FROM: Mr. Neil Gallagher
Tinn Oil Co.
Portland, Oregon

TO: Wood Treating Chem Dept.
Koppers Co. Inc.
St. Louis, Mo.

SUBJECT: Labels : Timbertox 40 Concentrate

DATE: 3-7-75

FOLD— MESSAGE

Neil, I'm sending you a new supply of Timbertox 40 Conc labels Code (lower right hand corner) FPL 22358 R 04. Please destroy all others on hand when these are received. Thanks.

ORIGINATOR - DO NOT WRITE BELOW THIS LINE — REPLY TO → SIGNED Harold Thuesen

REPLY

Received & destroyed 3-12-75

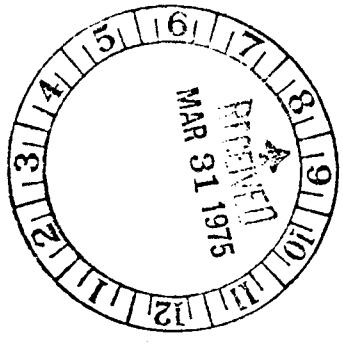
DATE

SIGNED Neil

RETURN THIS COPY TO SENDER

TOLS008962

BZTO104(e)045783



TOLS008963

January 23, 1976

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

Dear Mr. Lesh:

Attached are the completed EPA forms 3540-16 (12-73) Pesticide Producing Establishment Report.

The information contained in this report is confidential and we know it will be handled as such in your office.

Yours very truly,

H. P. Struessel
Label Coordinator

HPS/sjk

Attachment

cc: R. F. Simmons

TOLS008964

BZTO104(e)045785

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. ESTABLISHMENT NAME	2. EPA ESTABLISHMENT NUMBER
TIME OIL CO	337600R01
STREET	**3. SIGNATURE OF ESTABLISHMENT OFFICER**
12005 NORTH BURGARD ST	
CITY / **STATE** / **ZIP CODE**	**4. TITLE** / **5. DATE (Mo.)**
PORTLAND / OR / 97203	

6

A. PRODUCT NO.	CODE	B. PRODUCT NAME
453 216	1	Woodtox 140 Ready To Use

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
61305	62297	00000	G

7

A. PRODUCT NO.	CODE	B. PRODUCT NAME
453 271	1	Woodtox 140-T Ready To Use

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
30900	22333	11500	G

8

A. PRODUCT NO.	CODE	B. PRODUCT NAME
5831 8	1	Penta Wood Preservative 455

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
3795	3795	5000	G

9

A. PRODUCT NO.	CODE	B. PRODUCT NAME
468 216	1	Woodtox 140 Concentrate

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
8400	9391	0000	G

10

A. PRODUCT NO.	CODE	B. PRODUCT NAME
468 267	1	Woodtox 140-T Concentrate

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
8000	51995	20000	G

11

A. PRODUCT NO.	CODE	B. PRODUCT NAME
453 269	1	Woodtox Pre-Prime-T Concentrate

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
1000	55	12000	G

12

A. PRODUCT NO.	CODE	B. PRODUCT NAME
453 202	1	Woodtox Pre-Prime Ready To Use

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
16028	16352	00000	G

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA Form 3540-16 (12-73)

TOLS008965

BZTO104(e)045786

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. ESTABLISHMENT NAME: TIME OIL CO	2. EPA ESTABLISHMENT NUMBER: 337600R01
STREET: 12005 NORTH BURGARD ST	3. SIGNATURE OF ESTABLISHMENT OFFICER:
CITY: PORTLAND; STATE: OR; ZIP CODE: 97203	4. TITLE: ; 5. DATE (Mo.):

Line	A. PRODUCT NO.	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
6	453 270	1	Woodtox Pre-Prime-T Ready To Use	02	2	1		7000	4872	30000	G
7	453 8	1	Timbertox Wood Preservative 40 Concentrate	02	2	1		10300	9496	9000	G
8	5831 4	1	Penta Concentrate 453	02	2	1		11000	11000	10000	G
9											
10											
11											
12											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA Form 3540-16 (12-73)

