8/75

11

APPROVED BY U.S. DEPARTMENT OF LABOR
"ESSENTIALLY SIMILAR" TO FORM OSHA-20

ECP 2079-1F (8-79)

MATERIAL SAFETY DATA SHEET

SECTION I

PRODUCT NAME:	Solvent B-11	SIZE:	--
CHEMICAL NAME:	Mixture		
FORMULA:	Mixture		
MANUFACTURER:	Marketed by Eastman Chemical Products, Inc.		
ADDRESS:	Kingsport, Tennessee 37662		
FOR INFORMATION ON HEALTH HAZARDS CALL:	Monday thru Friday, 8 a.m.-5 p.m. (Eastern), (615) 247-0411, Ext. 3613 all other times (615) 247-0411, Ext. 4666.		
FOR OTHER INFORMATION CALL:	Same number as above Extension 5831	INFORMATION EFFECTIVE AS OF:	February, 1980

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

PRINCIPAL HAZARDOUS COMPONENT (S)	%	TLV (Units)
None known to Eastman.		

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	Approx. 275-330°F (135-166°C)	SPECIFIC GRAVITY ($H_2O = 1$)	0.87-0.91 @ 20°/20°C
VAPOR PRESSURE (mm Hg.)	Not applicable.	PERCENT VOLATILE BY VOLUME (%)	Not applicable.
VAPOR DENSITY (AIR = 1)	Not applicable.	EVAPORATION RATE (__ __ . _ = 1)	Not applicable.
SOLUBILITY IN WATER	Negligible.		
APPEARANCE AND ODOR	Yellow to dark brown liquid; slightly unpleasant odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	215°F (102°C) COC	FLAMMABLE LIMITS Not applicable.	Lel	Uel
EXTINGUISHING MEDIA	Foam, Water spray, Dry chemical, CO_2			
SPECIAL FIRE FIGHTING PROCEDURES	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin or eyes.			
UNUSUAL FIRE AND EXPLOSION HAZARDS	None known to Eastman.			

BZTO104(e)011302

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Not established.
EFFECTS OF OVEREXPOSURE	May cause skin irritation or allergic skin reaction.
EMERGENCY AND FIRST AID PROCEDURES	Skin contact: wash thoroughly with soap and water.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Not applicable.
INCOMPATIBILITY (Materials to avoid)	Oxidizing materials can cause a vigorous reaction.		
HAZARDOUS DECOMPOSITION PRODUCTS	As with any other organic material, combustion will produce carbon dioxide and probably carbon monoxide.		

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur	Will Not Occur	
	X	Not applicable.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Eliminate all ignition sources. Flush spill away with water spray. Small spills may be collected with absorbent material.
WASTE DISPOSAL METHOD	Incineration. Observe all Federal, state, and local laws concerning health and environment.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)	An appropriate NIOSH-approved respirator for organic vapor should be worn if needed.			
VENTILATION	LOCAL EXHAUST	As needed to control mist or vapor.	SPECIAL	None known to Eastman.
	MECHANICAL (general)	Recommended.	OTHER	None known to Eastman.
PROTECTIVE GLOVES	Should be worn.	EYE PROTECTION	Safety glasses should be worn in any type of industrial operation.	
OTHER PROTECTIVE EQUIPMENT	Eye bath; safety shower.			

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid prolonged or repeated contact with skin. Use with adequate ventilation.
OTHER PRECAUTIONS	Good industrial hygiene practice should be followed which includes preventing eye contact, minimizing skin contact, and minimizing inhalation of mists and vapors. No eye hazard known to Eastman; however, any material gotten into the eye should be washed out immediately and medical attention obtained if symptoms persist after washing. Hazardous residue may remain in "empty" package; do not reuse or alter package without proper industrial cleaning.

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees.

EASTMAN KODAK COMPANY
APPROVED BY U.S. DEPARTMENT OF LABOR
"ESSENTIALLY EQUAL" TO FORM OSHA-20

MATERIAL SAFETY DATA SHEET

SECTION I

PRODUCT NAME: Solvent KB-3	SIZE:
CHEMICAL NAME: Mixed Aliphatic Ketones	
FORMULA: Mixture	
MANUFACTURER: Marketed by Eastman Chemical Products, Inc.	
ADDRESS: Kingsport, Tennessee 37662	
FOR INFORMATION ON HEALTH HAZARDS CALL: Area 615-247-0411 Ext. 3613	
FOR OTHER INFORMATION CALL: Ext. 3103	SIGNATURE AND DATE: Information effective as of May, 1975

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

PRINCIPAL HAZARDOUS COMPONENT (S)	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	Approx. 175°C	SPECIFIC GRAVITY ($H_2O = 1$)	Approx. .863
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR = 1)		EVAPORATION RATE (_____ = 1)	
SOLUBILITY IN WATER	Slightly soluble in water		
APPEARANCE AND ODOR	Dark liquid - solvent odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	155°F C.O.C.	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	Water, CO_2, Dry Chemical			
SPECIAL FIRE FIGHTING PROCEDURES	None			
UNUSUAL FIRE AND EXPLOSION HAZARDS	None			

ECP 2079-1

BZTO104(e)011304

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
Not established.

EFFECTS OF OVEREXPOSURE
Prolonged contact may cause skin irritation. Repeated contact may result in skin sensitization in susceptible individuals. High vapor concentrations may cause mucous membrane and respiratory tract irritation.

EMERGENCY AND FIRST AID PROCEDURES
Skin Contact: Flush affected areas thoroughly with water.
Eye Contact: Irrigate with water for 15 minutes and get medical attention.
Inhalation: Remove to fresh air.

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur	Will Not Occur	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Soak with absorbent material and incinerate.

WASTE DISPOSAL METHOD
Incinerate

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Vapor at elevated temperatures

VENTILATION			
	LOCAL EXHAUST X if needed to control	SPECIAL	
	MECHANICAL (general) X	OTHER	

PROTECTIVE GLOVES X
EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid eye contact and prolonged or repeated skin contact. Avoid inhalation of vapor.

OTHER PRECAUTIONS

BZTO104(e)011305

Material Information Bulletin
Environmental Health & Toxicology

Chevron

Warning Statement	Name
DANGER! HARMFUL OR FATAL IF SWALLOWED COMBUSTIBLE	CHEVRON 325 SOLVENT

A. Typical Composition

	%
Paraffins (incl. naphthenes)	96%
Aromatics C_8+	4%

B. Physiological Effects and Health Information

Threshold Limit Value (TLV)	The suggested TLV is 250 ppm (Parts of vapor per million parts of air) for a daily 8-hour exposure. No OSHA exposure standard has been established for this material.
Eye Irritation	This material is not a primary eye irritant. However, minor irritation may be noted following contact. Application of the material into the eyes of rabbits produced a slight degree of membrane irritation.
Skin Irritation	This material may cause skin irritation on prolonged or frequently repeated contact. Application of the material onto the skin of rabbits produced a moderate degree of erythema and edema. The primary irritation score was 3.7 on a scale of 0 to 8. Prolonged or frequently repeated skin contact may cause the skin be become dry or cracked from the defatting action of the material.
Systemic Effects	From the results of animal studies, this material is not expected to be toxic by ingestion or by skin contact. The acute oral LD_{50} for rats was greater than 15.3 g/Kg, and the acute dermal LD_{50} for rabbits was greater than 19.1 g/Kg. Prolonged exposure to high vapor concentrations of this material may cause signs and symptoms of central nervous system depression such as, headache, dizziness, loss of appetite, weakness, and loss of coordination. Affected persons normally experience complete recovery when removed from the exposure area. Aspiration of the liquid can lead to chemical pneumonitis.

Note Disclaimer of Warranty, Page 4

Chevron Environmental Health Center/225 Bush Street, San Francisco, CA 94104
J. A. Spence, Ph. D. Reference Phone Number (415) 232-1514, Ext. 4178 or 2027

(Approved by U.S. Department of Labor, "Essentially similar to Form OSHA 20, Material Safety Data Sheet")
Rev. No. 47 - 1979

BZTO104(e)011306

C. Emergency and First Aid Procedures

Eye Contact	Flush eyes with fresh water for at least 15 minutes. If irritation persists get medical attention.
Skin Contact	Use good personal hygiene practices while working with this material. Wash contaminated clothing before reuse.
Inhalation	If there are signs or symptoms of overexposure to mist or vapor of this material (as described in Section B - Systemic Effects), move the individual to an uncontaminated area. If breathing has stopped, apply artificial respiration. Get medical attention immediately.
Ingestion	If this material is swallowed and aspirated, chemical pneumonitis may result. If swallowed, DO NOT induce vomiting; get medical attention immediately.

D. Special Protection Information

Eye Protection	Avoid eye contact with this material. If the conditions or frequency of use increase the danger of exposure, eye contact can best be avoided by wearing chemical-safety goggles.
Respiratory Protection	The vapor or mist concentrations of this material must be kept below applicable standards (see Section B - TLV). If this cannot be achieved, the use of an approved respirator for organic vapor and mist, supplied-air or self-contained breathing equipment is recommended.
Skin Protection	Avoid prolonged or frequently repeated skin contact with this material. If the conditions or frequency of use increase the danger of exposure, skin contact can best be avoided by wearing impervious neoprene or rubber gloves.
Ventilation	Use adequate ventilation to keep the vapor or mist concentrations of this material below applicable standards.
Other	If eye or skin contact with this material can occur, washing facilities for eyes and skin should be available nearby.

E. Fire Protection Information

Flash Point (test method)	(TCC)100°F	Flammable Limits (by volume in air)	lower limit		upper limit		
Autoignition Temperature	610°F	Extinguishing Media	CO_2, Dry Chemical, Foam, Water Spray				
Special Fire Fighting Procedures	For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Read the entire Bulletin.						

F. Reactivity Data

Stability (thermal, light, etc.)	Stable	X	Conditions to Avoid	
	Unstable			
Incompatibility (materials to avoid)	May react with strong oxidizing materials.			
Hazardous Decomposition Products	Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.			
Hazardous Polymerization	May Occur		Conditions to Avoid	
	Will not Occur	X		

G. Environmental Protection

Environmental Impact	Certain geographical areas have air pollution restrictions concerning the use of thinners and solvents in work situations where the material would be released into the atmosphere. Air pollution regulations should be studied to determine if this material is exempt in that area where it is to be used.
Precautions if Material is Released or Spilled	Eliminate all sources of ignition in vicinity of spill or released vapor. Clean up spills as soon as possible, observing precautions in Section D. Absorb large spills with absorbent clay, diatomaceous earth or other suitable material. A fire or vapor hazard may exist since these cleanup materials will only absorb liquids and will not absorb the vapor.
Waste Disposal Methods	Place contaminated material in disposable containers and bury in an approved dumping area.

H. Special Precautions

Handling and Storing	READ AND OBSERVE PRECAUTIONS ON PRODUCT LABEL Keep away from heat or open flame. KEEP OUT OF REACH OF CHILDREN.

II. Physical Properties

Boiling Point (°F)	302-370°F	Melting Point (°F)		Solubility Miscible with hydrocarbons; insoluble in water.
Vapor Pressure (mm Hg & temp)	6 mm Hg @ 100°F	Specific Gravity (H_2O = 1)	0.78	Appearance, Color, Odor, etc. Colorless liquid
Molecular Weight	139 (avg.)	Percent Volatile by Volume (%)	99%+	
Vapor Density (air = 1)	4.8	Evaporation (BuAc = 1)	0.24	Other Viscosity – <32 SUS @ 77°F

bove information is based on data available to us and is believed to be correct. However, NO WARRANTY of MERCHANTABILITY, FITNESS for use or any other warranty is expressed or to be implied regarding the accuracy of these data, the results to be obtained from the use thereof, the ards connected with the use of the material, or that any such use will not infringe any patent. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

BZTO104(e)011309

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Charter International Oil Company	AC 713 / 923-1651
ADDRESS (Number, Street, City, State, and ZIP Code)	Medical Emergency No.
P. O. Box 5008; Houston, TX 77012	AC 713 / 225-0463
CHEMICAL NAME AND SYNONYMS: Aliphatic Petroleum Hydrocarbons	TRADE NAME AND SYNONYMS: Espesol 310-66 (Short Range Mineral Spirits)
CHEMICAL FAMILY: Aliphatic Petroleum Hydrocarbons	FORMULA: ----------

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS Espesol 310-66	100	100ppm	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) ASTM D-86°F	310/347	SPECIFIC GRAVITY (H_2O=1)	0.7669
VAPOR PRESSURE (mm Hg.) @60°F/100°F	2.0/8.5	PERCENT, VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR=1)	4.73	EVAPORATION RATE (__n-BuAc__ =1)	0.22
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR: Water White Liquid; mild aliphatic hydrocarbon odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
TCC, °F 100		1.1	6.0

EXTINGUISHING MEDIA
(1) Mechanical Foam, (2) Dry Chemical, (3) Water Fog, (4) CO_2

SPECIAL FIRE FIGHTING PROCEDURES
A straight water stream would spread oil fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS
A vapor accumulation would flash and/or explode if ignited. Flash 100°F.

(Continued on reverse side)

BZTO104(e)011310

Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

6/2/75

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Union Oil Company of California	(213) 486-7600

ADDRESS (Number, Street, City, State, and ZIP Code)
Union Oil Center, 461 So. Boylston Ave., Los Angeles, California 90017

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
N. A.	Aristowax

CHEMICAL FAMILY	FORMULA
Hydrocarbon	Petroleum Wax

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
roduct not hazardous as defined by Sections 1501.2, 1502.2,		
1503.2 of the Code of Federal Regulations.		

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	over 600°	SPECIFIC GRAVITY (H_2O=1)	0.9
VAPOR PRESSURE (mm Hg.)	N. A.	PERCENT VOLATILE BY VOLUME (%)	N. A.
VAPOR DENSITY (AIR=1)	N. A.	EVAPORATION RATE (_____=1)	N. A.
SOLUBILITY IN WATER	Insoluble		

APPEARANCE AND ODOR: Water-white, odorless

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
490°F typical ASTM D 92, COC, Flash Point	N. A.		

EXTINGUISHING MEDIA
Foam, Carbon Dioxide, Dry Chemical, Vaporizing Liquid Type Extinguishers

SPECIAL FIRE FIGHTING PROCEDURES
None

UNUSUAL FIRE AND EXPLOSION HAZARDS
Combination with paper, cloth, or wood wastes will increase flammability.

BZTO104(e)011311

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm (ACGIH)

EFFECTS OF OVEREXPOSURE
to vapor might affect central nervous system and cause respiratory irritation.

EMERGENCY AND FIRST AID PROCEDURES
Skin contact - Wash with soap and water. An emollient cream or lotion is beneficial. Eye contact - Wash with plenty of water for five minutes. Inhalation - Provide fresh air and rest. Ingestion: Do no induce vomiting; call a physician.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*
Avoid strond oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide is burned with insufficient air.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Avoid open flame. Provide adequate ventilation. Collect and dispose of all spilled liquid.

WASTE DISPOSAL METHOD
Use the same precautions for disposal as you would for kerosene. Espesol 310-66 (Mineral Spirits) is a combustible hydrocarbon and will burn if ignited.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
In inadequately ventilated space, use self-contained breathing apparatus.

VENTILATION		
	LOCAL EXHAUST: To a fire-safe area.	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Recommended.	Recommended.

OTHER PROTECTIVE EQUIPMENT
As required to avoid wetting clothes.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Handle as a combustible liquid.

OTHER PRECAUTIONS

BZTO104(e)011312

TOXICOLOGICAL & HANDLING INFORMATION

PETROLEUM ADDITIVES

Edwin Cooper, Inc.
1700 South Second Street
St. Louis, Missouri 63104
(314) 421-3930

1. Product Name HITEC E515

2. Chemical and Physical Properties:

a)	Specific gravity	.87
b)	Vapor pressure (mm Hg)	NA
c)	Boiling point, °F	NA
d)	Flash point, °F	150
e)	Water solubility	Practically insoluble
f)	Hazardous polymerization	☐ Yes ☒ No
g)	Stable	☒ Yes ☐ No
h)	Shock sensitive	☐ Yes ☒ No

3. Physiological Properties:

a) Acute oral toxicity (LD50 if available): Oral MLD (rats) 25000-30,000 mg/Kg

b) Local effects on eyes: Slight irritant

c) Local effects on skin: Slight irritant

d) Absorption through skin: MLD (rabbits) 35-40,000 mg/Kg.

e) Inhalation effects (vapors or dust): NA

4. First Aid Treatment:

a) Skin contact: Wash thoroughly with soap and water.

b) Eye contact: Flush with copious quantities of water and consult physician immediately.

c) Ingestion: Induce vomiting and consult physician immediately.

5. Protective Equipment:
Normal usage requires: Gloves and protective face shield or goggles

NAME: David J. Firth
TITLE: Plant Chemist
DATE: 7/27/72

Sel

MATERIAL SAFETY DATA SHEET

NALCO CHEMICAL COMPANY
2901 BUTTERFIELD ROAD I.O. OAK BROOK, ILLINOIS 60521

Product 6SJ-743

Trade Name NALCO 6SJ-743 Formula No.

Synonyms Polyester

Chemical Family Organic

SECTION 2 – HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%
Butanol	10
Toluene	8

SECTION 3 – PHYSICAL PROPERTIES

Boiling Point, 760 MM HG	Melting Point
Specific Gravity (H_2O=1) .952 @ 60°F	Vapor Pressure
Vapor Density (Air=1)	Solubility in H_2O, % By Wt. Insoluble
% Volatiles By Vol.	pH (1% of solution) 6-8
Appearance and Odor Dark reddish-black liquid with slight alcohol odor	

SECTION 4 – FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash Point (Test Method) 105°F PMCC

Flammable Limits in Air, % By Vol.	Lower		Upper	

Extinguishing Media: Foam, CO_2, dry chemical

Special Fire Fighting Procedures: Fight as any hydrocarbon type fire

Unusual Fire and Explosion Hazard: May evolve toxic NO_2 fumes

SECTION 5 – HEALTH HAZARD DATA

Threshold Limit Value: None established for product. Butanol - skin (ceiling) 50 ppm. Toluene - Skin 100 ppm

Effects of Overexposure: May cause cornea and skin irritation. Prolonged inhalation may result in nausea, headaches and dizziness. Narcosis may develop.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with water for 15 min. Call a physician.

Skin: Wash with soap and rinse with plenty of water.

Ingestion: Do not induce vomiting. Give water or milk. Call a physician.

Inhalation: Remove to fresh air.

FORM 507 (7/75) (Continued on Reverse Side)

MATERIAL SAFETY DATA SHEET

NALCO CHEMICAL COMPANY
2901 BUTTERFIELD ROAD • OAK BROOK, ILLINOIS 60521

Product 6SJ-743

SECTION 6 – REACTIVITY DATA

Stability: Stable ☐ Unstable ☒ Conditions to Avoid

Materials to Avoid

Hazardous Decomposition Products: Unburned hydrocarbons

Hazardous Polymerization: Will Not Occur ☒ May Occur ☐ Conditions to Avoid

SECTION 7 – SPILL OR LEAK PROCEDURES

Steps to Take in Case Material is Released or Spilled: Contain with absorbent material. Use detergent and water to relieve slippery conditions.

Waste Disposal Method: Complete combustion

SECTION 8 – SPECIAL PROTECTION INFORMATION

Type of Respiratory Protection Required: Organic canister may be used

Ventilation: Local Exhaust ☒; Mechanical (General) ☐; Special (Specify) ____ Other (Specify) ____

Protective Gloves: Rubber Eye Protection: Goggles

Other Protective Equipment: Impervious apron, eye wash fountains

SECTION 9 – SPECIAL PRECAUTIONS

Handling and Storage Precaution: Handle in adequately ventilated areas. Do not store near open flame.

Other Precautions: Avoid prolonged inhalation of fumes. Avoid eye and skin contact. Do not take internally. Launder contaminated clothing before reuse.

Prepared By [signature] Title: Toxicology & Industrial Hygiene Consultant Date: 2/76

Similar to Form OSHA-20 EMERGENCY TELEPHONE NUMBER – (312) 332-3560

ME OIL CO.
ENTURY ENVIRONMENTAL

Century Testing Laboratories, Inc.

RECEIVED
MAY 22 1986

May 21, 1986

John Ruddick
Century Environmental Sciences
One S. W. Columbia, Suite 1222
Portland, OR 97258

Dear John:

Here are the Penta results from Time oil:

CES #	Pentachlorophenol conc. ug/l (ppb)
WP-B	2.6
MW-4"	6.1
WP-E	<1.0
WP-F	1.4

If you have any questions, please phone.

Sincerely,

CENTURY TESTING LABORATORIES, INC.