TOLS008966

BZTO104(e)045787

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. ESTABLISHMENT NAME	2. EPA ESTABLISHMENT NUMBER
TIME OIL CO	337600R01
STREET: 12005 NORTH BURGARD ST	3. SIGNATURE OF ESTABLISHMENT OFFICER
CITY: PORTLAND / STATE: OR / ZIP CODE: 97203	4. TITLE / 5. DATE (Mo.): 8 8

	A. PRODUCT NO.	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
6	453 216	1	Woodtox 140 Ready To Use	02	2	1	-	61305	62297	00000	G
7	453 271	1	Woodtox 140-T Ready To Use	02	2	1	-	30900	22333	11500	G
8	5831 8	1	Penta Wood Preservative 455	02	2	1	-	3795	3795	5000	G
9	468 215	1	Woodtox 140 Concentrate	02	2	1	-	8400	9391	0000	G
10	453 267	1	Woodtox 140-T Concentrate	02	2	1	-	8000	5195	20000	G
11	453 269	1	Woodtox Pre-Prime-T Concentrate	02	2	1	-	1000	55	1200	G
12	453 202	1	Woodtox Pre-Prime Ready To Use	02	2	1	-	16028	16352	0000	G

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA Form 3540-16 (12-73)

TOLS008967

BZTO104(e)045788

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

ESTABLISHMENT NAME	2. EPA ESTABLISHMENT NUMBER
TIME OIL CO	33760OR01
STREET	3. SIGNATURE OF ESTABLISHMENT OFFICER
12005 NORTH BURGARD ST	
CITY / STATE / ZIP CODE	4. TITLE / 5. DATE (Mo.)
PORTLAND / OR / 97203	

	A. PRODUCT NO.	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
6	1453 270	1	Woodtox Pre-Prime-T Ready To Use	02	2	1		7000	4872	30000	G
7	1453 8	1	Timbertox Wood Preservative 40 Concentrate	02	2	1		1030	9496	9000	G
8	5831 4	1	Penta Concentrate 453	02	2	1		1100	1100	1000	G
9											
10											
11											
12											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA Form 3540-16 (12-73)

TOLS008968

BZTO104(e)045789

CHEMTECH
Kansas City, Mo. 816-454-3300
Memphis, Tenn. 901-775-2100
Springfield, Mo. 417-869-7145
St. Louis, Mo. 314-644-4100

Worcester 140 RM

90,043 Report Total

Less 3,300 as PP

86,743

Less 2113 as PP

84,630

Less-T 22,333

62,297

TOLS008969

CHEMTECH
Kansas City, Mo. 816-454-3300
Memphis, Tenn. 901-775-2100
Springfield, Mo. 417-869-7145
St. Louis, Mo. 314-644-4100

Wooster Pre Prem RM

13006 R
2805
15811 Report Total
+ 3300 Coded as 140
19111
+ 2113 Coded as 140
21224
4872 Less - T
16,352

PRODUCT # / CONTAINER	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
LIQ NOX SS	—	—		610G	—	—	—	305G	—	—	—	—	
TOTE BINS	—	—	2760G	1725G	—	1725G	—	3105G	—	2760G	—	—	12990G
LIQ NOX SSI													
~~55~~ GAL DRS	—	—	8470G	8910G	—	9570G	—	7865G	—	8580G	—	11275G	54670G
													67660G
													70,000
TIME OIL CO PORTLAND, ORE													
WT 140 CONC	—	—	—	3000G	—	—	—	5400G	—	—	—	—	8400G
													0
WT 140 RTU	8000G	—	16000G	—	—	16000G	8000G	16000G	—	—	—	—	64000G
													0
WTPP CONC	—	—	—	—	—	—	—	—	—	—	—	—	—
													0
WTPP RTU	6500G	—	3828G	—	—	5700G	—	—	—	—	—	—	16028G
													0
TT40 CONC	—	3000G	—	—	1100G	~~3200~~ 7200 G	—	2000G	—	2000G	2000G	4000G	~~17300~~ 21,300 G
													19000
WT 140 CONCT	—	—	—	—	—	—	—	—	—	—	2000G	6000G	8000G
													20,000
WT 140 RTUT	—	—	—	—	—	—	—	—	—	16000G	—	16000G	32000G
													115,000
WTPP CONCT	—	—	—	—	—	—	—	—	—	—	—	1000G	1000G
													1200
WTPP RTUT	—	—	—	—	—	—	—	—	—	—	—	7000G	7000G
													30,000

REDY COAT PENTA CONC
REDY COAT PENTA 455 RTU

BZTO104(e)045792

TOLS008971

12/11/75

KOPPERS COMPANY INC.
FOREST PRODUCTS DIVISION
WOOD TREATING CHEMICAL
SALES BY PRODUCT REPORT
NOVEMBER 1975

PROGRAM ID WTMS1020

LOCATION 743 PORTLAND FORMULA CR

PRESERVATIVE / PRODUCT			CURRENT MONTH QUANTITY	AMOUNT	PROFIT	%	YEAR TO DATE QUANTITY	AMOUNT	PROFIT	%
WOOD TRT CHM										
FREIGHT ADJUSTMENTS				282-	282-	100.0		696-	92-	13.2
LUMBERLLA 15 CLEAR	55 GAL DR	GAL				0.0				0.0
ANSTRIK SAGEBRUSH GREEN	55 GAL DR	GAL				0.0	220	854	473	55.4
ANSTRIK SAGEBRUSH GREEN	5 GAL DR	GAL				0.0				0.0
(1) WOODTOX 140 RTU	BULK	GAL	1007	849	285	33.6	69371	52451	13602	25.9
WOODTOX 140 RTU	55 GAL DR	GAL	110	193	100	51.8	6875 (76246)	9590	3773	39.3
(2) WOODTOX PRE-PRIME RTU	BULK	GAL				0.0	11434	10281	3260	31.7
WOODTOX PRE-PRIME RTU	55 GAL DR	GAL				0.0	2805 (14239)	3598	1073	29.8
(3) WOODTOX 140 CONC	BULK	GAL				0.0	6091	10032	2789	27.8
WOODTOX 140 CONC	55 GAL DR	GAL				0.0	3300 (9391)	8331	3464	41.5
PINE OIL	420 LB DR	LB				0.0				0.0
AR 340 CONC	408 LB DR	LB	4896	882	266	30.2	53676	9432	3737	39.6
(4) TIMBERTOX 40 CONC	TOTE	GAL	690	2553	1298	50.8	690	2553	1298	50.8
TIMBERTOX 40 CONC	BULK	GAL				0.0	3980 (5495)	8644	1404	16.2
TIMBERTOX 40 CONC	55 GAL DR	GAL				0.0	825	3033	1308	43.1
TIMBERTOX 40 CONC	5 GAL DR	GAL				0.0				0.0
(5) NEON COAT PENTA CONC	55 GAL DR	GAL				0.0	8800	20240	3792	18.7
(6) NEON COAT PENTA 455 RTU	55 GAL DR	GAL	1100	803	132	16.4	3795	2770	455	16.4
PETROSET 11	450# DR	LB				0.0	12420	10349	5185	50.1
PENTA	50-BAG	LB				0.0	2600	1102	209	19.0
WOOD TRT CHM TOTALS			7803	4909	1799	36.0	126882	152564	45730	30.0
PENTA CRYSTALS										
FREIGHT ADJUSTMENTS						0.0				0.0
PENTA 50 LB BAG	50 LB BAG	LB				0.0	21000	7980	840	10.5
PENTA	50 LB BAG	LB				0.0	2000	845	158	18.7
PENTA	50-BAG	LB	4000	1692	318	18.8	10000	4290	821	19.1
PENTA CRYSTALS TOTALS			4000	1692	318	18.8	33000	13115	1819	13.9
PORTLAND FORMULA CR TOTALS			6690	2117	31.6		165679	47349	28.7	