Walter F. Burns

Walter F. Burns
Organic Chemistry Supervisor

WFB:lk

P.O. BOX 1174 • BEND, OR 97709 • (503) 382-6432
Water • Feed • Soils • Construction Materials • General Analytical Services

SAMPLE LOG

Property No.: 03-123 Name and Address: NW Terminal

Sampler: Fred Proby 12005 N Burgard

Date and Time: 5/9/86 1300 Portland OR

ITEM	SAMPLE NUMBER	DESCRIPTION	ITEM	SAMPLE NUMBER	DESCRIPTION
1	03-123-4A	Well #4 water	11		
2	03-123-4B	Well #4 Water (duplicate)	12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Sample Collection and Preservation: Purge 3 vols (35 gal) sample w/ bailer, kept in refrigerator until picked up by [redacted] Century Envir. Sci.

Laboratory Name and Address: (c/o Century Envir. Sci) Phone No.: ( )

Instructions for Analysis: Pentachlorophenol (<10 ppb) P.O. No.:

CHAIN OF CUSTODY RECORD

Relinquished By	Received By	Date & Time
Fred Proby	[redacted] TOC- NW Terminal	5/9/86 1330

TO BE FILLED OUT BY LABORATORY: Sample ID Numbers:

Person Performing Analysis: Analysis Date:

Methods Used:

Final Disposition of Samples:

IMPORTANT: Return original completed Sample Log and analysis results to Time Oil C 2737 W. Commodore Way, Seattle, WA 98199 Attention: John P. Denham, Environmental Manager (206)285-2400

Century Environmental Sciences

June 4, 1986

Mr. John Denham
Time Oil Company
2737 W. Commodore Way
Seattle, Washington 98199

Dear Mr. Denham:

Century Environmental Sciences (Century) is pleased to transmit herein to Time Oil Company (Time) the results of chemical analyses performed on groundwater samples obtained from the Portland facility.

BACKGROUND
In early 1986 Time installed a monitoring well network at this facility. Subsequently, Time retained Century to measure static water levels, purge the wells and obtain groundwater samples using EPA approved sampling protocols, and analyze the samples. The results of this investigation are discussed below.

FIELD ACTIVITIES
Prior to monitoring well purging and groundwater sampling, Century obtained static water level measurements in the Time monitoring wells. These measurements were performed in accordance with EPA approved procedures.

The following results are identified by the letter designation of the well preceeded by either MW (monitoring well) or WP (well point):

RESULTS

WELL NO.	STATIC WATER LEVEL (FEET BELOW TOP OF CASING)
WP-A	13.65
WP-B	13.70
WP-C	8.90 (Filled with sand to 9.20 ft.)
WP-E	12.90
WP-F	13.00
WP-G	Dry
MW-4	18.98

One S.W. Columbia Street Suite 1222 Portland, Oregon 97258 Phone (503) 224-4334
Century Environmental Sciences Century West Engineering Corporation Century Testing Laboratories, Inc. Century West Development Services
Portland and Bend, Oregon Spokane and Pasco, Washington Bozeman, Montana

BZTO104(e)011319

Century Testing Laboratories (CTL) provided Century with appropriately preserved sample containers. Three well volumes of water were removed from each well and well point prior to sampling so that native aquifer groundwater was sampled as opposed to standing well water. In order to purge the wells and well points, a temporary water treatment system was designed to dispose of the purged groundwater. Essentially, this system involved partially filling a 55-gallon drum with 75-pounds of activated charcoal. Activated charcoal has been proven to be very effective in treatment of Penta contaminated groundwater. A discharge hose was attached to the bottom of the 55-gallon drum and the pre-treated groundwater was directed to the sanitary sewer. A pump was utilized to purge the four-inch monitoring well. Groundwater was discharged directly from the pump line into the treatment drum. The remaining wells were either pumped using a small, nitrogen activated sampling pump (for the 2-inch well points), or bailed using a 3/4-inch outside diameter (OD) 39-inch long stainless steel bailer. Groundwater from the smaller pump and bailer was discharged temporarily into a 5-gallon bucket and subsequently poured into the treatment barrel. After each well that contained groundwater was purged and the static water level was allowed to recover to near its original level, the samples were obtained. The pumps and bailer were steam cleaned between wells following sampling.

Dates, times and locations of sampling were documented on the sample containers, on a field log form and on the sample chain of custody form. Samples were immediately chilled after they were obtained, packed and shipped to CTL on the last day of sampling. Chain of custody documentation accompanied the samples. The chain of custody form documents each individual who was in possession of the sample from the time they were obtained to the time they arrived in the lab. Chain of custody aids in tracking sample possession and assures that the samples were not tampered with enroute from the field to the lab.

WELL NO.	PENTACHLOROPHENOL CONCENTRATION (in ug/l or ppb)
WP-B	2.6
WP-E	<1.0
WP-F	1.4
MW-4	6.1

Attachment 1 contains the laboratory report for this investigation. Analytical method 8270 described in the EPA publication SW-846 ("Test Methods for Evaluating Solid Waste") was utilized to analyze the Time groundwater samples for penta concentration. This method is equivalent to EPA method 625.

Century appreciates the opportunity to complete this work for Time. If you have any questions or comments regarding the data enclosed herein, please do not hesitate to call me.

Yours truly,
CENTURY ENVIRONMENTAL SCIENCES

Samuel R. Rothermel

Sam Rothermel
Environmental Engineer, Hydrogeologist

SR/js

BZTO104(e)011321

ATTACHMENT 1

GROUNDWATER ANALYTICAL RESULTS

Century Environmental Sciences

July 7 , 1986

Mr. John Denham
Time Oil Company
2737 W. Commodore Way
Seattle, Washington 98199

Dear John:

Attached is a copy of the report of field sampling and analytical results for groundwater samples taken at the north Portland terminal. The only detectable concentrations of pentachlorophenol in groundwater was at Well "I" located to the west of the warehouse building. The pH of the groundwater at this site was 5.74.

According to comments made in the Tuesday, March 11, 1986, Federal Register, Volume 51, No. 47, Page 8361, the EPA has proposed water quality criteria for pentachlorophenol. The criteria for fresh water aquatic life for pentachlorophenol indicates that the four day average concentration in parts per billion of pentachlorophenol which should not unacceptably affect fresh water aquatic organisms and their uses, may be calculated by an equation based on the pH of the groundwater. A second equation is given to determine the no-effect concentrations for one hour average values as well.

Based on these equations, the four day average concentration at pH 5.74 is 1.49 parts per billion. The one hour average concentration limit is 2.36 parts per billion. On this basis, the detected concentration in Well "I" is below the one hour average concentration limit cited above. The one hour concentration limit rather than the four day average limit is appropriate since this Well "I" value of 2.2 ppb is a single sample result.

I hope the information provided in this report is helpful to you. Should you have any comments or questions, please don't hesitate to contact me.

Sincerely,
CENTURY ENVIRONMENTAL SCIENCES

John Ruddick
Manager/Senior Scientist

Enclosure

One S.W. Columbia Street Suite 1222 Portland, Oregon 97258 Phone (503) 224-4334
Century Environmental Sciences Century West Engineering Corporation Century Testing Laboratories, Inc. Century West Development Services
Portland and Bend, Oregon Spokane and Pasco, Washington Bozeman, Montana

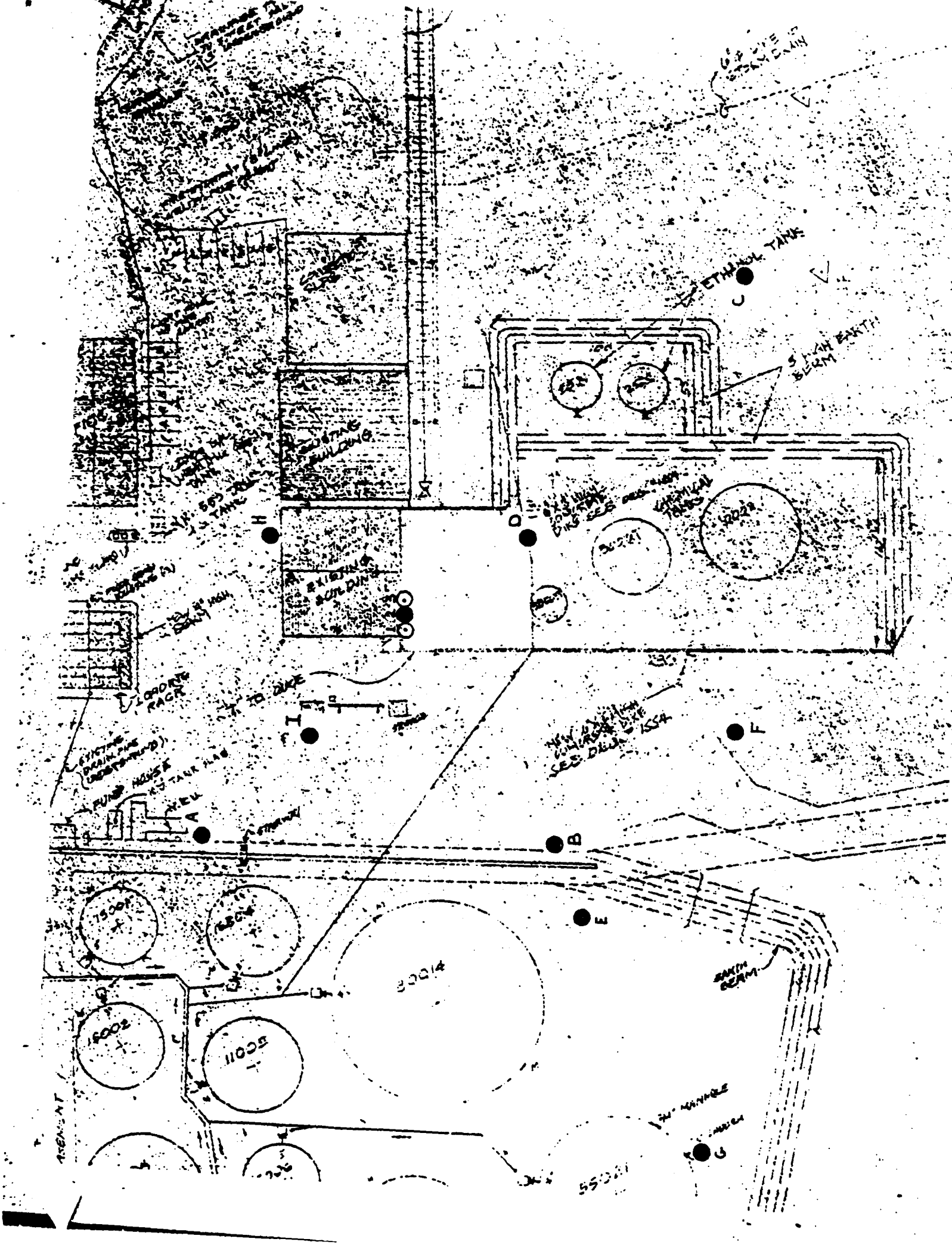
BZTO104(e)011323

TIME OIL CO.
SUMMARY OF FIELD AND ANALYTICAL RESULTS
GROUNDWATER SAMPLING AND ANALYSIS

Sampling procedures meet EPA Pub. SW846.
Time Oil groundwater samples were analyzed by GC/MS using EPA Method.
The submitted sample from well No. 4 contained an insufficient amount of material for analysis.

WELL NO.	STATIC WATER LEVEL (FEET) (5-28-86)	FIELD Ph	PENTACHLOROPHENOL mg/L (ppm) (1)	STATIC WATER LEVEL (6-5-86)
A	13.17	6.56	N.D.	12.15
B	13.16	6.29	N.D.	13.18
D	12.52	6.49	N.D.	12.65
E	13.65	7.70	N.D.	13.75
F	13.90	6.73	N.D.	13.93
H	9.31	6.32	N.D.	9.46
I	12.89	5.74	.0022	13.02
QA/QC (Duplicate B)			N.D.	
Field Blank			N.D.	
2	15.00			15.11
River	18.52			14.54

NOTE: (1) Samples collected on May 28, 1986;
Laboratory analysis reported on June 9, 1986.
Detection Limit of 002 ppm.


ETHANOL TANK
5 HIGH EARTH BERM
EXISTING BUILDING
LOADING RACK
TO DIKE
FUND HOUSE
EARTH BERM
30014
16002
11005
A
B
C
D
E
F
G
H
I

Regulatory Flexibility Analysis

Pursuant to the Regulatory Flexibility Act of 1980 (5 U.S.C. 601, *et seq.*) each agency, when required by 5 U.S.C. 553 to publish a proposed rule, is further required to prepare and make available for public comment an initial regulatory flexibility analysis to describe the impact of the proposed rule on small entities. In this instance, the proposal relates to nonregulatory services provided by Western. Under 5 U.S.C. 601(2), a proposal with particular applicability is not considered "a rule" within the meaning the Act. Since this proposal is of limited applicability and is being set in accordance with specific regulations and legislation under particular circumstances, Western believes that no flexibility analysis is required.

Determination Under Executive Order 12291

The Department of Energy has determined that this is not a major rule because it does not meet the criteria of section 1(b) of Executive Order 12291, 46 FR 13193 (February 19, 1981). Western has an exemption from sections 3, 4, and 7 of Executive Order 12291.

Issued at Golden, Colorado, February 24, 1986.

William H. Clagett,

Administrator.

[FR Doc. 86-4717 Filed 3-10-86; 8:45 am]

BILLING CODE 6450-01-M

ENVIRONMENTAL PROTECTION AGENCY

[OW-FRL-2981-8]

Management Advisory Group Meeting

Under Pub. L. 92-463, notice is hereby given that a one and a half day meeting of the Management Advisory Group to the EPA Construction Grant Program (MAG) will be held on March 26-27, 1986, in Washington, DC, at EPA Headquarters, 401 M Street SW., Washington, DC 20460. The meeting room will be Conference Room 2, at the EPA Washington Information Center located on the ground floor of the Waterside Mall area. The time of the meeting will be 9 a.m. to 5 p.m. on March 26, and 8 a.m. to 1 p.m. on March 27.

The principal agenda item will be work on a MAG report on compliance and operation and maintenance of publicly owned wastewater treatment works, specifically on recommendations to be made by MAG. The agenda will also include briefings and discussions on other topics of current or future interest to MAG. Any member of the public wishing to make comments is invited to submit them in writing to the Executive Secretary at the meeting.

The meeting will be open to the public. For additional information, contact Georgette Brown at (202) 382-5859.

Dated: March 5, 1986.

Edwin L. Johnson,

Assistant Administrator for Water.

[FR Doc. 86-5243 Filed 3-10-86; 8:45 am]

BILLING CODE 6560-50-M

[OW-FRL-2981-4]

Water Quality Criteria; Ambient Aquatic Life Water Quality Criteria Documents

AGENCY: Environmental Protection Agency.

ACTION: Notice of request for comments on ambient aquatic life water quality criteria documents.

SUMMARY: EPA announces the availability for public comment, and provides summaries of four ambient aquatic life water quality criteria documents. When published in final form after the review of public comments, these water quality criteria may form the basis for enforceable standards. These criteria are published pursuant to section 304(a)(1) of the Clean Water Act.

DATE: Written comments should be submitted to the person listed directly below by May 12, 1986.

FOR FURTHER INFORMATION CONTACT: Dr. Frank Gostomski, Criteria and Standards Division (WH-585), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. (202) 245-3030.

Availability of Documents

This notice contains summaries of four documents containing proposed ambient water quality criteria for the protection of aquatic life and its uses. Copies of the complete criteria documents may be obtained upon request from the person listed above. These documents are also available for public inspection and copying during normal business hours at: Public Information Reference Unit, U.S. Environmental Protection Agency, Room 2404 (rear), 401 M St., SW., Washington, DC 20460. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services. Copies of these documents are also available for review in the EPA Regional Office libraries. A list of the proposed documents is presented below:

1. Ambient Water Quality Criteria for Aluminum.
2. Ambient Water Quality Criteria for Chlorpyrifos.
3. Ambient Water Quality Criteria for Nickel.
4. Ambient Water Quality Criteria for Pentachlorophenol.

SUPPLEMENTARY INFORMATION:

Background

Section 304(a)(1) of the Clean Water Act (33 U.S.C. 1314(a)(1)) requires EPA to publish and periodically update ambient water quality criteria. These criteria are to reflect the latest scientific knowledge on the identifiable effects of pollutants on public health and welfare, aquatic life, and recreation.

EPA has periodically issued ambient water quality criteria beginning in 1973 with the publication of the "Blue Book" (Water Quality Criteria 1972). In 1976, the "Red Book" (Quality Criteria for Water) was published. On November 28, 1980 (45 FR 79318), EPA announced the publication of 64 individual ambient water quality criteria documents for pollutants listed as toxic under section 307(a)(1) of the Clean Water Act. A document addressing 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) was announced on February 15, 1984 (FR 49 5831) completing the coverage of the 65 priority pollutants listed in 307(a)(1). Nine ambient water quality documents, including revision of seven of the 1980 documents, were released on July 29, 1985 (50 FR 30784).

Today EPA is announcing the availability for comment four proposed individual ambient aquatic life water quality criteria documents. Two of the documents, nickel and pentachlorophenol, upon final publication, will update and revise appropriate sections of the 1980 criteria documents. The other two, aluminum and chlorpyrifos, will address chemicals which have not been covered before.

The documents announced today will not contain information on the effects of these pollutants on human health. EPA anticipates the release of water quality advisories on aluminum and chlorpyrifos to specifically address human health concerns. Advisories will also be issued to update the human health section of the 1980 ambient water quality criteria documents for nickel and pentachlorophenol if a review of the available information indicate that such a revision is necessary. Both the criteria documents announced today and the water quality advisories addressing human health may form the basis for enforceable standards, when published in final form.

BZTO104(e)011326

TIME OIL CO.
SUMMARY OF FIELD AND ANALYTICAL RESULTS
GROUNDWATER SAMPLING AND ANALYSIS

Sampling procedures meet EPA Pub. SW846.
Time Oil groundwater samples were analyzed by GC/MS using EPA Method.
The submitted sample from well No. 4 contained an insufficient amount of material for analysis.

Ref Elev	WELL NO.	WT Elev	STATIC WATER LEVEL (FEET) (5-28-86)	FIELD Ph	PENTACHLOROPHENOL mg/L (ppm) (1)	STATIC WATER LEVEL (6-5-86)	WT Elev
97.14	A	83.97	13.17	6.56	N.D.	12.15	84.99
96.83	B	83.67	13.16	6.29	N.D.	13.18	83.65
97.93	D	85.41	12.52	6.49	N.D.	12.65	85.28
97.83	E	84.18	13.65	7.70	N.D.	13.75	84.08
97.97	F	84.07	13.90	6.73	N.D.	13.93	84.04
94.75	H	85.44	9.31	6.32	N.D.	9.46	85.29
98.00	I	85.11	12.89	5.74	.0022	13.02	84.98
	QA/QC (Duplicate B)				N.D.		
	Field Blank				N.D.		
	2		15.00			15.11	
96.30	River	77.58	18.52			14.54	81.76

NOTE: (1) Samples collected on May 28, 1986;
Laboratory analysis reported on June 9, 1986.
Detection Limit of 002 ppm.

interest to MAG. Any member of the public wishing to make comments is invited to submit them in writing to the Executive Secretary at the meeting.

The meeting will be open to the public. For additional information, contact Georgette Brown at (202) 382-5859.

Dated: March 5, 1986.

Edwin L. Johnson,

Assistant Administrator for Water.

[FR Doc. 86-5243 Filed 3-10-86; 8:45 am]

BILLING CODE 6560-50-M

[OW-FRL-2981-4]

Water Quality Criteria; Ambient Aquatic Life Water Quality Criteria Documents

AGENCY: Environmental Protection Agency.

ACTION: Notice of request for comments on ambient aquatic life water quality criteria documents.

SUMMARY: EPA announces the availability for public comment, and provides summaries of four ambient aquatic life water quality criteria documents. When published in final form after the review of public comments, these water quality criteria may form the basis for enforceable standards. These criteria are published pursuant to section 304(a)(1) of the Clean Water Act.

DATE: Written comments should be submitted to the person listed directly below by May 12, 1986.

FOR FURTHER INFORMATION CONTACT: Dr. Frank Gostomski, Criteria and Standards Division (WH-585), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. (202) 245-3030.

Availability of Documents

This notice contains summaries of four documents containing proposed ambient water quality criteria for the protection of aquatic life and its uses. Copies of the complete criteria documents may be obtained upon request from the person listed above. These documents are also available for public inspection and copying during normal business hours at: Public Information Reference Unit, U.S. Environmental Protection Agency, Room 2404 (rear), 401 M St., SW., Washington, DC 20460. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services. Copies of these documents are also available for review in the EPA Regional Office libraries. A list of the proposed documents is presented below:

1. Ambient Water Quality Criteria for Aluminum.
2. Ambient Water Quality Criteria for Chlorpyrifos.
3. Ambient Water Quality Criteria for Nickel.
4. Ambient Water Quality Criteria for Pentachlorophenol.