(1) 76,246
LESS 2,113 GAL (WX P-P, RTU)
74,133
PLUS DEC 10,497
84,630

(2) 14,239
PLUS 2,113 GAL (AS-WX 140 RTU)
16,352
PLUS DEC 4,872
21,224

(3) 9391
PLUS DEC 5195
14,586

(4) 5495
PLUS DEC 4001
9496

(5) - 8800
PLUS DEC 2200
11,000

(6) 3795
NO DEC

TOLS008972

BZT0104(e)045793

Prepared by
Approved by

1975 Pesticide Sales From Portland, Ore.

1 Woodtox 140 RTU	2 Woodtox 145 Conc	3 Woodtox Pre-Prime RTU	4 Woodtox Pre-Prime Conc	5 Timbertox 40 Conc	6 Ready Coat Penta Conc	7 Ready Coat Penta 415 RTU
550	550 FEB	2113 JAN		110	3300 FEB	1100 AUG
880 JAN	550	3625		220 APR	220	1595 SEPT
7086	3019 MAY	55 FEB		1000	1100 MAY	1100 NOV
55	2200	3027 MAY		2980 JUNE		3795
2020 FEB	3072 SEPT	2750		165	165	
3091	9391	3321 JUNE		110 AUG	2200 JULY	
960 MAR		1461		220 SEP		
3501	2200	16352		690 NOV	1100 AUG	
165 APR	2995 DEC			5495	1100 OCT	
2028	14581	3300 DEC		4001 DEC	880	
7031		1572			2200 DEC	
550 MAY		21,224		9496	11,000	
2061						
2750						
7054 JUNE						
905						
7051 JULY						
165						
6848 AUG						
550						
6996 SEP						
1100						
6591 OCT	10,719					
3028						
110 NOV	1117					
1007						
74133						
1100						
2200 DEC	10,497					
7197						
84630						

84,630
11,614
73,016

Woodtox 140-T RTU	Woodtox 140-T Conc	Woodtox Pre P-T-RTU	Woodtox Pre P-T-Conc
			55

TOLS008973

BZTO104(e)045794

Month	Woodtox 140 RTU Sold	Redy Coat Penta 455 RTU Sold	Total Sold	Cumtotal	Woodtox 140-T RTU MFG	Woodtox 140 RTU MFG
January	8571		8571	8571		8000
February	5111		5111	13682		—
March	4461		4461	18143		16000 / 24000
April	165		165	18308		—
May	11670		11670	29978		—
June	10709		10709	40687		16000 / 40000
July	7051		7051	47738		8000 / 48,000
August	7563	1100	8663	56401		16000 / 64000
September	6996	1595	8591	64992		—
October	* 10719		10719	75711	16000	
November	1117	1100	2217	77928	—	
December	10497		10497	88425	16000	
	84630	3795	88425		32000	64000

23,433

1974
Sold - 139,854
MFG - 136,000
Sold From 1973 Inv = 3,854 G

* 7691 Gal Shipped 10/10/75
3028 Gal Shipped 10/13/75
10,719

TOLS008974

BZTO104(e)045795

Prepared by

Approved by

1	2	3	4	5	6	7
PRODUCT	MFG. 1975	SOLD 1975				
WOODTOX 140 RTU	64,000	64,992				
	LESS READY COAT 2,695	2,695				
	61,305	62,297				
WOODTOX 140-T RTU	32,000	23,433				
	LESS READY COAT 1,100	1,100				
	30,900	22,333				
READY COAT PENTA 455 RTU	3,795	3795				
WOODTOX 140 CONC	8,400	9,391				
WOODTOX 140-T CONC	8,000	5,195				
WOODTOX PRE-PRIME RTU	16,028	16,352				
WOODTOX PRE-PRIME-T RTU	7,000	4,872				
TIMBERTOX 40 CONC	10,300	9,496				
READY COAT PENTA CONC	11,000	11,000				

TOLS008975

BZTO104(e)045796

PHONE 286-[illegible]

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

December 15, 1975

Mr. R. F. Simmons
Koppers Company, Inc.
Wood Treating Chemicals Dept.
5137 Southwest Avenue
St. Louis, Mo. 63110

Dear Bob:

We received the enclosed Pesticide Report from the EPA today which should be completed so that we can execute and mail by February 1, 1976.

It appears that they have set the return date up a month as last year it did not have to be returned until March 1, 1975.

Yours very truly,

Newton P. Lesh

NPL/s
Encl.

TOLS008976

BZTO104(e)045797

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

REPLY TO ATTN OF: M/S 524

TO: All Registered Pesticide-Producing Establishments

SUBJECT: Pesticides Reports

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires every pesticide-producing establishment to report annual production information. Enclosed is the Pesticides Report form on which this information is to be submitted. This form is to be completed and the original and first copy returned to this office by February 1, 1976.

***NOTE: Instructions and example form are included in this packet.

"Produce" has been defined in the regulations to mean "...manufacture, prepare, compound, or process any pesticide...or to repackage or otherwise change the container of any pesticide..." (40 CFR 167.1(c)). As is further explained in the instructions, the reporting establishement is to provide information on production for the past calendar year (i.e., 1975) as well as the anticipated production during the current calendar year (i.e., 1976). Information is to be provided only for those products actually produced at the reporting establishment; please note that information concerning products sold or distributed by but not produced at the reporting establishment is not to be included in this report.

It is a violation to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report (Section 12(a)(2)(M), 86 Stat. 991). Any information submitted in the Pesticides Report or Chemical Formulation Report will be considered confidential.

If you have any questions about these requirements, please contact Leonard Nessen at (206) 442-1090.

Leonard Nessen

Leonard Nessen
Case Review Officer
Pesticides Branch

Enclosures

TOLS008977

BZTO104(e)045798

D. PRODUCT TYPE Enter the code best deccribing the type of production.
1 Technical material (for manufacturing use only) 3 Repackaging
2 Formulation or blending 4 Other (specify)

E. MARKET PRODUCED FOR Enter the code best describing the market for which the pesticide is produced.
1 United States 3 Export out of United States only
2 United States and export out of United States

F. USE CLASSIFICATION Leave blank

G. AMOUNT PRODUCED PAST YEAR Enter the amount (pounds or gallons) of the product produced for distribution or shipment at the reporting establishment in the calendar year immediately prior to the year in which this report is submitted. Foreign establishments should report only the amount produced for shipment to the United States.

H. AMOUNT SOLD/DISTRIBUTED PAST YEAR Enter the amount (pounds or gallons) of the product sold or distributed (i.e., released for shipment) by the reporting establishment in the calendar year immediately prior to the year in which this report is submitted, regardless of when the product was actually produced. Foreign establishments should report only the amount sold or distributed in the United States.

I. AMOUNT PRODUCED CURRENT YEAR Enter the amount (pounds or gallons) of the product to be produced at the reporting establishment in the calendar year in which this report is submitted. Foreign establishments should report only the amount intended for shipment to the United States. In all cases, this figure will be considered an estimate of the current year's production.

J. UNIT OF MEASURE Enter the unit of measure used in subitems G, H, and I:
L=pounds G=gallons R=other (specify unit)

If a continuation sheet is required, reproduce the form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner (Page ____ of ____).

It is a violation to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report (Section 12(a)(2)(M), 86 Stat. 991). The Pesticides Report will be treated as confidential.

INSTRUCTIONS FOR CHEMICAL FORMULATION REPORT

In addition to completing subitems A through J, a Chemical Formulation Report must be submitted for any pesticide produced at the reporting establishment meeting the following criteria:

1 Pesticide is not registered with EPA or a State;
2 Pesticide does not have EPA product registration pending; and
3 Pesticide is not produced under an Experimental Use Permit

e.g., an unregistered pesticide produced solely for export out of the United States. The Chemical Formulation Report must include:

1 A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%);
2 The EPA Establishment Number assigned to the reporting establishment.
3 The item number (6, 7, 8...) on the Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given; and
4 The name of the product exactly as it appears in subitem B of the Pesticides Report.

The Chemical Formulation Report will be treated as confidential.

TOLS008978

BZTO104(e)045799

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

Telephone: 206-778-1111

1. ESTABLISHMENT NAME	2. EPA ESTABLISHMENT NUMBER
ABC Pesticide Formulators, Inc.	1234-WA-01
STREET: 100 6th Avenue	3. SIGNATURE OF ESTABLISHMENT OFFICER: Mary Smith Mary Smith
CITY: Seattle / STATE: WA / ZIP CODE: 98101	4. TITLE: President / 5. DATE (Mo.): 01 12 76