SUPPLEMENTARY INFORMATION:

Background

Section 304(a)(1) of the Clean Water Act (33 U.S.C. 1314(a)(1)) requires EPA to publish and periodically update ambient water quality criteria. These criteria are to reflect the latest scientific knowledge on the identifiable effects of pollutants on public health and welfare, aquatic life, and recreation.

EPA has periodically issued ambient water quality criteria beginning in 1973 with the publication of the "Blue Book" (Water Quality Criteria 1972). In 1976, the "Red Book" (Quality Criteria for Water) was published. On November 28, 1980 (45 FR 79318), EPA announced the publication of 64 individual ambient water quality criteria documents for pollutants listed as toxic under section 307(a)(1) of the Clean Water Act. A document addressing 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) was announced on February 15, 1984 (FR 49 5831) completing the coverage of the 65 priority pollutants listed in 307(a)(1). Nine ambient water quality documents, including revision of seven of the 1980 documents, were released on July 29, 1985 (50 FR 30784).

Today EPA is announcing the availability for comment four proposed individual ambient aquatic life water quality criteria documents. Two of the documents, nickel and pentachlorophenol, upon final publication, will update and revise appropriate sections of the 1980 criteria documents. The other two, aluminum and chlorpyrifos, will address chemicals which have not been covered before.

The documents announced today will not contain information on the effects of these pollutants on human health. EPA anticipates the release of water quality advisories on aluminum and chlorpyrifos to specifically address human health concerns. Advisories will also be issued to update the human health section of the 1980 ambient water quality criteria documents for nickel and pentachlorophenol if a review of the available information indicate that such a revision is necessary. Both the criteria documents announced today and the water quality advisories addressing human health may form the basis for enforceable standards, when published in final form.

BZTO104(e)011328

established if adequate justifications is provided.

Use of criteria for developing water quality-based permit limits and for designing waste treatment facilities requires selection of an appropriate wasteload allocation model. Dynamic models are preferred for the application of these criteria. Limited data or other considerations might make their use impractical, in which case one must rely on a steady-state model. The Agency recommends the interim use of 1Q5 or 1Q10 for the Criterion Maximum Concentration (CMC) design flow and 7Q5 or 7Q10 for the Criterion Continuous Concentration (CCC) design flow in steady-state model for unstressed and stressed systems respectively. These matters are discussed in more detail in the Technical Support Document for Water Quality-Based Toxics Control (U.S. EPA, 1985).

Saltwater Aquatic Life. Saltwater aquatic organisms and their uses should not be affected unacceptably, except possibly where a locally important species is very sensitive, if the four-day average concentration of nickel does not exceed 7.9 μg/L more than once every three years on the average, and if the one-hour average concentration of nickel does not exceed 71 μg/L more than once every three years on the average.

EPA recommends applying the criteria for metals using the total recoverable method until a protocol for the measurement of "acid-soluble" metals is approved.

The allowed average excursion frequency of three years is the Agency's best scientific judgement of the amount of time it will take an unstressed system to recover from a pollution event in which exposure to these pollutants exceeds the criteria. Stressed systems, for example one in which several outfalls occur in a limited area, would be expected to require more time for recovery. The resilience of ecosystems and their ability to recover differ greatly, however, and site-specific excursion frequencies may be established if adequate justification is provided.

Use of criteria for developing water quality-based permit limits and for designing waste treatment facilities requires selection of an appropriate wasteload allocation model. Dynamic models are preferred for the application of these criteria. Limited data or other considerations might make their use impractical, in which case one must rely on a steady-state model. The Agency recommends the interim use of 1Q5 or 1Q10 for the Criterion Maximum Concentration (CMC) design flow and 7Q5 or 7Q10 for the Criterion Continuous Concentration (CCC) design flow in steady-state model for unstressed and stressed systems respectively. These matters are discussed in more detail in the Technical Support Document for Water Quality-Based Toxics Control (U.S. EPA, 1985).

4. Pentachlorophenol

Freshwater Aquatic Life. Freshwater aquatic organisms and their uses should not be affected unacceptably, except possibly where a locally important species is very sensitive, if the four-day average concentration (in μg/L) of pentachlorophenol does not exceed the numerical value given by $e^{(1.005[pH]-5.366)}$ more than once every three years on the average, and if the one-hour average concentration (in μg/L) does not exceed the numerical value given by $e^{(1.005[pH]-4.906)}$ more than once every three years on the average. For example, at pH=6.5, 7.8, and 9.0, the four-day average concentrations of pentachlorophenol are 3.2, 12 and 40 μg/L, respectively, and the one-hour average concentrations are 5.1, 19 and 63 μg/L.

The allowed average excursion frequency of three years is the Agency's best scientific judgement of the amount of time it will take an unstressed system to recover from a pollution event in which exposure to these pollutants exceeds the criteria. Stressed systems, for example one in which several outfalls occur in a limited area, would be expected to require more time for recovery. The resilience of ecosystems and their ability to recover differ greatly, however, and site-specific excursion frequencies may be established if adequate justification is provided.

Use of criteria for developing water quality-based permit limits and for designing waste treatment facilities requires selection of an appropriate wasteload allocation model. Dynamic models are preferred for the application of these criteria. Limited data or other considerations might make their use impractical, in which case one must rely on a steady-state model. The Agency recommends the interim use of 1Q5 or 1Q10 for the Criterion Maximum Concentration (CMC) design flow and 7Q5 or 7Q10 for the Criterion Continuous Concentration (CCC) design flow in steady-state model for unstressed and stressed systems respectively. These matters are discussed in more detail in the Technical Support Document for Water Quality-Based Toxics Control (U.S. EPA, 1985).

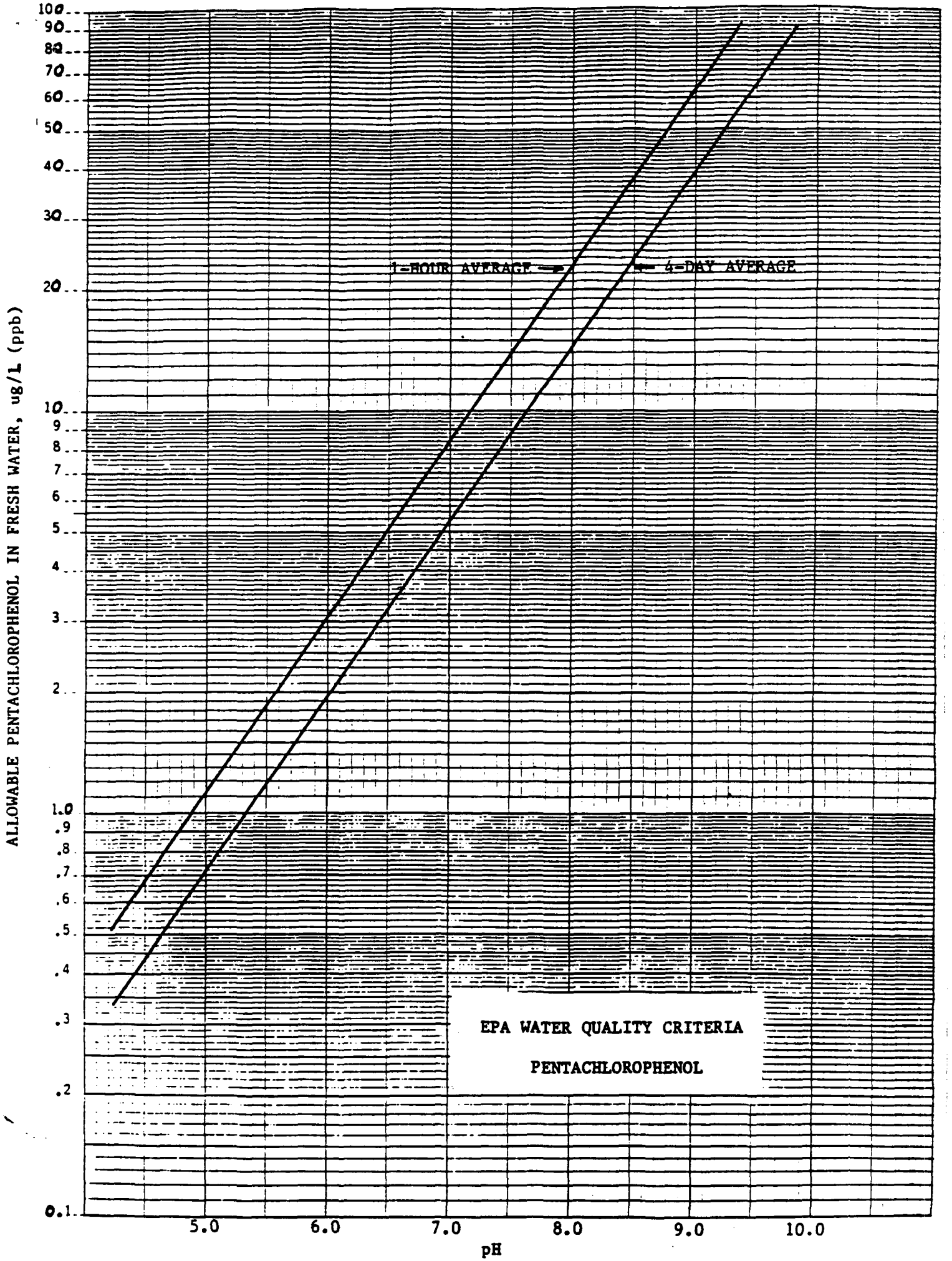
Saltwater Aquatic Life. Saltwater aquatic organisms and their uses should not be affected unacceptably, except possibly where a locally important species is very sensitive, if the four-day average concentration of pentachlorophenol does not exceed 8.1 μg/L more than once every three years on the average, and if the one-hour average concentration does not exceed 13 μg/L more than once every three years on the average.

The allowed average excursion frequency of three years in the Agency's best scientific judgement of the amount of time it will take an unstressed system to recover from a pollution event in which exposure to these pollutants exceeds the criteria. Stressed systems, for example one in which several outfalls occur in a limited area, would be expected to require more time for recovery. The resilience of ecosystems and their ability to recover differ greatly, however, and site-specific excursion frequencies may be established if adequate justification is provided.

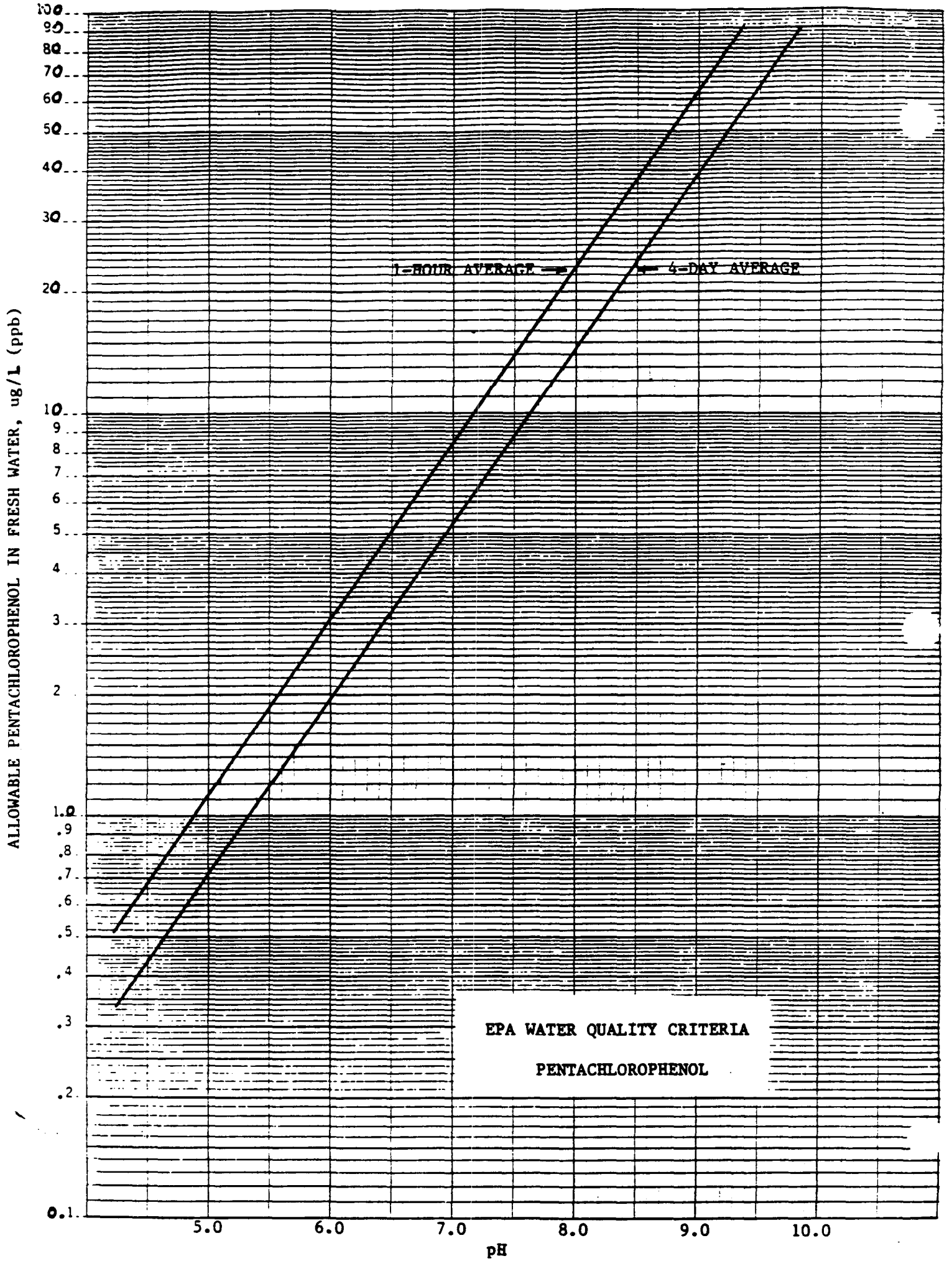
Use of criteria for developing water quality-based permit limits and for designing waste treatment facilities requires selection of an appropriate wasteload allocation model. Dynamic models are preferred for the application of these criteria. Limited data or other considerations might make their use impractical, in which case one must rely on a steady-state model. The Agency recommends the interim use of 1Q5 or 1Q10 for the Criterion Maximum Concentration (CMC) design flow and 7Q5 or 7Q10 for the Criterion Continuous Concentration (CCC) design flow in steady-state model for unstressed and stressed systems respectively. These matters are discussed in more detail in the Technical Support Document for Water Quality-Based Toxics Control (U.S. EPA, 1985).

[FR Doc. 86-5161 Filed 3-10-86; 8:45 am]
BILLING CODE 6560-50-M

BZTO104(e)011329



BZTO104(e)011330



BZTO104(e)011331

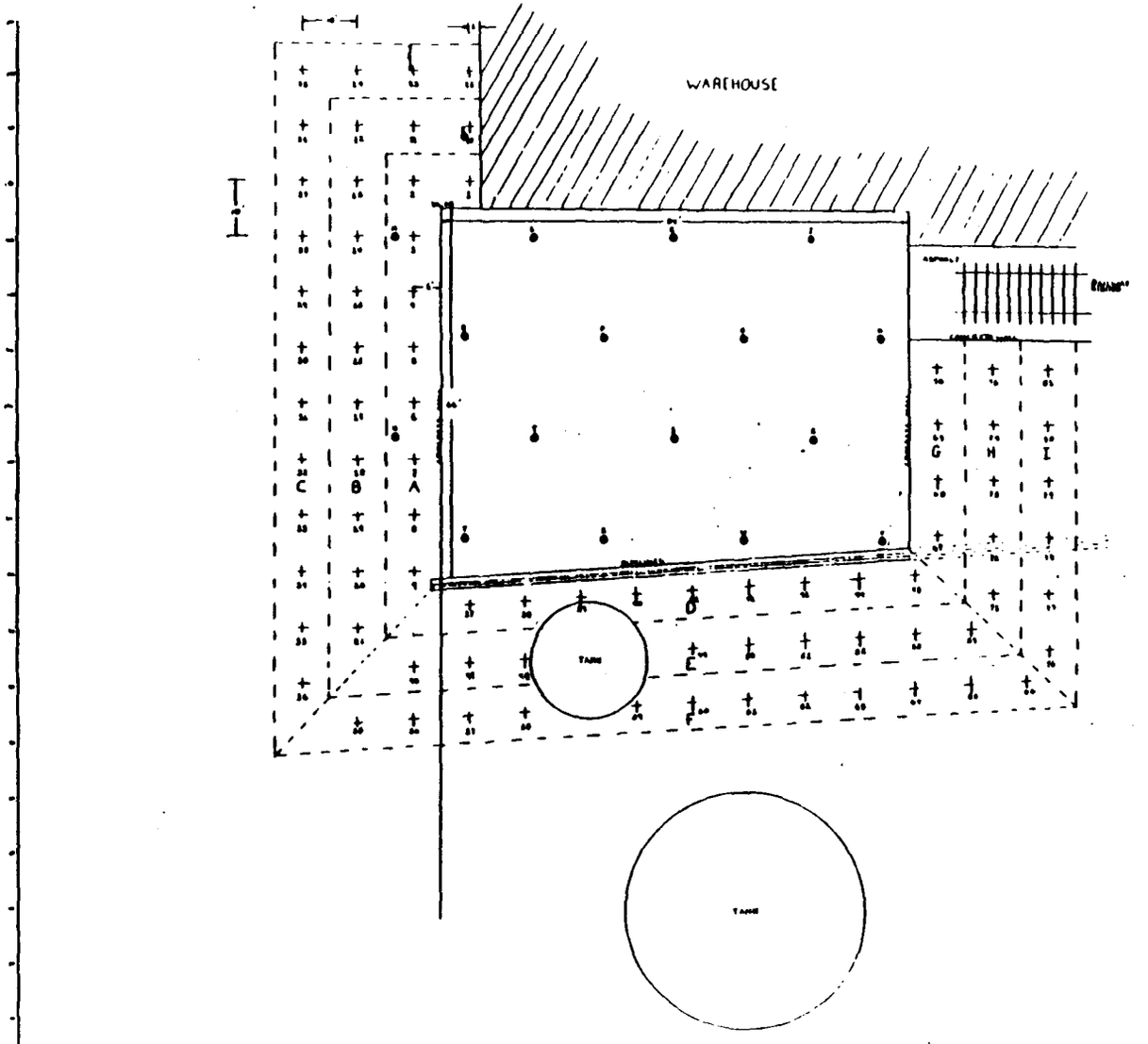
TIME OIL CO.

REIDEL INT'L ANALYSIS, SITE

MAPS, BORING LOGS

BZTO104(e)011332

FIGURE 1



RIEDEL INTERNATIONAL

TIME OIL CO - PORTLAND, OR.