6

A. PRODUCT NO.	CODE	B. PRODUCT NAME
1234 T	1	PEST-B-GONE

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
05	2	2	

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
15000	14500	16000	G

7

A. PRODUCT NO.	CODE	B. PRODUCT NAME
1234 T	2	Jones Bactericide

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
09	3	1	

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
000	000	6500	G

8

A. PRODUCT NO.	CODE	B. PRODUCT NAME
1234 EXP-16	3	KIL-WEEDS

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
04	1	1	

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
1250	1250	550	L

9

A. PRODUCT NO.	CODE	B. PRODUCT NAME
	4	Ant - Repeller

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
11	1	3	

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
1100	900	450	L

10

A. PRODUCT NO.	CODE	B. PRODUCT NAME
	4	Malathion 25

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
01	2	1	

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)
2500	2500	000	G

11

A. PRODUCT NO.	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)

12

A. PRODUCT NO.	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L = LBS. G = GALS)

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA Form 3540-16 (12-73)

TOLS008979

BZTO104(e)045800

Chemical Formulation Report

EPA Est. No. 1234-WA-01

10. Malathion 25

Active Ingredient: Malathion.....25%

Inert Ingredient: Diesel #4.....75%

Total 100%

TOLS008980

BZTO104(e)045801

INSTRUCTIONS FOR PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 (c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires any pesticide producer operating an establishment registered under Section 7 (a) of this Act to inform the Administrator of the Environmental Protection Agency of the types and amounts of pesticides currently being produced, produced in the past year, and sold or distributed in the past year. To comply with this requirement, Pesticides Pesticides Report is to be completed and the original and first copy returned to Regional Office of the Environmental Protection Agency indicated on accompanying transmittal letter.

ITEM

1. ESTABLISHMENT NAME, ADDRESS, TELEPHONE NUMBER Enter the name and address of the reporting establishment. If preprinted name or address is incorrect, make necessary changes. Enter the telephone number of the reporting establishment in the blank space directly above Item 2, "EPA ESTABLISHMENT NUMBER."
2. EPA ESTABLISHMENT NUMBER Enter the establishment registration number assigned to the reporting establishment.
3. Self-explanatory
4. Self-explanatory
5. DATE Enter the date in month-day-year sequence.

Subitems A through J must be completed for each pesticide produced at the reporting establishment. This includes all EPA and State registered pesticides, pesticides produced while product registration is pending, pesticides produced under an Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. A pesticide sold or distributed under various distributor labels should be reported only as a single product and should not be reported separately for each distributor label.

A. PRODUCT NUMBER/CODE
   1. If product is Federally registered, enter EPA product registration number. Enter State registration number if product is not yet registered with EPA. In both cases, also enter "1" under "Code". E. g. 0 0 1 2 3 1
   2. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code". E. g. 0 0 1 2 3 R 2
   3. If product is produced under an EPA Experimental Use Permit, enter EPA number. Enter "3" under "Code". E. g. 0 0 1 2 3 EXP 1G 3
   4a If product is State-registered but has no assigned registration number, leave product number blank and enter "4" under "Code".
   4b If product does not come under any of the above, leave product number blank and enter "4" under "Code". In this case a Chemical Formulation Report must also be completed (instruction follow).

B. PRODUCT NAME Enter the name of the product. Must be the same as on the registered label. Maximum 60 characters.

C. PRODUCT CLASSIFICATION Enter the one classification code best describin the product.

01 Insecticide	05 Algaecide	09 Disinfectant, Sanitizer, Germicide
02 Fungicide	06 Nematocide	10 Antifouling paint
03 Rodenticide	07 Plant regulator	11 Repellent
04 Herbicide	08 Defoliant or desiccant	12 Other (specify)