PCP SAMPLING PLAN
SAMPLING GRID - LATERAL SAMPLE

BZTO104(e)011333

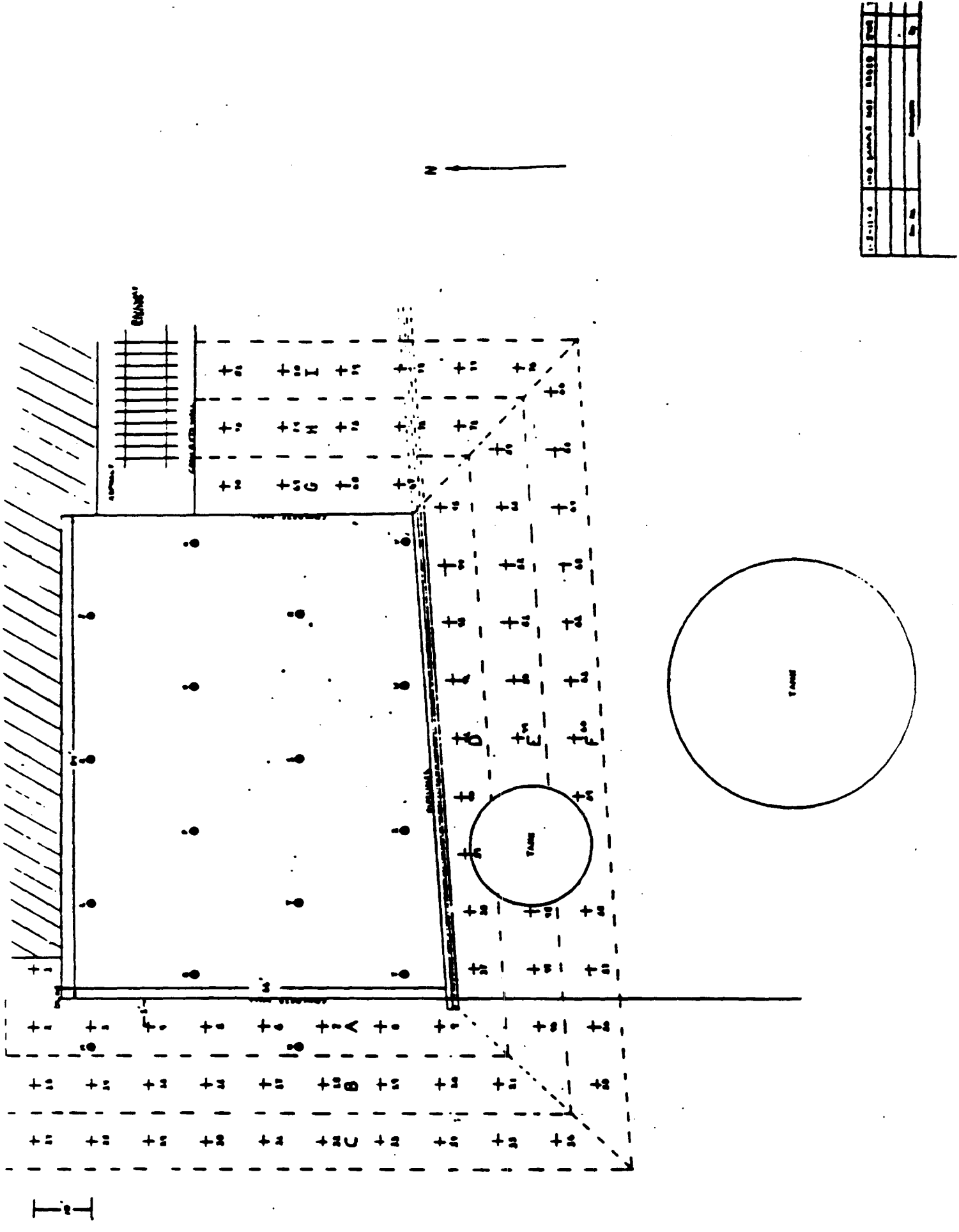
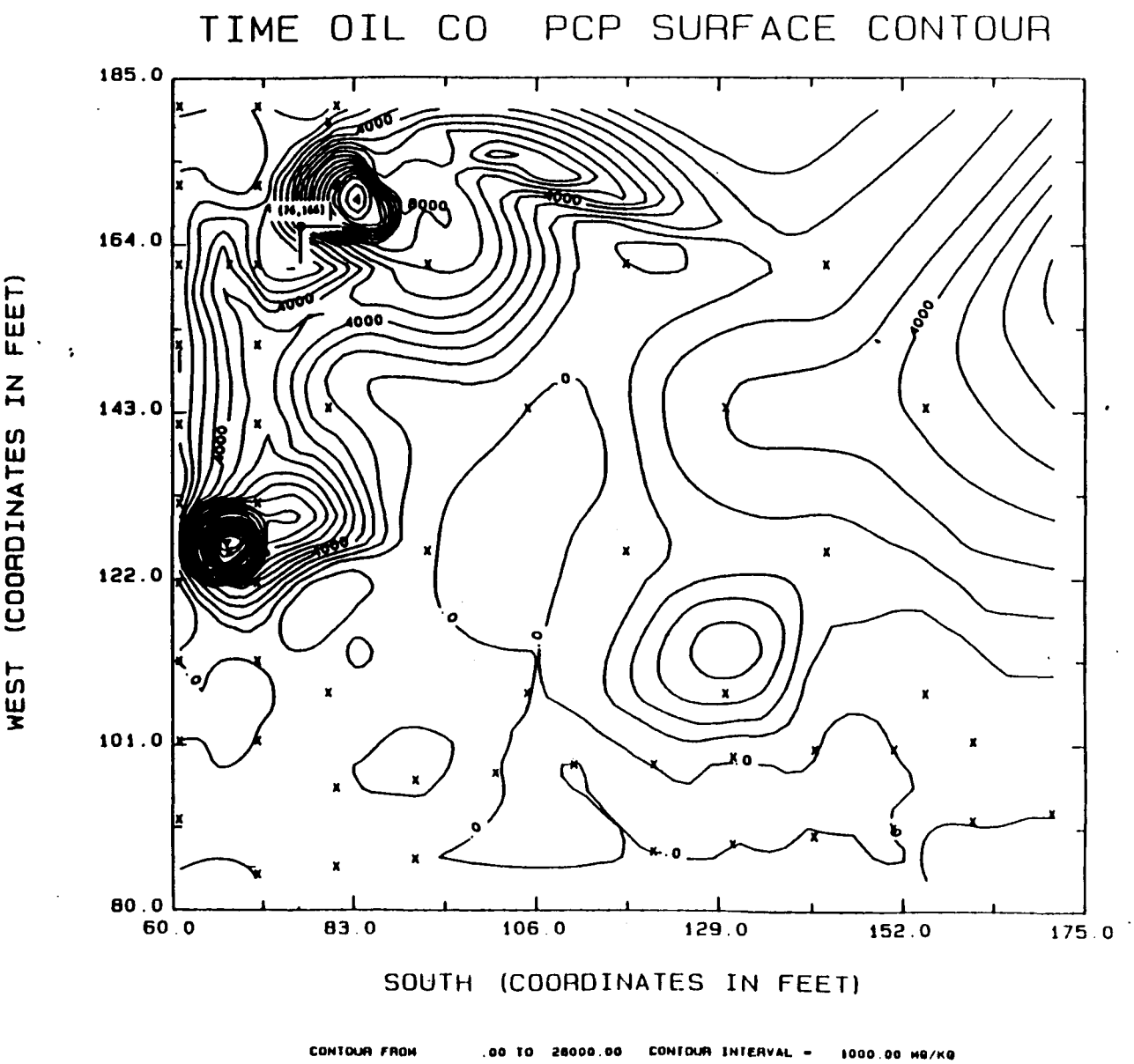
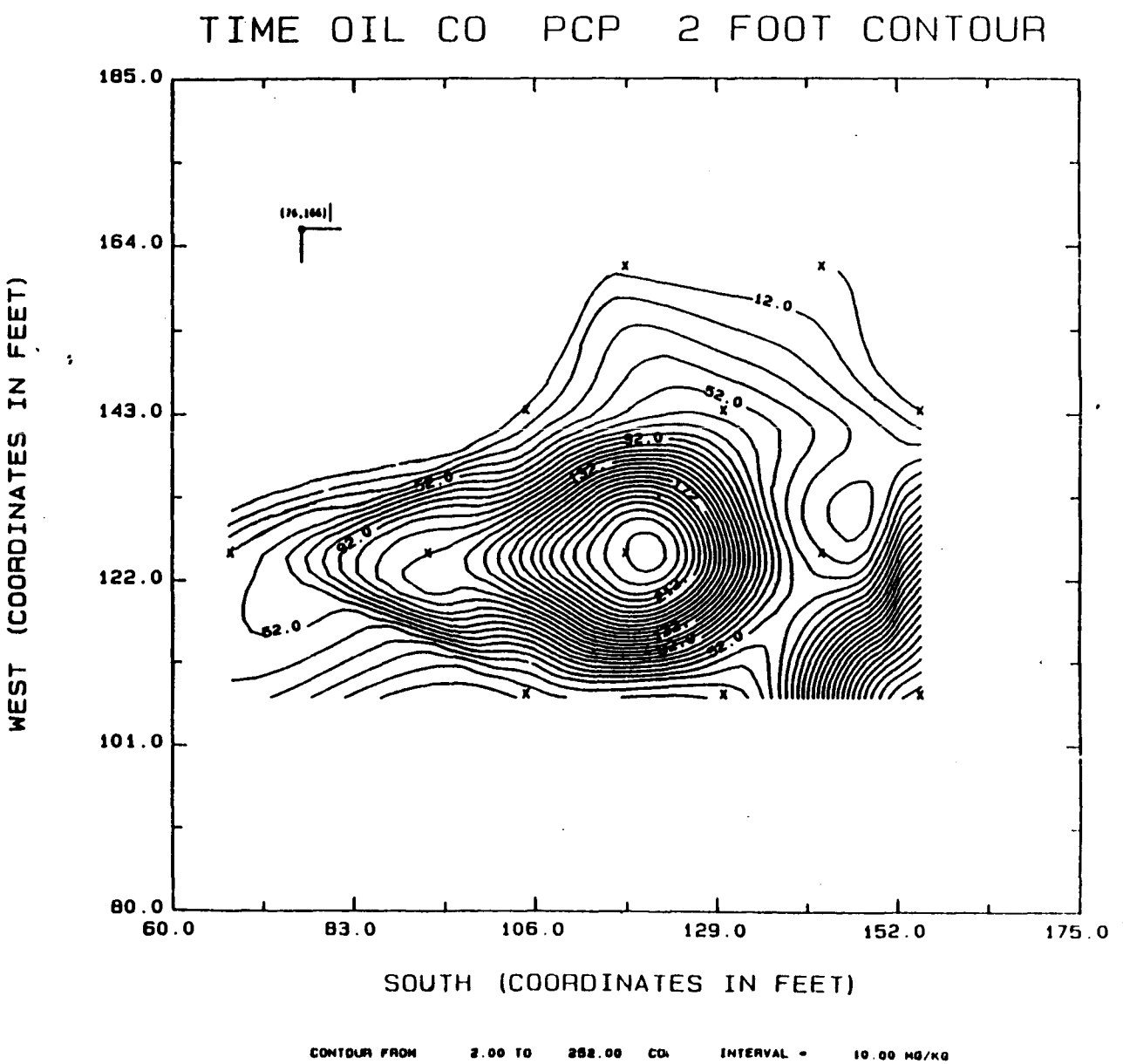


FIGURE 2A



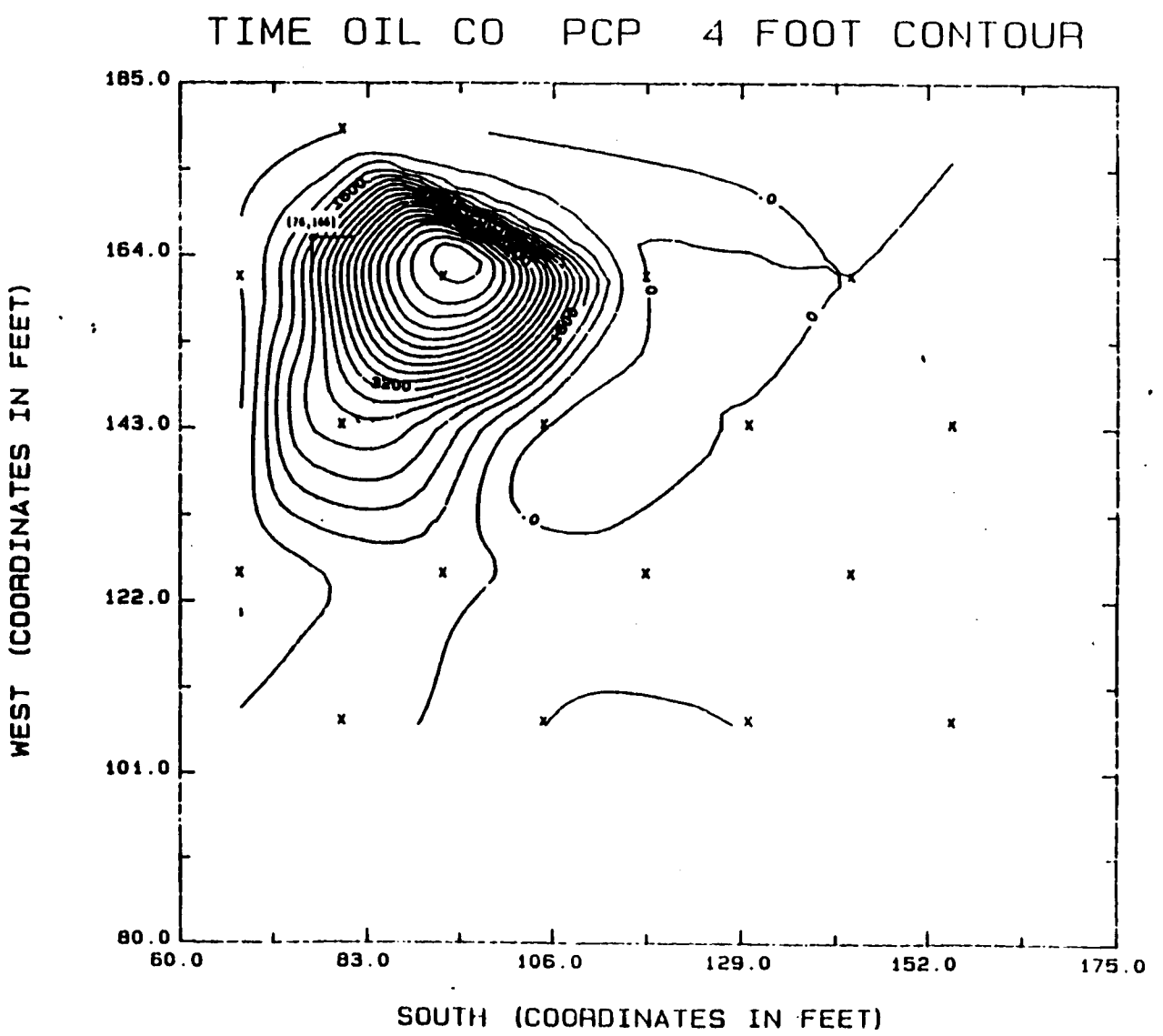
BZTO104(e)011335

FIGURE 2B



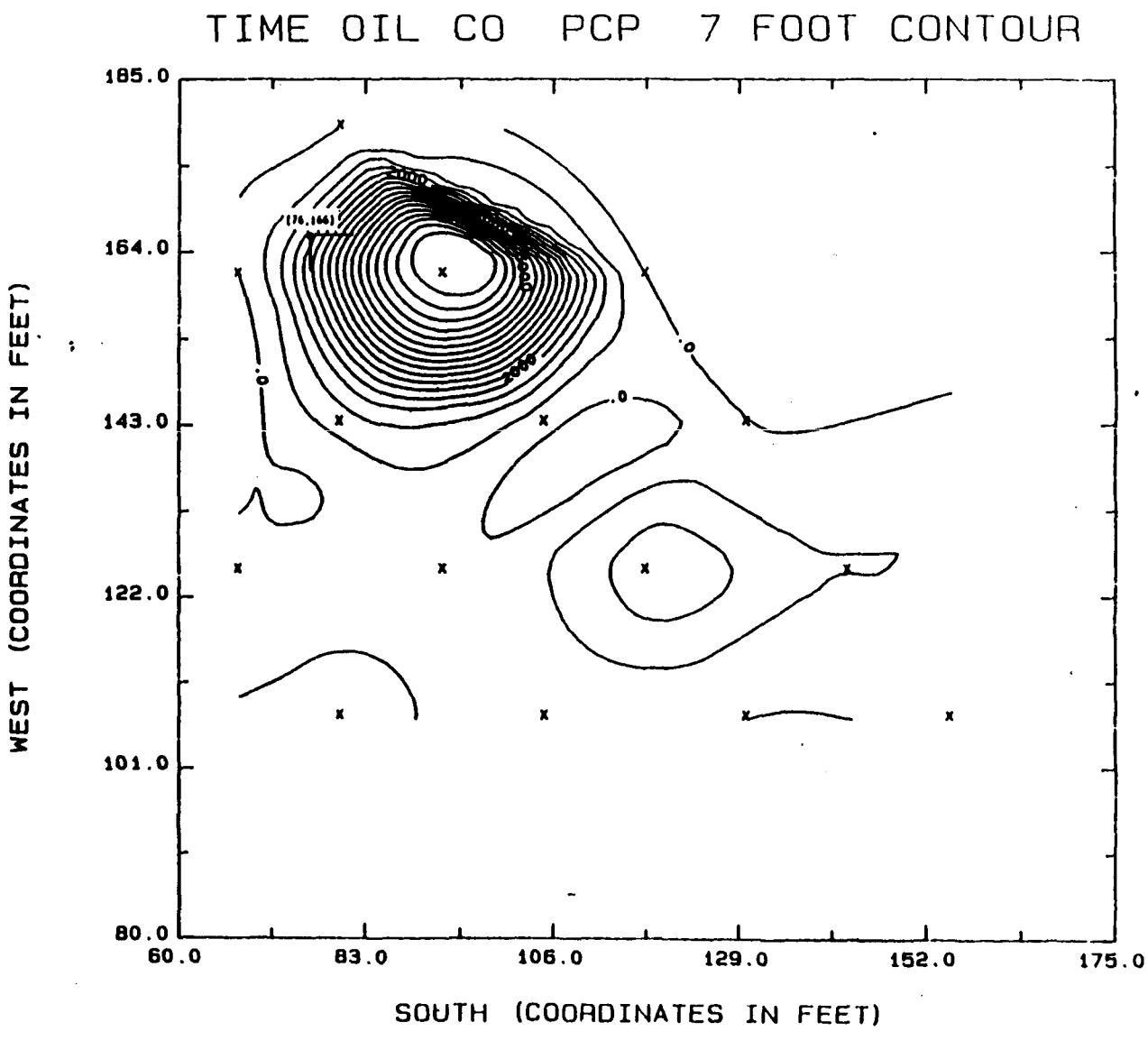
BZTO104(e)011336

FIGURE 2C



BZTO104(e)011337

FIGURE 2 D



BZTO104(e)011338

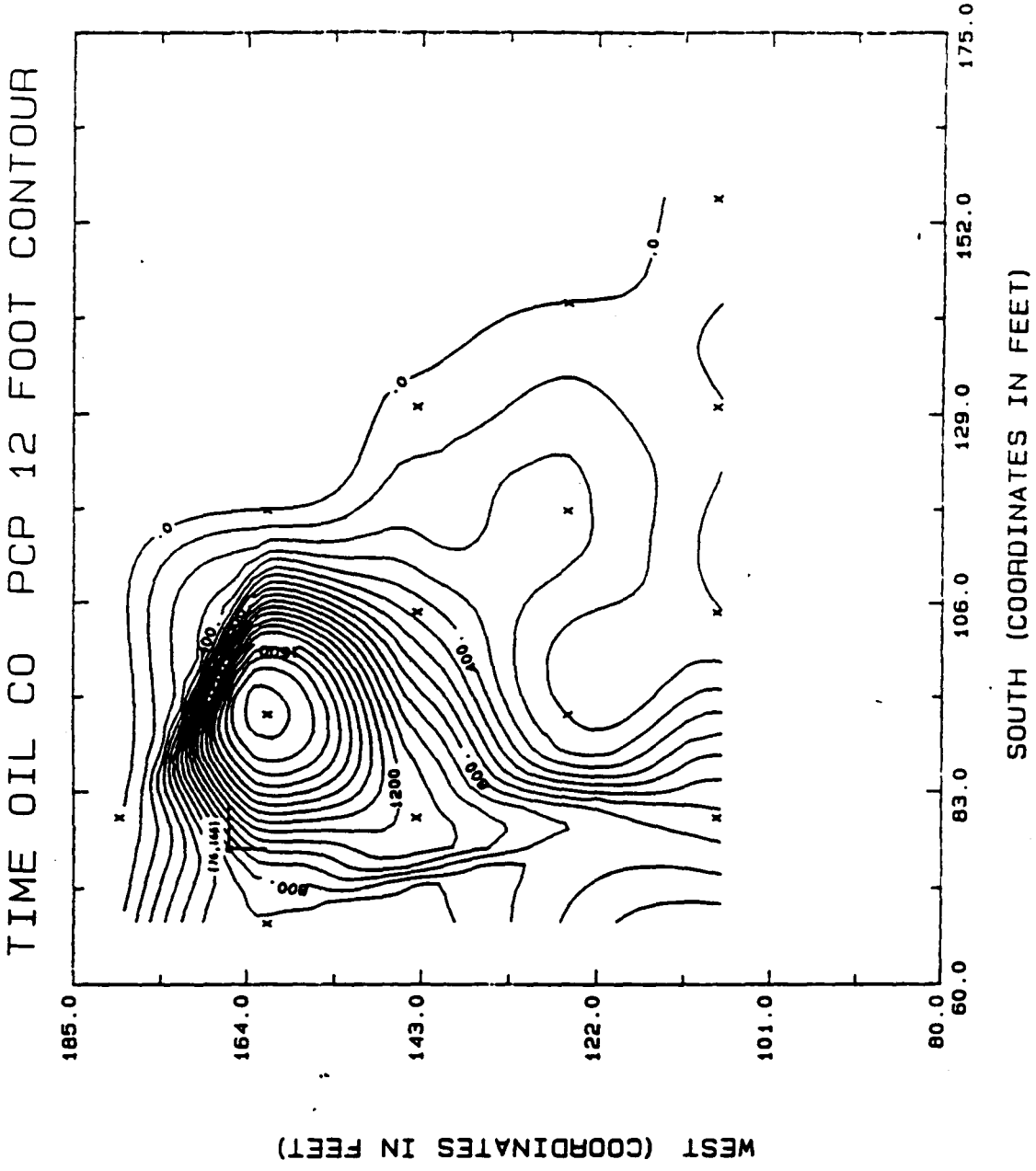


FIGURE 2E

BZTO104(e)011339

TABLE IVA
TIME OIL CO. - PORTLAND, OREGON
PENTACHLOROPHENOL IN SOIL

Surface Contour Data

Sample #	Coordinates X	Coordinates Y	Concentration Mg/Kg
1	81	171	13500
2	71	171	29
3	71	161	500
4	71	151	5450
5	71	141	5560
6	71	131	8760
7	71	121	4870
8	71	111	92
9	71	101	20
10	81	181	16
11	71	181	7
12	61	181	9
13	61	171	95
14	61	161	175
15	61	151	18
16	61	141	229
17	61	131	88
18	61	121	6
19	61	111	3
20	61	101	2.5
21	61	91	5.2
37	81	95	857
38	91	96	1130
39	101	97	17
40	111	98	3.5
41	121	98	3.1
42	131	99	3.2
43	141	100	2.4
44	151	100	1.8
45	161	101	171
46	71	84	3
47	81	85	3.6
48	91	86	6.1
49	121	87	3.2
50	131	88	1.5
51	141	89	2.3
52	151	90	1.7
53	161	91	1.9
54	171	92	1.2

Core #	Coordinates X	Coordinates Y	Concentration Mg/Kg
J	142.5	161	1400
K	117.5	161	N/A
L	92.5	161	N/A
M	67.5	161	4720
N	155	143	4280
O	130	143	3000
P	105	143	N/A
Q	80	143	N/A
R	142.5	125	1712
S	117.5	125	522
T	92.5	125	123
U	67.5	125	26550
V	155	107	317
W	130	107	3385
X	105	107	N/A
Y	80	107	N/A
Z	80	179	21

N/A = Not Available

BZTO104(e)011340

TABLE IVB

TIME OIL CO. - PORTLAND, OREGON
PENTACHLOROPHENOL IN SOIL

Two Foot Contour Data

Core #	Coordinates X	Y	Concentration Mg/Kg
J	142.5	161	3
K	117.5	161	8.8
L	92.5	161	N/A
M	67.5	161	87*
N	155	143	3.1
O	130	143	59
P	105	143	16
Q	80	143	N/A
R	142.5	125	34
S	117.5	125	252
T	92.5	125	123
U	67.5	125	44
V	155	107	260
W	130	107	15
X	105	107	4.5
Y	80	107	N/A
Z	80	179	14*

N/A = Not Available
* = Data points omitted from contouring program to reduce extrapolation error

BZTO104(e)011341

TABLE IVC

TIME OIL CO. - PORTLAND, OREGON
PENTACHLOROPHENOL IN SOIL

Four Foot Contour Data

Core #	Coordinates X	Y	Concentration Mg/Kg
J	142.5	161	3.6
K	117.5	161	10.5
L	92.5	161	7200
M	67.5	161	22
N	155	143	238
O	130	143	23
P	105	143	15
Q	80	143	2205
R	142.5	125	50
S	117.5	125	184
T	92.5	125	534
U	67.5	125	55
V	155	107	380
W	130	107	8.1
X	105	107	1.3
Y	80	107	598
Z	80	179	2

BZTO104(e)011342

TABLE IVD

TIME OIL CO. - PORTLAND, OREGON

Pentachlorophenol in Soil

7 Foot Contour Data

CORE #	COORDINATES X	COORDINATES Y	CONCENTRATION mg/kg
J	142.5	161	(NA)
K	117.5	161	3
L	92.5	161	8400
M	67.5	161	1
N	155	143	(NA)
O	130	143	13
P	105	143	130
Q	80	143	700
R	142.5	125	500
S	117.5	125	1130
T	92.5	125	75
U	67.5	125	5
V	155	107	1
W	130	107	1
X	105	107	1.9
Y	80	107	700
Z	80	179	7

BZTO104(e)011343

TABLE IVE

TIME OIL CO. - PORTLAND, OREGON

Pentachlorophenol in Soil

12 Foot Contour Data

CORE #	COORDINATES		CONCENTRATION
	X	Y	mg/kg
J	142.5	161	NA
K	117.5	161	2.3
L	92.5	161	2030
M	67.5	161	690
N	155	143	NA
O	130	143	38
P	105	143	450
Q	80	143	1150
R	142.5	125	1
S	117.5	125	217
T	92.5	125	90
U	67.5	125	NA
V	155	107	3.4
W	130	107	1.9
X	105	107	1.0
Y	80	107	720
Z	80	179	1.0

BZTO104(e)011344

TABLE IVF

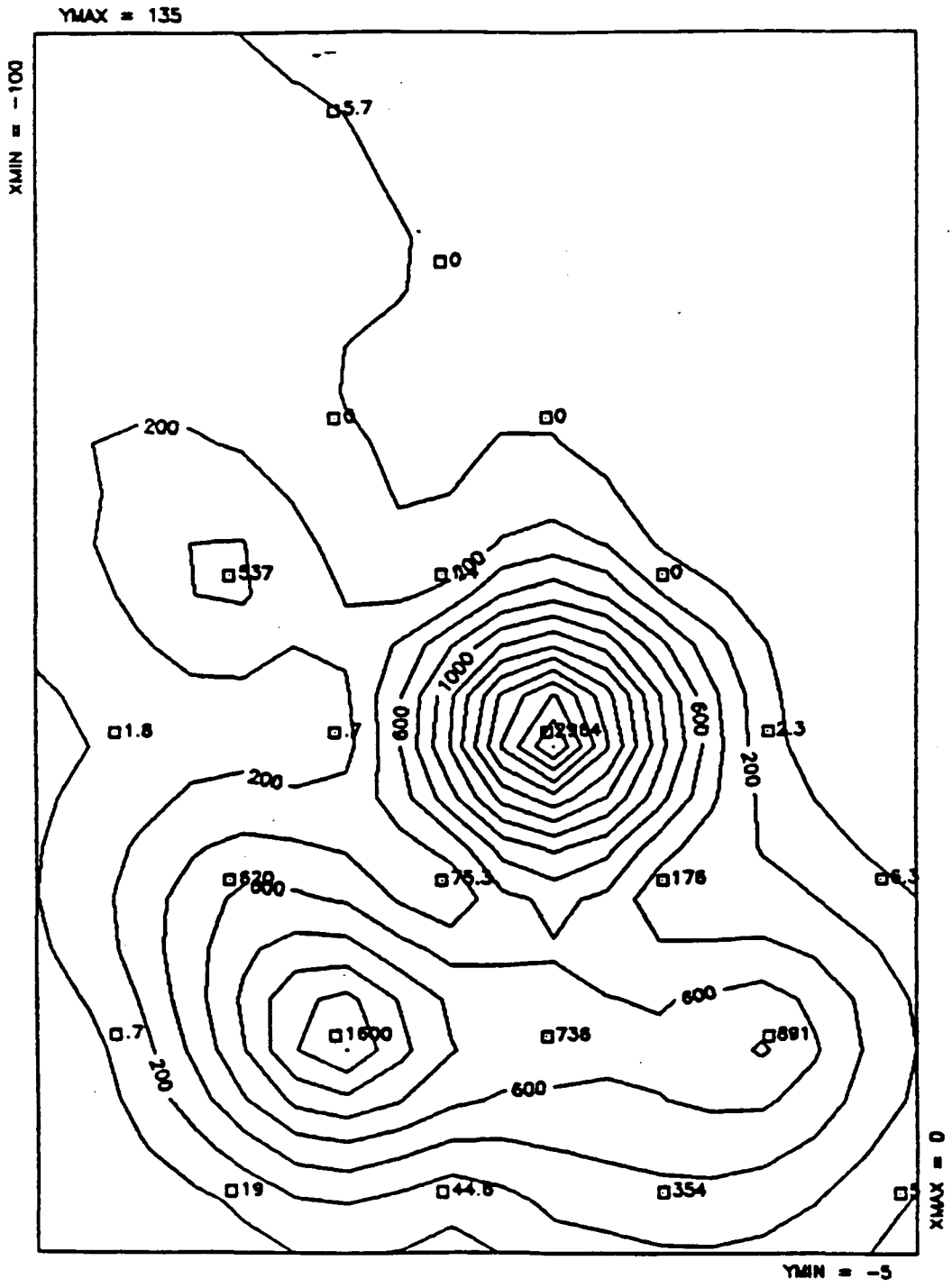
TIME OIL CO. - PORTLAND, OREGON
PENTACHLOROPHENOL IN SOIL