TOLS008981

BZTO104(e)045802

KOPPERS COMPANY, INC.
FOREST PRODUCTS DIVISION
WOOD TREATING CHEMICAL
SALES BY PRODUCT REPORT
DECEMBER 1976

LOCATION 743 PORTLAND FORMULA OR

PRESERVATIVE / PRODUCT			CURRENT MONTH QUANTITY	AMOUNT	PROFIT	%	YEAR TO DATE QUANTITY	AMOUNT	PROFIT	%
WOOD TRT CHM										
FREIGHT ADJUSTMENTS				9-	9-100-0			137	137	100-0
WOODTOX 140 RTU	55 GAL DR	GAL				0.0	110	193	78	40.4
AVSTRIK SAGEBRUSH GREEN	55 GAL DR	GAL				0.0	165X	652	323	49.5
WOODTOX 140 RTU	BULK	GAL				0.0	25688	19779	4306	21.8
WOODTOX 140 RTU	55 GAL DR	GAL				0.0	6270	8533	2769	32.5
WOODTOX PRE-PRIME RTU	BULK	GAL	7100	6390	1597	25.0	104588	92618	23843	25.7
WOODTOX PRE-PRIME RTU	55 GAL DR	GAL	3300	4628	1358	29.3	20570	28813	6690	30.2
WOODTOX 140-T RTU	BULK	GAL				0.0	7012	5610	1403	25.0
WOODTOX 140-T RTU	55 GAL DR	GAL				0.0	6600	9323	3164	33.9
WOODTOX 140-T RTU	5 GAL DR	GAL				0.0	20	22	11	50.0
WOODTOX 140-T RTU W/C DRS	55 GAL DR	GAL				0.0	2145	1823	422	23.1
WOODTOX PRE-PRIME-T RTU W/C DRS	55 GAL DR	GAL				0.0	660	660	208	31.5
WOODTOX PRE-PRIME-T RTU	BULK	GAL				0.0	3996	3462	937	27.1
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GAL				0.0	2200	3085	883	28.6
WOODTOX PRE-PRIME-T CONC	55 GAL DR	GAL				0.0				0.0
WOODTOX 140 CONC	BULK	GAL				0.0	6078	10637	3006	28.3
WOODTOX 140 CONC	55 GAL DR	GAL	3300	8316	2914	35.0	8800	22143	7436	33.6
WR 340 CONC	400 LB DR	LB	13056	2612	757	29.0	43656X	8282	2041	24.6
TIMBERTOX 40 CONC	TOTE	GAL				0.0	1026	2944	1016	34.5
TIMBERTOX 40 CONC	BULK	GAL				0.0	10083	22483	3972	17.7
TIMBERTOX 40 CONC	55 GAL DR	GAL			371-	0.0	220	1114	407	36.5
TIMBERTOX 40 CONC	5 GAL DR	GAL				0.0	55	206	79	38.3
READY COAT PENTA CONC	55 GAL DR	GAL	2200	5500	1306	23.7	15565	37758	8178	21.7
READY COAT PENTA 455 RTU	55 GAL DR	GAL	1100	880	156	17.7	14850	11399	1947	17.1
MINERAL SPIRITS	BULK	GAL				0.0	587X	253X		0.0
PETROSET 11	460 DR	LB	5520	4488	1763	39.3	21900X	18278X	7788	42.6
PETROSET 11	42 LB DR	LB				0.0	336X	290X	111	38.3
PENTA PTLD STOCK	50 LB BAG	LB				0.0	600X	289X	83	28.7
WOOD TRT CHM TOTALS			35576	32805	9471	28.9	303780	310786	83238	26.8
PENTA CRYSTALS										
FREIGHT ADJUSTMENTS						0.0		3	3	100.0
PENTA 50 LB BAG	50 LB BAG	LB				0.0				0.0
PENTA STL STOCK	50 LB BAG	LB				0.0				0.0
PENTA PTLD STOCK	50 LB BAG	LB	4000	1838	354	19.3	44300	17899	2425	13.5
PENTA CRYSTALS TOTALS			4000	1838	354	19.3	44300	17902	2428	13.6
PORTLAND FORMULA OR TOTALS				34643	9825	28.4		328688	85666	26.1

TOLS008982

BZTO104(e)045803

cc: R. F. Simmons

February 14, 1977

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

Dear Mr. Lesh:

Attached is the EPA Pesticides Report completed except for your execution.

We apologize for the delay.

Yours very truly,

H. P. Struessel

HPS/cw

TOLS008983

BZTO104(e)045804

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

December 10, 1976

Mr. R. F. Simmons
Koppers Company, Inc.
Wood Treating Chemicals Dept.
5137 Southwest Avenue
St. Louis, Mo. 63110

Dear Bob:

We received the enclosed Pesticide Report from the EPA today which must be completed so that we can execute and mail by February 1, 1976.

Please complete and return to me so that we can mail before the deadline.

Yours very truly,

Newt

Newton P. Lesh

NPL/s
Encl.