Preliminary Surface Composites

Area	PCP (mg/kg)
A	660
D	860
G	17

BZTO104(e)011345

FIGURE III-1

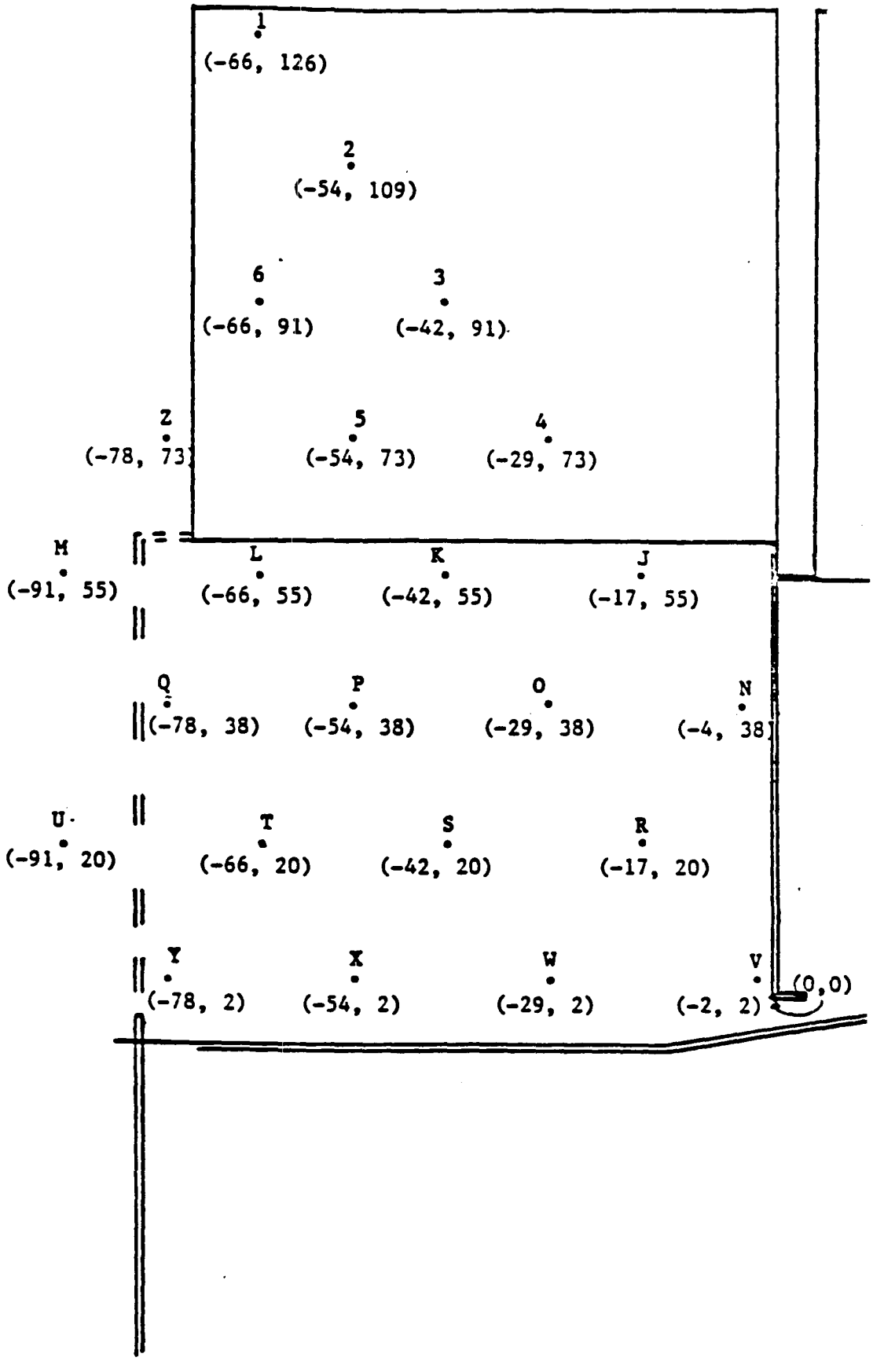


TIME OIL CO. – SURFACE PCP CONTOURS

BZTO104(e)011346

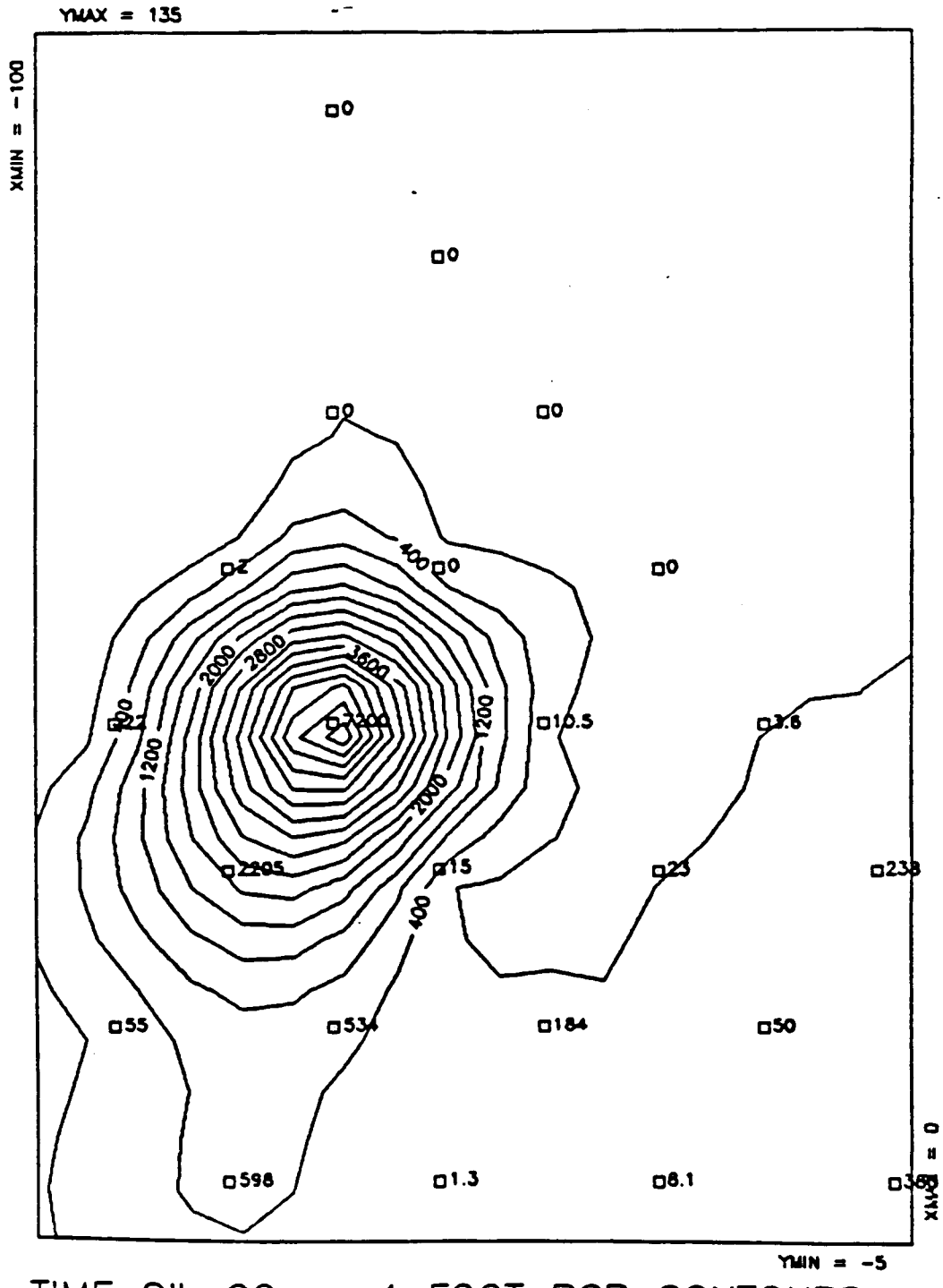
SAMPLE POINT COORDINATES

FIGURE III- 6



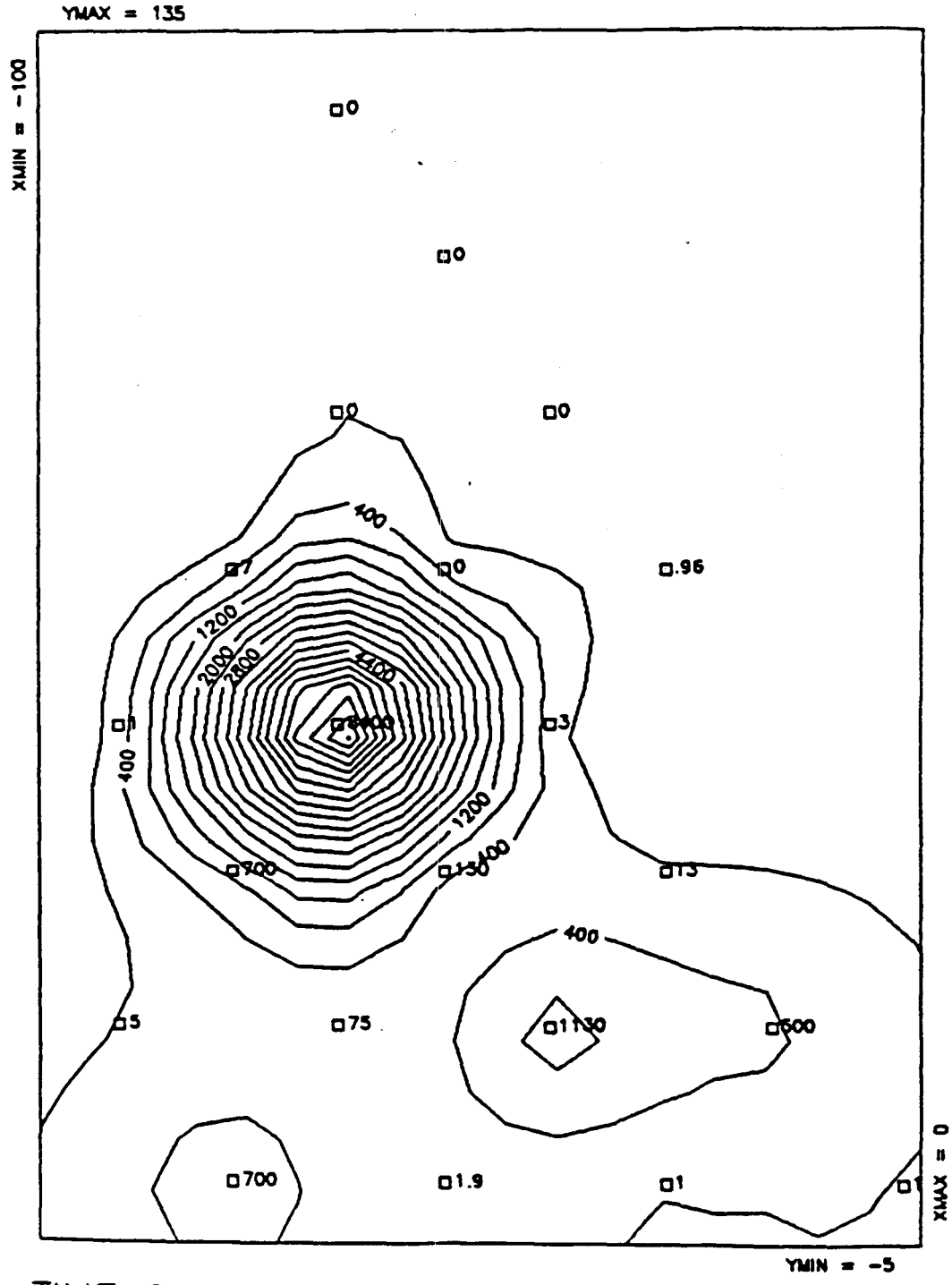
BZTO104(e)011347

FIGURE III- 2



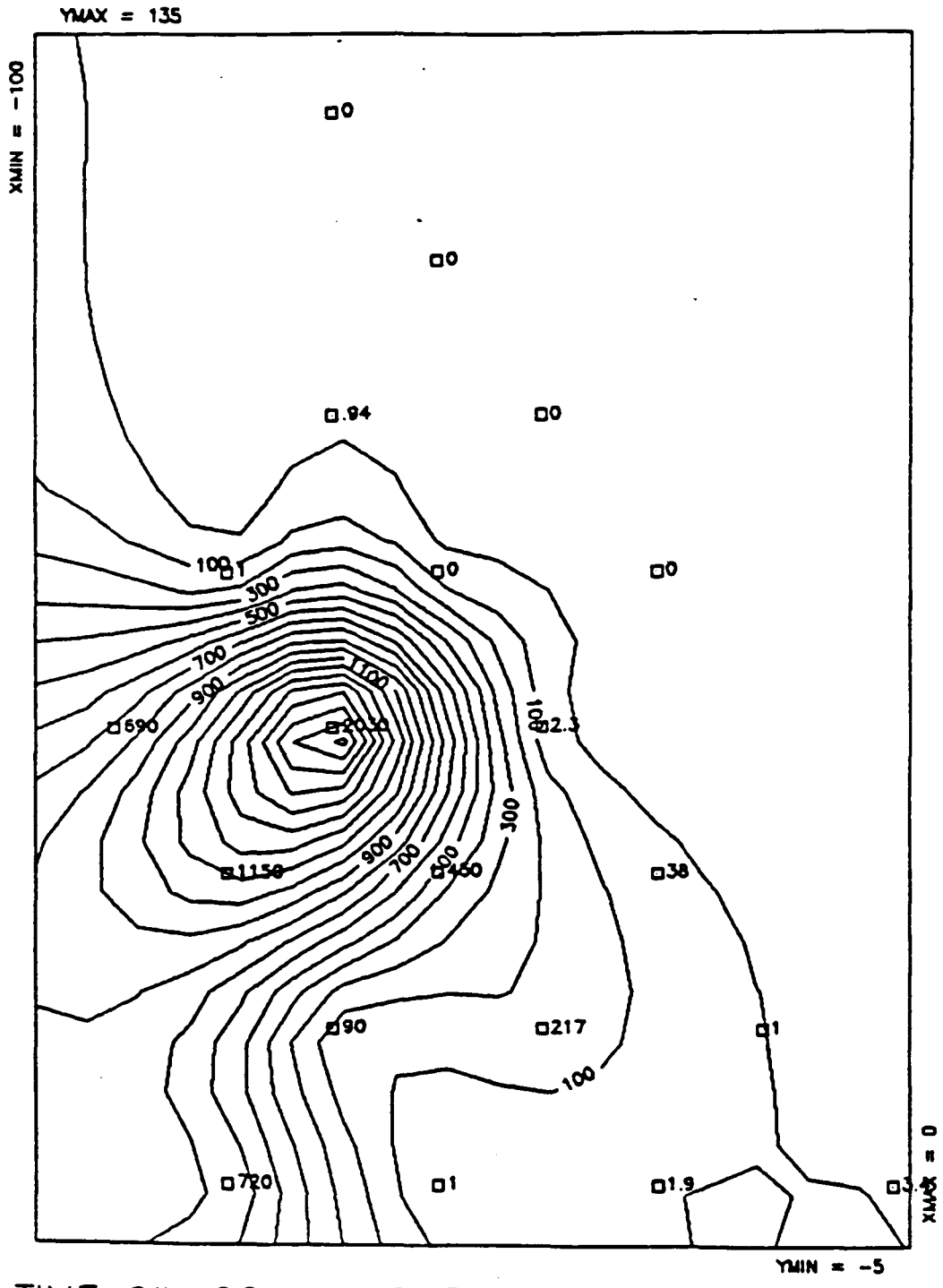
TIME OIL CO. – 4 FOOT PCP CONTOURS

FIGURE III- 3



TIME OIL CO. – 7 FOOT PCP CONTOURS

FIGURE III-4

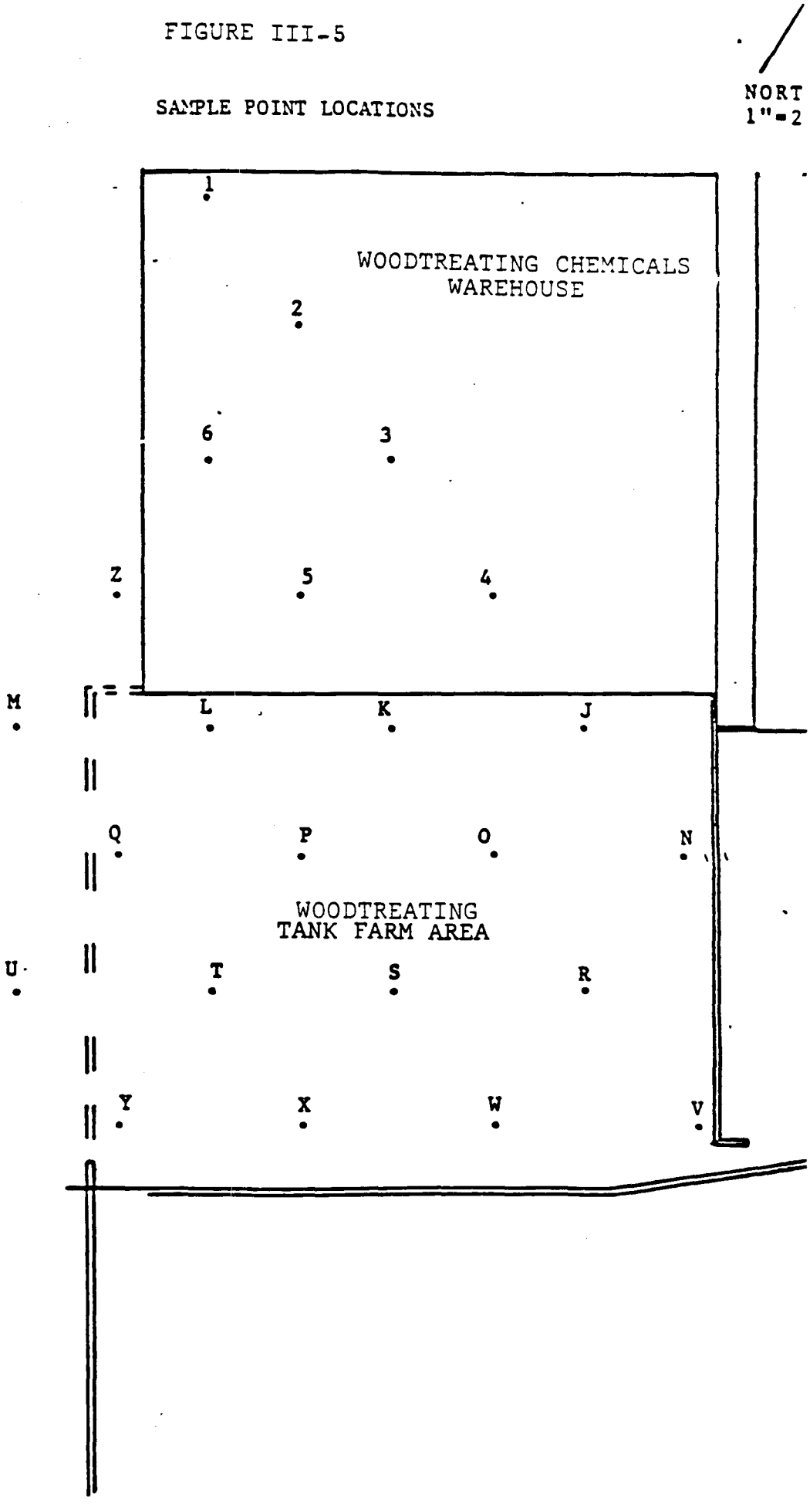


TIME OIL CO. — 12 FOOT PCP CONTOURS

BZTO104(e)011350

FIGURE III-5

SAMPLE POINT LOCATIONS

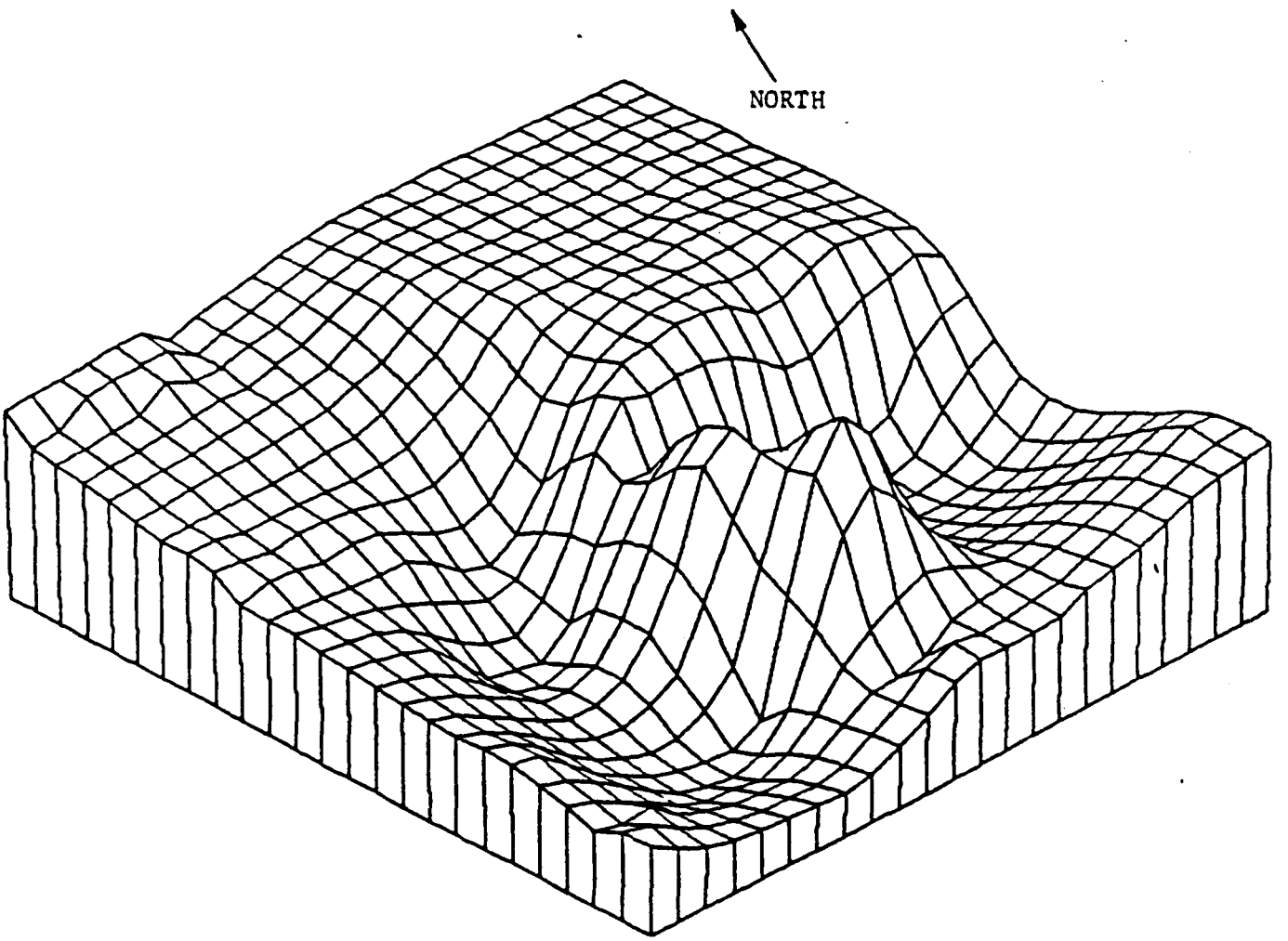


BZTO104(e)011351

FIGURE III- 7

APPROXIMATE SURFACE TOPOGRAPHY

WOOD TREATING CHEMICALS AREA



TIME OIL CO. - TOPOGRAPHY

TABLE III-1

TIME OIL CO.

COORDINATES - SURFACE PCP CONTOUR

CODE	X	Y	[PCP]
J	-17	55	2.3
K	-42	55	1200
L	-66	55	0.7
M	-91	55	1.8
N	-4	38	6.3
O	-29	38	176
P	-54	38	75.3
Q	-78	38	620
R	-17	20	891
S	-42	20	736
T	-66	20	1600
U	-91	20	0.7
V	-2	2	5
W	-29	2	354
X	-54	2	44.5
Y	-78	2	19
Z	-78	73	537
6	-66	91	0
5	-54	73	1.4
4	-29	73	0
3	-42	91	0
2	-54	109	0
1	-66	126	5.7

NOTE: [PCP] = CONCENTRATION OF PCP (mg/Kg) or (ppm)

BZTO104(e)011353

TABLE III-2

TIME OIL CO.

COORDINATES - 2 FOOT PCP CONTOURS

CODE	X	Y	[PCP]
J	-17	55	3
K	-42	55	8.8
M	-91	55	87
N	-4	38	3.1
O	-29	38	59
P	-54	38	16
R	-17	20	34
S	-42	20	252
T	-66	20	123
U	-91	20	44
V	-2	2	260
W	-29	2	15
X	-54	2	4.5
Z	-78	73	14
6	-66	91	0
5	-54	73	5.6
4	-29	73	0
3	-42	91	0
2	-54	109	0
1	-66	126	0

NOTE: [PCP] = CONCENTRATION OF PCP (mg/Kg) or (ppm)

TABLE III-3

TIME OIL CO.

COORDINATES - 4 FOOT PCP CONTOURS

CODE	X	Y	[PCP]
J	-17	55	3.6
K	-42	55	10.5
L	-66	55	7200
M	-91	55	22
N	-4	38	238
O	-29	38	23
P	-54	38	15
Q	-78	38	2205
R	-17	20	50
S	-42	20	184
T	-66	20	534
U	-91	20	55
V	-2	2	380
W	-29	2	8.1
X	-54	2	1.3
Y	-78	2	598
Z	-78	73	2
6	-66	91	0
5	-54	73	0
4	-29	73	0
3	-42	91	0
2	-54	109	0
1	-66	126	0

NOTE: [PCP] = CONCENTRATION OF PCP (mg/Kg) or (ppm)

BZTO104(e)011355

TABLE III-4

TIME OIL CO.

COORDINATES - 7 FOOT PCP CONTOURS

CODE	X	Y	[PCP]
K	-42	55	3
L	-66	55	8400
M	-91	55	1
O	-29	38	13
P	-54	38	130
Q	-78	38	700
R	-17	20	500
S	-42	20	1130
T	-66	20	75
U	-91	20	5
V	-2	2	1
W	-29	2	1
X	-54	2	1.9
Y	-78	2	700
Z	-78	73	7
6	-66	91	0
5	-54	73	0
4	-29	73	0.96
3	-42	91	0
2	-54	109	0
1	-66	126	0

NOTE: [PCP] = CONCENTRATION OF PCP (mg/Kg) or (ppm)

BZTO104(e)011356

TABLE III-5

TIME OIL CO.

COORDINATES - 12 FOOT PCP CONTOURS

CODE	X	Y	[PCP]
K	-42	55	2.3
L	-66	55	2030
M	-91	55	690
O	-29	38	38
P	-54	38	450
Q	-78	38	1150
R	-17	20	1
S	-42	20	217
T	-66	20	90
V	-2	2	3.4
W	-29	2	1.9
X	-54	2	1
Y	-78	2	720
Z	-78	73	1
6	-66	91	0.94
5	-54	73	0
4	-29	73	0
3	-42	91	0
2	-54	109	0
1	-66	126	0

NOTE: [PCP] = CONCENTRATION OF PCP (mg/Kg) or (ppm)

BZTO104(e)011357

TABLE III-6

TIME OIL CO.

GROUNDWATER ANALYTICAL RESULTS

(AUGUST 29, 1986)

WELL NUMBER	STATIC WATER LEVEL (FT BELOW TOP OF CASING)	pH	[PCP] (ppm)
MW-A	14.06	6.80	N.D.
MW-B	15.07	6.70	N.D.
MW-C	DRY	N.A.	N.A.
MW-D	14.48	6.53	.044
MW-E	15.22	6.54	N.D.
MW-F	15.44	6.57	N.D.
MW-G	DRY	N.A.	N.A.
MW-H	11.28	6.91	N.D.
MW-I	14.75	6.77	N.D.
RIVER	25.70	N.A.	N.A.

NOTES:

[PCP] = CONCENTRATION OF PENTACHLOROPHENOL
ppm = PARTS PER MILLION
N.A. = NOT AVAILABLE
N.D. = NOT DETECTED

BZTO104(e)011358

TABLE 1 - GROUNDWATER SAMPLE RESULTS

Sample	ug/l PCP (1)	ug/l PCP (2)	pH	Depth to Water, Ft* (1)	Depth to Water, Ft* (2)	Static Water Level (ft. MSL) ** (1)	Static Water Level (ft. MSL) ** (2)
MW-A	<20	NA	6.61	13.78	14.74	83.36	82.40
MW-B	2300	1000	6.57	14.79	15.54	82.04	81.29
MW-C				(Dry)			
MW-D	<20	NA	6.60	14.29	15.24	83.64	82.69
MW-E				(Dry)			
MW-F	<20	NA	6.43	15.27	16.02	82.70	81.95
MW-G				(Dry)			
MW-H	<20	NA	6.64	13.78	12.10	83.71	82.65
MW-I	<20	NA	6.38	14.57	15.23	83.43	82.77
River				25.67	24.67		

(1) As measured on 8/20/87

(2) As measured on 10/16/87

* Distance from well stickup (or pier reference point) to water.

** Relative to TBM established by TOC

NA = Not Analyzed

Century Testing Laboratories, Inc.

RECEIVED
MAY 22 1986

May 21, 1986

John Ruddick
Century Environmental Sciences
One S. W. Columbia, Suite 1222
Portland, OR 97258

Dear John:

Here are the Penta results from Time oil:

CES #	Pentachlorophenol conc. ug/l (ppb)
WP-B	2.6
MW-4"	6.1
WP-E	<1.0
WP-F	1.4

If you have any questions, please phone.

Sincerely,

CENTURY TESTING LABORATORIES, INC.

Walter F. Burns

Walter F. Burns
Organic Chemistry Supervisor

WFB:lk

P.O. BOX 1174 • BEND, OR 97709 • (503) 382-6432
Water • Feed • Soils • Construction Materials • General Analytical Services

TIME OIL CO.
SUMMARY OF FIELD AND ANALYTICAL RESULTS
GROUNDWATER SAMPLING AND ANALYSIS

Sampling procedures meet EPA Pub. SW846.
Time Oil groundwater samples were analyzed by GC/MS using EPA Method.
The submitted sample from well No. 4 contained an insufficient amount of material for analysis.

WELL NO.	STATIC WATER LEVEL (FEET) (5-28-86)	FIELD Ph	PENTACHLOROPHENOL mg/L (ppm) (1)	STATIC WATER LEVEL (6-5-86)
A	13.17	6.56	N.D.	12.15
B	13.16	6.29	N.D.	13.18
D	12.52	6.49	N.D.	12.65
E	13.65	7.70	N.D.	13.75
F	13.90	6.73	N.D.	13.93
H	9.31	6.32	N.D.	9.46
I	12.89	5.74	.0022	13.02
QA/QC (Duplicate B)			N.D.	
Field Blank			N.D.	
2	15.00			15.11
River	18.52			14.54

NOTE: (1) Samples collected on May 28, 1986;
Laboratory analysis reported on June 9, 1986.
Detection Limit of 002 ppm.

TABLE III-6

TIME OIL CO.

GROUNDWATER ANALYTICAL RESULTS

(AUGUST 29, 1986)

WELL NUMBER	STATIC WATER LEVEL (FT BELOW TOP OF CASING)	pH	[PCP] (ppm)
MW-A	14.06	6.80	N.D.
MW-B	15.07	6.70	N.D.
MW-C	DRY	N.A.	N.A.
MW-D	14.48	6.53	.044
MW-E	15.22	6.54	N.D.
MW-F	15.44	6.57	N.D.
MW-G	DRY	N.A.	N.A.
MW-H	11.28	6.91	N.D.
MW-I	14.75	6.77	N.D.
RIVER	25.70	N.A.	N.A.

NOTES:

[PCP] = CONCENTRATION OF PENTACHLOROPHENOL
ppm = PARTS PER MILLION
N.A. = NOT AVAILABLE
N.D. = NOT DETECTED

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: March 13, 1991
Date Submitted: March 4, 1991
Project: 03-123 N.W. Terminal, P.O. #17241

RESULTS OF ANALYSES OF THE WATER SAMPLES
FOR PCP (PENTA)
Results Reported as mg/L (ppm)

Sample #	PCP (PENTA) (ppm)
3123-0227-MW-K	<1
3123-0227-MW-I	<1
3123-0227-MW-H	<1
3123-0228-MW-L	<1
3123-0228-MW-J1	60
3123-0228-MW-J2	1
3123-0228-MW-J3	<1
3123-0228-MW-B1	<1
3123-0228-MW-B2	1
3123-0228-MW-M	4
3123-0227-MW-G	1
Quality Assurance	
Method Blank	<1
3123-0228-MW-M (Duplicate)	1
3123-0228-MW-M (Matrix Spike) Spiked @ 5 ppm Percent Recovery	135%
3123-0228-MW-M (Matrix Spike Duplicate) Spiked @ 5 ppm Percent Recovery	210%

FIGURE I-4

BORING LOG WELL 4

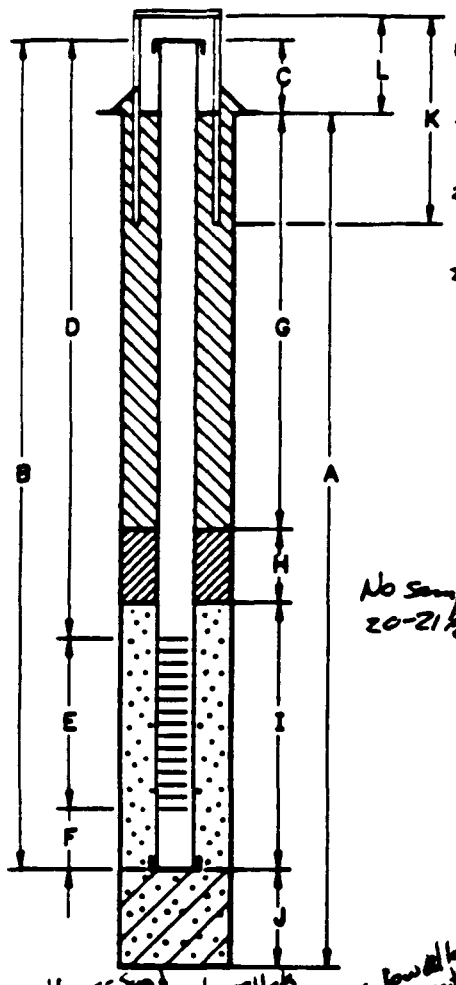
Depth in Feet	Soil Description
0 - 1-1/2	Light brown gravelly sand, moderately compacted moist (shovel sample)
3-1/2 - 5	Dark brown gravelly sand, moderately compacted, moist, split spoon sample (S.S. sample)
8-1/2 - 10	Light brown gravelly sand, in contact with blue gray gravelly sand, moderately compacted, moist (S.S. sample)
10 - 13	Gravelly sand
13-1/2 - 15	Light blue gray gravelly sand, moderate compaction, saturated (S.S. sample)
15 - 18-1/2	Gravelly sand
18-1/2 - 20	Light blue gray gravelly silty sand with a clay lens, moderately compacted, saturated (S.S. sample)
20 - 23-1/2	Gravelly silty sand with clay lens
23-1/2 - 25	Light gray gravelly silty fine sand with minor clay lens, moderately compacted, saturated (S.S. sample)
25 - 28-1/2	Fine sand
28-1/2 - 30	Light gray medium to fine sand, 3-1/2" thick clay lens, saturated (S.S. sample)
30 - 32-1/2	Medium to fine sand with clay lenses
32-1/2 - 35	Light gray medium to fine sand, minor clay lenses, saturated (S.S. sample)
35 - 37-1/2	Medium to fine grained sand
37-1/2 - 39	Light gray medium to fine sand (S.S. sample)
39 - 42-1/2	Light gray medium to fine sand
42-1/2 - 45	Light gray medium sand grading to fine sand with depth, minor clay lens (S.S. sample)
45 - 47-1/2	Fine sand, saturated
47-1/2 - 49	Light gray sandy silt grading to light gray silty fine sand (S.S. sample)

WELL COMPLETION FORM

DRILLING METHOD Hollow Stem Auger DATE 11-29-88

WELL COMPLETION

TOP OF CASING ELEVATION _____

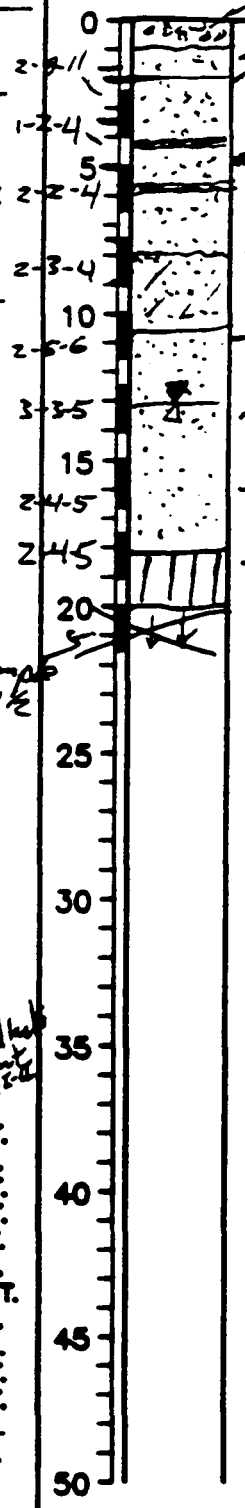


6/100# bags - Sand
1/50# bag - bentonite pellets
3/94# bags low alkali cement Type I-II

A BORING DEPTH 20 FT.
BORING DIAMETER 14" IN.
B WELL DEPTH 20 FT.
C WELL STICKUP 19" FT.
D BLANK INTERVAL 0 FT. TO 10 FT.
BLANK DIAMETER 4 IN.
E SCREEN INTERVAL 10 FT. TO 20 FT.
SCREEN DIAMETER 4 IN.
TYPE/SLOT SIZE slotted/.002"
F SILT TRAP LENGTH N/A FT.
G WELL SEAL 7 FT.
MATERIAL: Type I-II cement
H BENTONITE SEAL 7 FT. TO 8½ FT.
I SANDPACK 8½ FT. TO 20 FT.
TYPE/SIZE 8-Aqua
J BOTTOM SEAL None FT. TO ___ FT.
MATERIAL: ___
K PROTECTIVE CASING 4 FT.
W/ LOCKING CAP
L STICKUP 20" FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____



- Lt brown to greenish grey, med to fine mixed sand; minor rock frags of basalt; gnly poor grading; slightly damp
- Same; 6" section shows dk grey staining of sands; sand emits a mild sour, acrid odor; sand is damp
- Same; more stained sand; odor more pronounced; sand damp
- Same; half of interval is orderous stained sand; remaining sand also emits sour odor.
- Same fine to med. sand; sour odor giving way to petroleum (diesel) odor; sand is wet
- Same fine to med. sand; still emits petroleum odor
- Grey to grey brown silt to very fine sand; still emits petroleum odor; minor flecks of brown organic debris.

Total depth: 20' bgs

ECOVA

Time Oil Company

JOB NUMBER 821401 WELL/BORING NUMBER J-1

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST DML

© 1987 ECOVA CORPORATION

\STD\F30F

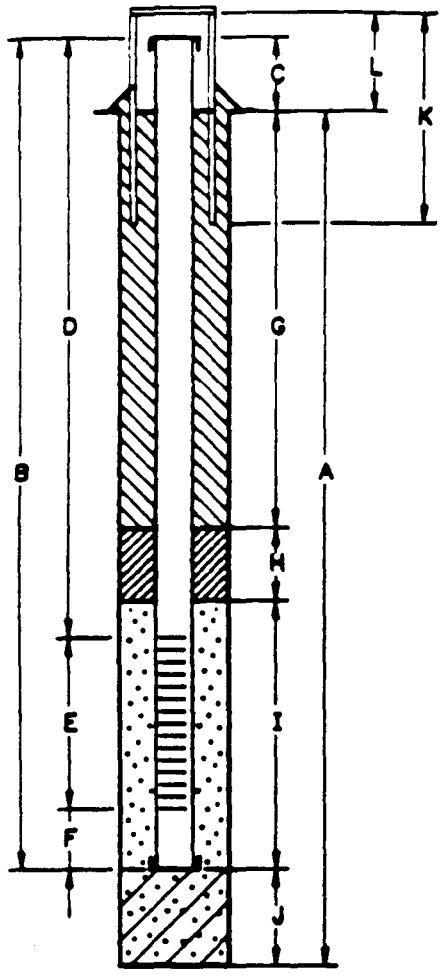
BZTO104(e)011365

WELL COMPLETION FORM

DRILLING METHOD Hollow Stem Auger DATE 12-1-88

WELL COMPLETION

TOP OF CASING ELEVATION _____



A	BORING DEPTH	FT.
	BORING DIAMETER	IN.
B	WELL DEPTH	FT.
C	WELL STICKUP	FT.
D	BLANK INTERVAL ___ FT. TO ___ FT.	
	BLANK DIAMETER	IN.
E	SCREEN INTERVAL ___ FT. TO ___ FT.	
	SCREEN DIAMETER	IN.
	TYPE/SLOT SIZE	
F	SILT TRAP LENGTH	FT.
G	WELL SEAL	FT.
	MATERIAL:	
H	BENTONITE SEAL ___ FT. TO ___ FT.	
I	SANDPACK ___ FT. TO ___ FT.	
	TYPE/SIZE	
J	BOTTOM SEAL ___ FT. TO ___ FT.	
	MATERIAL:	
K	PROTECTIVE CASING W/ LOCKING CAP	FT.
L	STICKUP	FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____

0 – Mainly coarse sand gravel

– Mix of gray-brown to brown, fine to med sand, mino-pebbles & rock frags; sediment is damp

5 – Same; sediments have moderate sour-petroleum odor

10 – Same; moderate sour-petroleum odor; sediments are predominantly gray in color

15 – Same to about 17½', then encounter

– gray silt to very fine sand with minor flecks of brown organic matter

20

Total depth = 20' bgs

– hole caved to 10' bgs

25

30 2/50# bags bentonite in reserve mud mix (100 gal)

3/ [illegible] bags Type I-II cement

35

40

45

50

Time Oil Co.

JOB NUMBER 021401 WELL/BORING NUMBER J-2

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST pm

ECOVA

© 1987 ECOVA CORPORATION

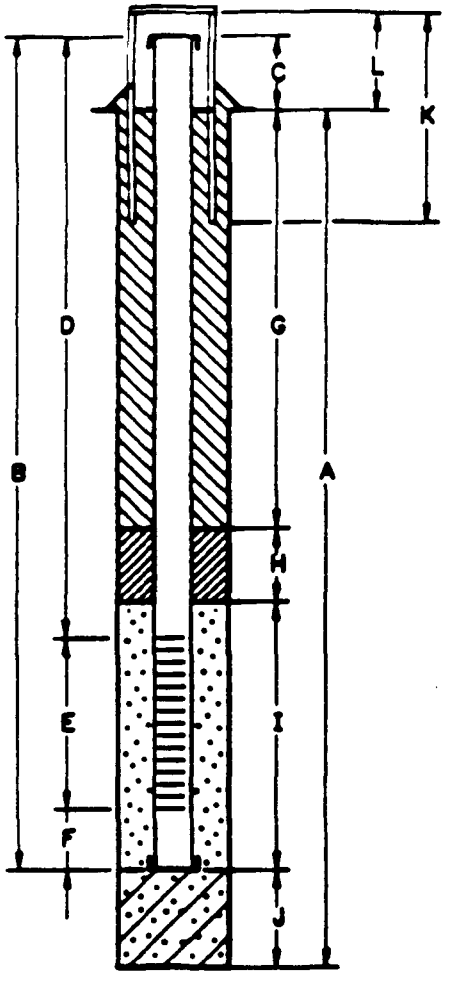
\STD\F30F

WELL COMPLETION FORM

DRILLING METHOD Cable Tool DATE 1-3-89

WELL COMPLETION

TOP OF CASING ELEVATION _____



A BORING DEPTH 40'6" FT.
BORING DIAMETER 8 IN.
B WELL DEPTH 41'11" FT.
C WELL STICKUP 1'5" FT.
D BLANK INTERVAL ___ FT. TO ___ FT.
BLANK DIAMETER ___ IN.
E SCREEN INTERVAL 30 FT. TO 40 FT.
SCREEN DIAMETER 4 IN.
TYPE/SLOT SIZE .20"
F SILT TRAP LENGTH 6" FT.
G WELL SEAL 20 FT.
MATERIAL: Portland Cement
H BENTONITE SEAL 20 FT. TO 37½ FT.
I SANDPACK ~~18~~ FT. TO 40 FT.
TYPE/SIZE Aqua 8
J BOTTOM SEAL ___ FT. TO ___ FT. None
MATERIAL: ___
K PROTECTIVE CASING 4 FT.
W/ LOCKING CAP
L STICKUP 1'8" FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____

0
5
10
15
20
25
30
35
40
45
50

Continuation or deepening of previous drilling to 20' bgs on 12-1-88.

Mixture of silt & sand. Drilling action of cable tool served to churn sediments & mix them thoroughly. Through column, from 20-40', was very wet & sloppy (runny) mix of grey, fine-to med. sand, and silt was to be from boring. From 20-30', clumps of silt were evident. But from 30-40, the mix was of runny milkshake consistency.

Total depth = 40'

Time Oil Co.

JOB NUMBER 821401 WELL/BORING NUMBER 1-2

DRAWN | APPROVED | DATE | ENGINEER/GEOLOGIST/HYDROLOGIST DML

ECOVA

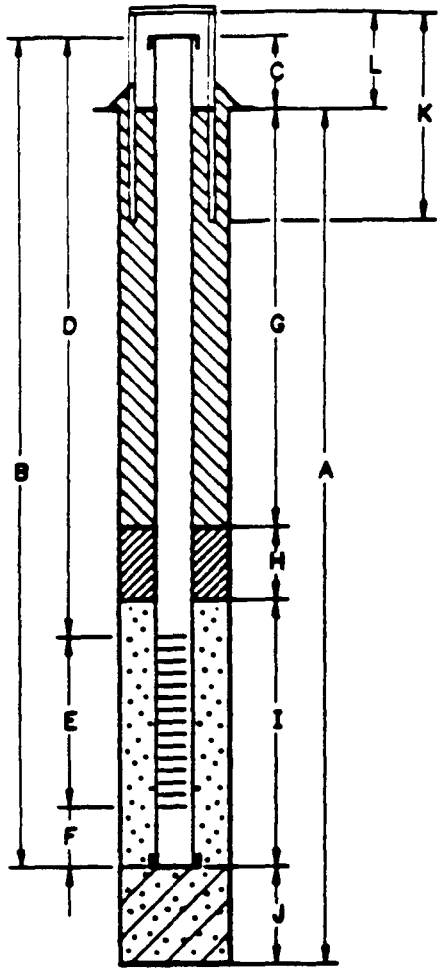
© 1987 ECOVA CORPORATION

\STD\F30

DRILLING METHOD Hollow Stem Auger DATE 12-1-88

WELL COMPLETION

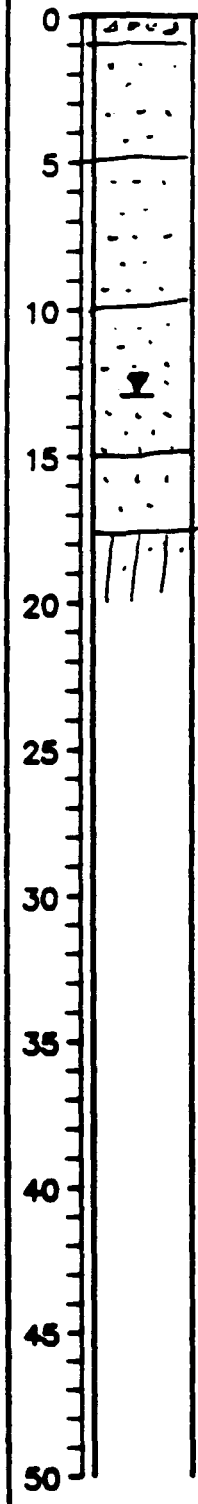
TOP OF CASING ELEVATION _____



A BORING DEPTH _____ FT.
BORING DIAMETER _____ IN.
B WELL DEPTH _____ FT.
C WELL STICKUP _____ FT.
D BLANK INTERVAL ___ FT. TO ___ FT.
BLANK DIAMETER _____ IN.
E SCREEN INTERVAL ___ FT. TO ___ FT.
SCREEN DIAMETER _____ IN.
TYPE/SLOT SIZE _____
F SILT TRAP LENGTH _____ FT.
G WELL SEAL _____ FT.
MATERIAL: _____
H BENTONITE SEAL ___ FT. TO ___ FT.
I SANDPACK ___ FT. TO ___ FT.
TYPE/SIZE _____
J BOTTOM SEAL ___ FT. TO ___ FT.
MATERIAL: _____
K PROTECTIVE CASING _____ FT.
W/ LOCKING CAP
L STICKUP _____ FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____



Mainly coarse road gravel

- Mixture of grey brown to brown, fine to med sand; minor pebbles & rock frags; sediment is damp.
- Same; moderate sour-petroleum odor in sediment
- Same; moderate to strong odor
- Same; moderate to strong odor
- Grey silt to very fine sand; contains minor flecks of brown fibrous organic matter

Total depth = 20' bgs

2/50# bags bentonite in reaming mud mix (100 gal)

3/100# bags Type I-II cement

Top-off batch:
1/100# bag cement

ECOVA

Time Oil Co

JOB NUMBER 821401 WELL/BORING NUMBER 1-3

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST DML

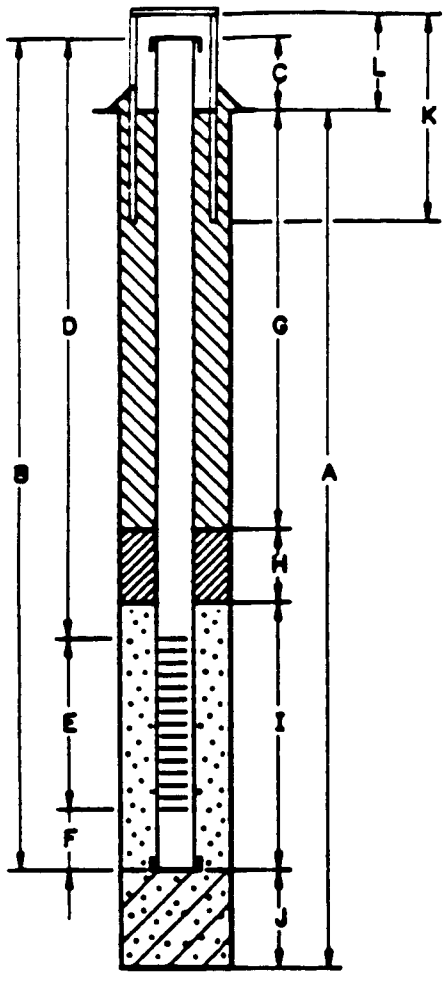
© 1987 ECOVA CORPORATION

\STD\F30F

DRILLING METHOD Cable Tool DATE 1-4&5-85

WELL COMPLETION

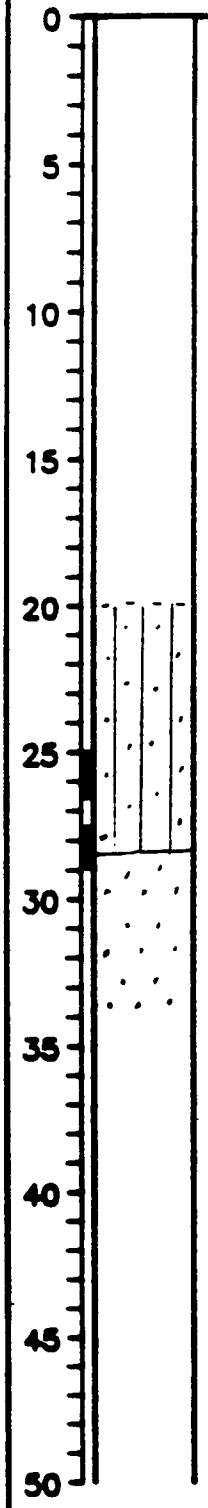
TOP OF CASING ELEVATION _____



A BORING DEPTH 33'6" FT.
BORING DIAMETER 8" IN.
B WELL DEPTH 35'1" FT.
C WELL STICKUP 19" FT.
D BLANK INTERVAL ___ FT. TO 28 FT.
BLANK DIAMETER 4" IN.
E SCREEN INTERVAL 28 FT. TO 33 FT.
SCREEN DIAMETER 4" IN.
TYPE/SLOT SIZE 0.020
F SILT TRAP LENGTH 6" FT.
G WELL SEAL 19'6" FT.
MATERIAL: Portland Cement
H BENTONITE SEAL 17'6" FT. TO 27 FT.
I SANDPACK 27 FT. TO 33'6" FT.
TYPE/SIZE Aqua 8
J BOTTOM SEAL None FT. TO ___ FT.
MATERIAL: None
K PROTECTIVE CASING 4' FT.
W/ LOCKING CAP
L STICKUP 22" FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____



This work represents deepening of J-3 & installation of well. J-3 was drilled to 20' & reamed to accept 10' steel casing on 12-4-88.

Grey sandy silt w/ brown streaks of organic material. Slight petroleum odor.

Grey, fine to med. sand.

Total depth = 33'6"

ECOVA

Time Oil Co

JOB NUMBER 821401 WELL/BORING NUMBER J-3

DRAWN	APPROVED	DATE	ENGINEER/GEOLOGIST/HYDROLO
			DML

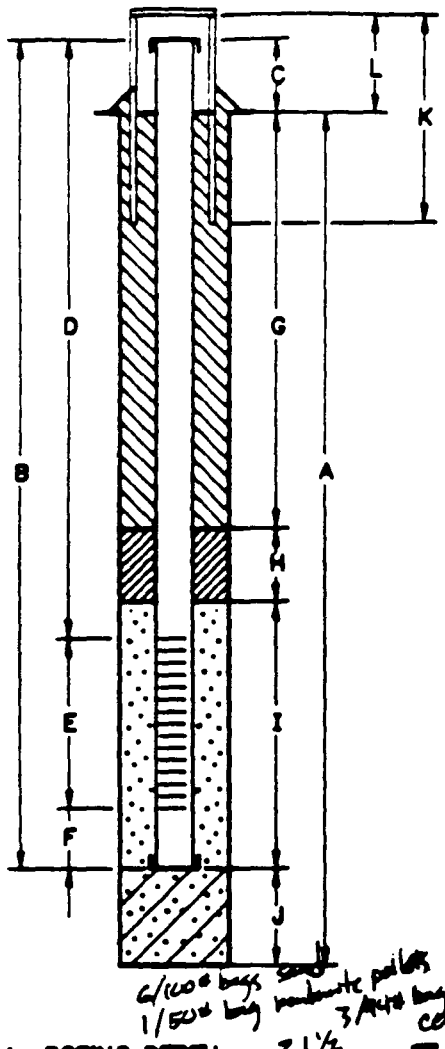
© 1987 ECOVA CORPORATION

\STD\F30

DRILLING METHOD Hollow Stem Auger DATE 11-30-88

WELL COMPLETION

TOP OF CASING ELEVATION _____

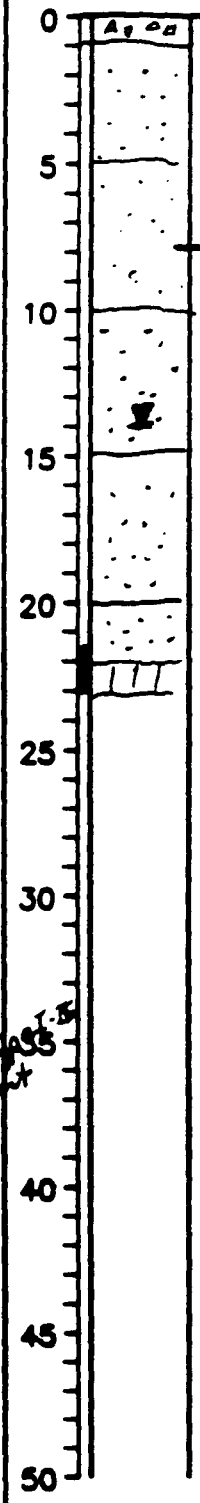


6/100# bags sand
1/50# bag bentonite pellets
3/94# bags Type I-II cement

A BORING DEPTH 21½ FT.
BORING DIAMETER 14 IN.
B WELL DEPTH 20½ FT.
C WELL STICKUP 16" FT.
D BLANK INTERVAL ½ FT. TO 10½ FT.
BLANK DIAMETER 4 IN.
E SCREEN INTERVAL 10½ FT. TO 20½ FT.
SCREEN DIAMETER ~~0.02~~ 4 IN.
TYPE/SLOT SIZE 0.02
F SILT TRAP LENGTH NA FT.
G WELL SEAL _____ FT.
MATERIAL: Type I-II cement
H BENTONITE SEAL 8 FT. TO 9½ FT.
I SANDPACK 9½ FT. TO 20½ FT.
TYPE/SIZE 8 Aqua
J BOTTOM SEAL ___ FT. TO ___ FT.
MATERIAL: None
K PROTECTIVE CASING 4 FT.
W/ LOCKING CAP
L STICKUP 18" FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____



Road gravel, minor brown organic-rich fine to med sand

Dk grey to brown-grey fine to med sand; minor rk frags & rounded pebbles; sediments are poorly graded; material is damp.

Same; strong petroleum odor from 8-10'

Same; mod. strong petroleum odor

Same; mod. petroleum odor

Same

Grey-brown, silt to very fine sand; contains minor organic plant debris

Total depth = 21½' bgs

Time Oil Co.

JOB NUMBER 821401 WELL/BORING NUMBER B-1

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST

ECOVA

© 1987 ECOVA CORPORATION

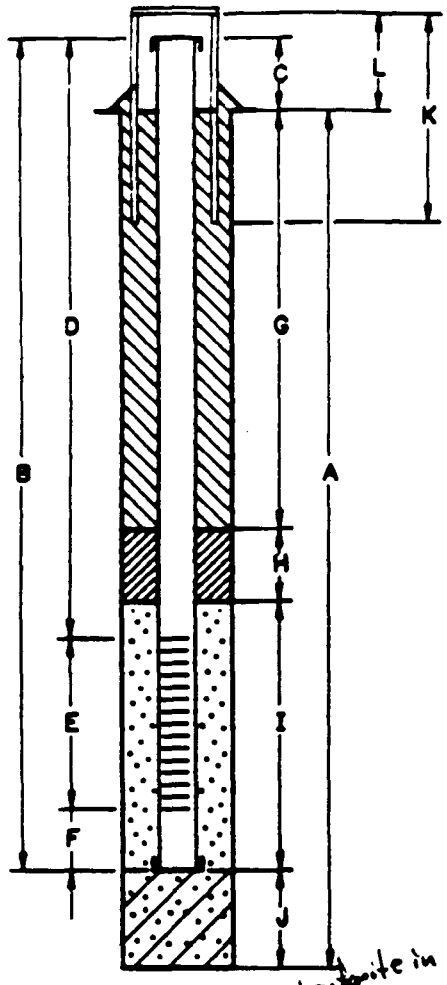
\STD\F30F

BZTO104(e)011370

DRILLING METHOD Hollow Stem Auger 9¼" ID - 14" OD DATE 11-30-88

WELL COMPLETION

TOP OF CASING ELEVATION _____



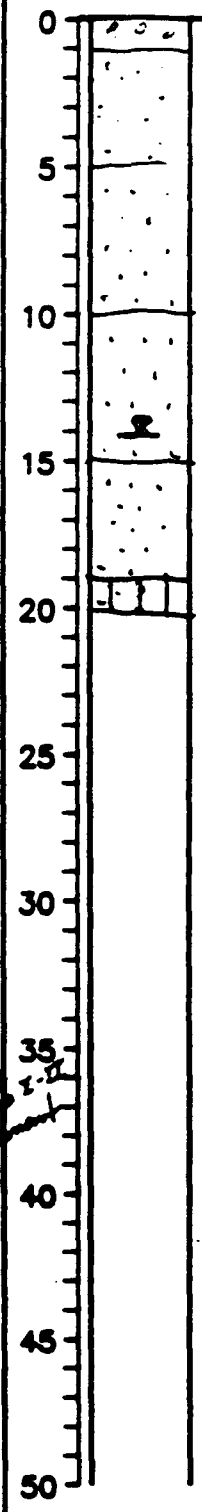
2/50# bags bentonite in mud mixture

3/100# bags Type I-II Cement

A BORING DEPTH _____ FT.
BORING DIAMETER _____ IN.
B WELL DEPTH _____ FT.
C WELL STICKUP _____ FT.
D BLANK INTERVAL ___ FT. TO ___ FT.
BLANK DIAMETER _____ IN.
E SCREEN INTERVAL ___ FT. TO ___ FT.
SCREEN DIAMETER _____ IN.
TYPE/SLOT SIZE _____
F SILT TRAP LENGTH _____ FT.
G WELL SEAL _____ FT.
MATERIAL: _____
H BENTONITE SEAL ___ FT. TO ___ FT.
I SANDPACK ___ FT. TO ___ FT.
TYPE/SIZE _____
J BOTTOM SEAL ___ FT. TO ___ FT.
MATERIAL: _____
K PROTECTIVE CASING _____ FT.
W/ LOCKING CAP
L STICKUP _____ FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____



- Road gravel & dark brown, fine to med sand
- Dk grey to brown-grey, fine to med. sand; minor rk frags & rounded pebbles; sediment is damp.
- Same; at ~7-8' depth, picks up strong sour petroleum odor.
- Same; less sour, more distinct petroleum odor
- Same
- Grey-brown, silt to very fine sand with minor organic debris
- Total depth: 20' bgs
  Cave at 12' when augers pulled
- Conductor casing in hole from 1-20' bgs
  - Casing is 19' long & bottom is resting in silt unit

ECOVA

Time Oil Co

JOB NUMBER 821401 WELL/BORING NUMBER B-2

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST DML

© 1987 ECOVA CORPORATION

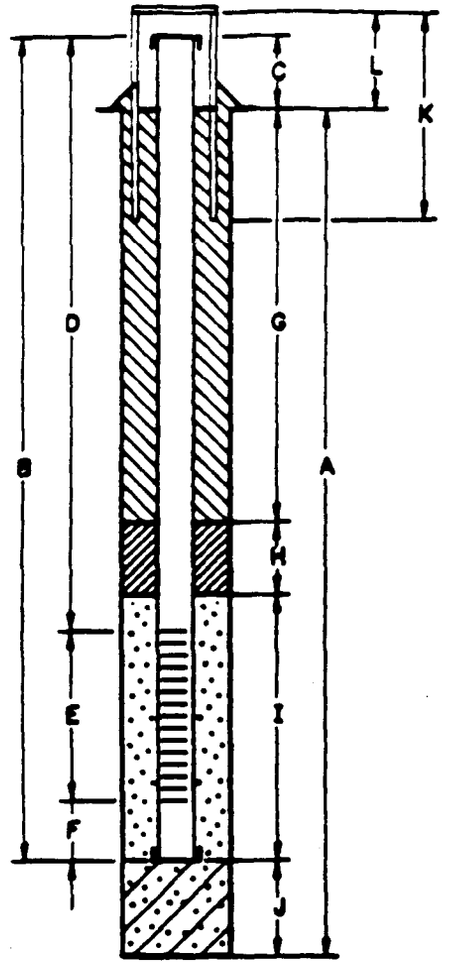
\STD\F30F

BZTO104(e)011371

DRILLING METHOD Cable Tool DATE 1-5-89

WELL COMPLETION

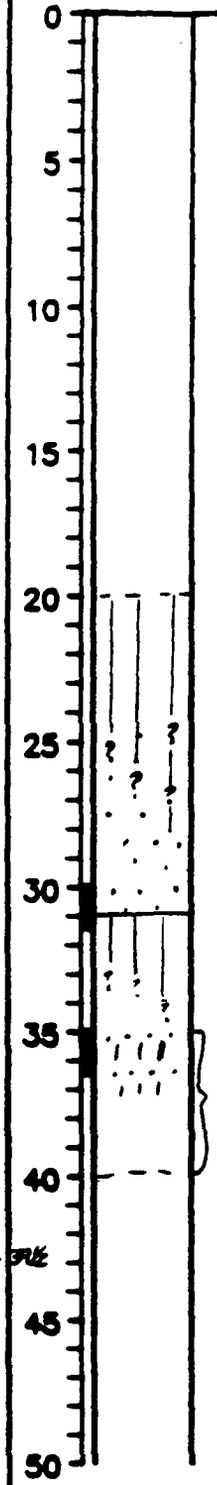
TOP OF CASING ELEVATION _____



A	BORING DEPTH	40'	FT.
	BORING DIAMETER	8"	IN.
B	WELL DEPTH	41.9"	FT.
C	WELL STICKUP	21"	FT.
D	BLANK INTERVAL	FT. TO 16	FT.
	BLANK DIAMETER	4"	IN.
E	SCREEN INTERVAL 16	FT. TO 36	FT.
	SCREEN DIAMETER 0.020		IN.
	TYPE/SLOT SIZE 4" AKP		
F	SILT TRAP LENGTH 6"		FT.
G	WELL SEAL 20'		FT.
	MATERIAL: Portland Cement		
H	BENTONITE SEAL 20	FT. TO 22	FT.
I	SANDPACK 22	FT. TO 40	FT.
	TYPE/SIZE Ague B		
J	BOTTOM SEAL —	FT. TO —	FT.
	MATERIAL: None		
K	PROTECTIVE CASING 4		FT.
	W/ LOCKING CAP		
L	STICKUP 24"		FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____



This work is deepening and installation of well in B-2. B-2 was drilled to 20' & reamed to 10". 20', 10" steel conductor casing was installed & cemented

Grey, silt & sand layers. Specific deposition not known.

Grey, interbedded silts & sands. Beds 6" to 2 1/4" thick.

Total depth = 40' bgs

ECOVA

Time Oil Co

JOB NUMBER 821401 WELL/BORING NUMBER B-2

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST DML

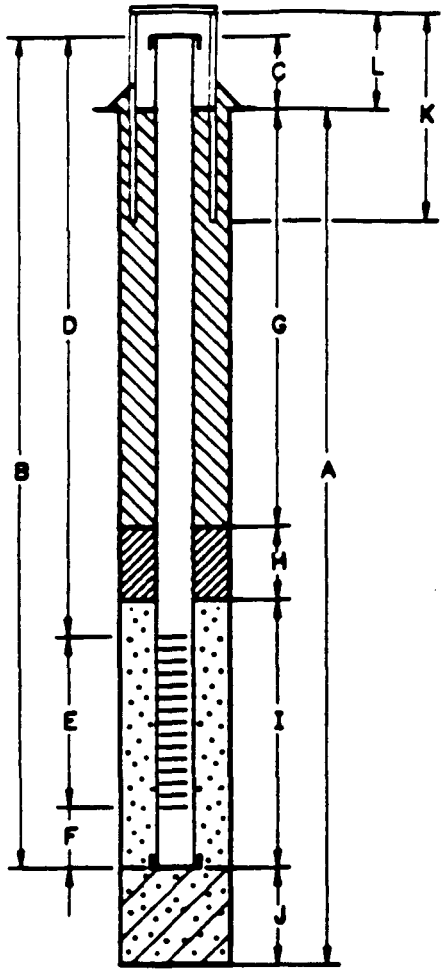
© 1987 ECOVA CORPORATION

\STD\F30

DRILLING METHOD Hollow Stem Auger DATE 11-29-88

WELL COMPLETION

TOP OF CASING ELEVATION _____



A BORING DEPTH _____ FT.
BORING DIAMETER _____ IN.
B WELL DEPTH _____ FT.
C WELL STICKUP _____ FT.
D BLANK INTERVAL ___ FT. TO ___ FT.
BLANK DIAMETER _____ IN.
E SCREEN INTERVAL ___ FT. TO ___ FT.
SCREEN DIAMETER _____ IN.
TYPE/SLOT SIZE _____
F SILT TRAP LENGTH _____ FT.
G WELL SEAL _____ FT.
MATERIAL: _____
H BENTONITE SEAL ___ FT. TO ___ FT.
I SANDPACK ___ FT. TO ___ FT.
TYPE/SIZE _____
J BOTTOM SEAL ___ FT. TO ___ FT.
MATERIAL: _____
K PROTECTIVE CASING _____ FT.
W/ LOCKING CAP
L STICKUP _____ FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____

0 — Coarse gravel fill
Dark brown silty sand w/abundant root matter & other organic debris
DK gray to gray brown, fine to medium sand, minor rock frags & pebbles
5
Same
10
Same
15
Same; some slight petroleum odor
20
Same; distinct to strong petroleum odor
- thin seam of brown organic silt & sand - considerable organic (plant) debris
25
Total depth: 25' bgs
30
35
40
45
50

Time Oil Company

JOB NUMBER 821401 WELL/BORING NUMBER Ga-1

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST DML

ECOVA

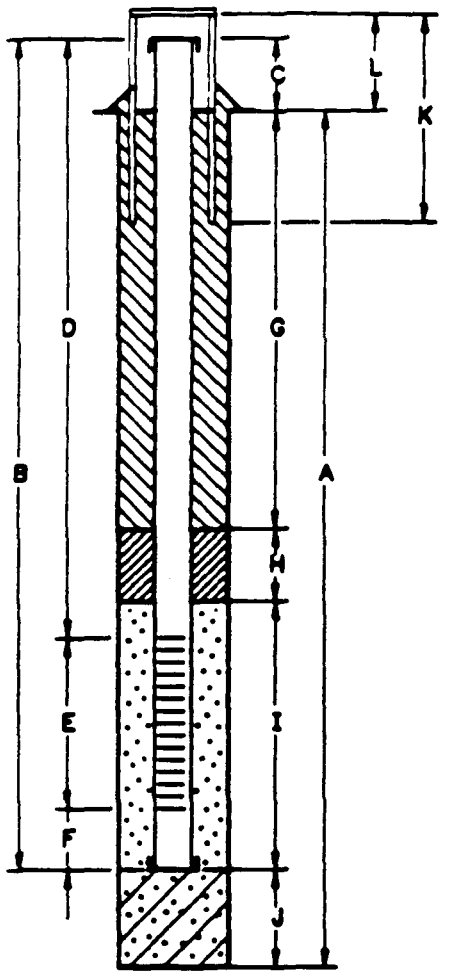
© 1987 ECOVA CORPORATION

\STD\F30F

DRILLING METHOD Hollow Stem Auger DATE 12-2-88

WELL COMPLETION

TOP OF CASING ELEVATION _____



A	BORING DEPTH	35	FT.
	BORING DIAMETER	6	IN.
B	WELL DEPTH	35	FT.
C	WELL STICKUP	17½"	FT.
D	BLANK INTERVAL	0 FT. TO 25	FT.
	BLANK DIAMETER	2	IN.
E	SCREEN INTERVAL	25 FT. TO 35	FT.
	SCREEN DIAMETER	2	IN.
	TYPE/SLOT SIZE	0.02"	
F	SILT TRAP LENGTH	NA	FT.
G	WELL SEAL	22	FT.
	MATERIAL:	Bentonite Pellets Type I-II cement	
H	BENTONITE SEAL	22 FT. TO 24	FT.
I	SANDPACK	24 FT. TO 35	FT.
	TYPE/SIZE	8 Aqua	
J	BOTTOM SEAL	FT. TO FT.	
	MATERIAL:		
K	PROTECTIVE CASING W/ LOCKING CAP	4'	FT.
L	STICKUP	14'	FT.

GEOLOGIC LOG

GROUND SURFACE ELEVATION _____

0 – Crushed road gravel & thin, brown organic-rich sand.

– Dark grey to grey-brown, fine to medium sand with minor pebbles & rock fragments; sediments are damp.

5

– Same

10

– Same

15

– Same; slight petroleum odor evident

20

– Same; moderate petroleum odor; Water encountered ~ 23'

25

– Spoonsample shows 2 thin beds of grey silt to very fine sand – max thickness of 3".

30

– Same fine to med. sand

35

– Grey, silt to very fine sand – to 36½' thickness not known. Some silt on auger flights in 20-25 Interval

40

Total Depth = 35'

45

2½/100# bags 8 Aqua sand
4/100# bags Type I-II cement

Top off wells – another:
4/100 # bags Type I & II cement

50

+4

Time Oil Co

JOB NUMBER 821401 WELL/BORING NUMBER G-1A

DRAWN APPROVED DATE ENGINEER/GEOLOGIST/HYDROLOGIST DML

ECOVA

© 1987 ECOVA CORPORATION

\STD\F30F

BZTO104(e)011374

Toxicity and Persistence Evaluation

The following guidance is based on the "Uncontrolled Hazardous Waste Site Ranking System, A Users Manual", originally published in the July 16, 1982, Federal Register (40 CFR, Part 300, Appendix A). This document should be consulted for a thorough explanation of the toxicity/persistence evaluation.

Toxicity and Persistence have been combined in the matrix below because of their important relationship. To determine the overall value for this combined factor, evaluate each factor individually as discussed below. Match the individual values assigned with the values in the matrix for the combined rating factor. Evaluate the toxicity and persistence of several of the most hazardous substances at the facility independently and enter only the highest score in the matrix below:

	Value for Persistence			
Value for Toxicity	0	1	2	3
0	0	0	0	0
1	3	6	9	12
2	6	9	12	15
3	9	12	15	18

Persistence of each hazardous substance is evaluated on its biodegradability as follows:

Substance	Assigned Value[1]
Easily biodegradable compounds	0
Straight chain hydrocarbons	1
Substituted and other ring compounds	2
Metals, polycyclic compounds and halogenated hydrocarbons	3

Toxicity of each hazardous substance being evaluated is given a value using the rating scheme of Sax [2] or the National Fire Protection Association (NFPA) [3]. Assign a value as follows:

Toxicity	Assigned Value
Sax level 0 or NFPA level 0	0
Sax level 1 or NFPA level 1	1
Sax level 2 or NFPA level 2	2
Sax level 3 or NFPA level 3 or 4	3

[1] JRB Associates, Inc., Methodology for Rating the Hazard Potential for Waste Disposal Sites, May 5, 1980.

[2] Sax, N.I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Company, New York, 4th Edition, 1975.
Sax, N.I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Company, New York, 5th Edition, 1979.

[3] National Fire Protection Association. National Fire Codes, Vol. 13, No. 49, 1977.

TIME OIL CO.
SRH REPORT, OCTOBER 1, 1986
(PENTIA CONTAMINATION)

BZTO104(e)011376