TOLS008984

BZTO104(e)045805

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. ESTABLISHMENT NAME	2. EPA ESTABLISHMENT NUMBER
TIMBER OIL CO	33760[illegible]01
STREET 12005 NORTH BURGARD ST	3. SIGNATURE OF ESTABLISHMENT OFFICER
CITY PORTLAND / **STATE** OR / **ZIP CODE** 97203	4. TITLE / 5. DATE (Mo.)

A. PRODUCT NO. 4538 — CODE 1 — B. PRODUCT NAME: TIMBERTOX 40 CONCENTRATE

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
13100	11384	21000	G

A. PRODUCT NO. 45326 — CODE 1 — B. PRODUCT NAME: WOODTOX 140-T CONCENTRATE

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
13000	14878	15000	G

A. PRODUCT NO. 45327 — CODE 1 — B. PRODUCT NAME: WOODTOX PREPRIME-T READY TO USE

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
151459	132014	160000	G

A. PRODUCT NO. 45327 — CODE 1 — B. PRODUCT NAME: WOODTOX 140-T READY TO USE

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
17000	47845	17000	G

A. PRODUCT NO. 58314 — CODE 1 — B. PRODUCT NAME: PENTA CONCENTRATE 453

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
16000	15565	18000	G

A. PRODUCT NO. 58318 — CODE 1 — B. PRODUCT NAME: PENTA WOOD PRESERVATIVE 455

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	-

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
15000	14850	18000	G

A. PRODUCT NO. — CODE — B. PRODUCT NAME:

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA FO EPA Form 3540-16 (12-73)

TOLS008985

BZTO104(e)045806

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. ESTABLISHMENT NAME	2. EPA ESTABLISHMENT NUMBER
TIME OIL CO	337600R01
STREET 12005 NORTH BURGARD ST	3. SIGNATURE OF ESTABLISHMENT OFFICER
CITY PORTLAND / **STATE** OR / **ZIP CODE** 97203	4. TITLE / 5. DATE (Mo.)

A. PRODUCT NO.	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS. G=GALS)
1453-8	1	TIMBERTOX 40 CONCENTRATE	02	2	1	-	13100	11384	21000	G
1453-267	1	WOODTOX 140-T CONCENTRATE	02	2	1	-	13000	14878	15000	G
1453-274	1	WOODTOX PRE-PRIME-T ~~CONCENTRATE~~ READY TO USE	02	2	1	-	15145 9	13201 4	16000	G
1453-271	1	WOODTOX 140-T READY TO USE	02	2	1	-	17000	47845	17000	G
1583-11-4	1	PENTA CONCENTRATE 453	02	2	1	-	16000	15565	18000	G
1583-11-8	1	PENTA WOOD PRESERVATIVE 455	02	2	1	-	15000	14850	18000	G

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

13. SIGNATURE	14. EPA OFFICE	15. DATE RECEIVED	16. DATE REVIEWED

EPA FO EPA Form 3540-16 (12-78)

TOLS008986

BZTO104(e)045807

EPA REPORT – TIME OIL CO. (IN GALS.)

PRODUCT	1976 PRODUCTION	1976 SALES	1977 EST. PRODUCTION
WOODTOX PREPRIME-T CONC	0	0	0
WOODTOX PREPRIME-T RTU	151,459 ✓	132,014	160,000
WOODTOX 140-T CONC	13,000 ✓	14,878	15,000
WOODTOX 140-T RTU ①	~~32,000~~ 17,000	47,845	~~35,000~~ 17,000
TIMBERTOX 40 CONC ②	~~29,100~~ 13,100	11,384	~~40,000~~ 31,000
PENTA WOOD PRESERVATIVE 455 ①	15,000	14,850	18,000
PENTA CONCENTRATE 453 ②	16,000	15,565	19,000

TOLS008987

453-271
Woodtox 140-T RTU
25,688
6,270
7,012
6,600
20
2,145
110
47,845

453-267
Woodtox 140-T Conc
6,078
8,800
14,878
+ export
02

453-270
Woodtox Pre-Prime-T RTU
104,588
20,570
660
3,996
2,200
132,014

453-269
Woodtox Pre-Prime-T-Conc
0

453-8
Timbertox 40 Conc
1,026
10,083
220
55
11,384

EPA Reg. No-5831-4
Redy Coat Penta Conc-453
15,565
(TX-40-conc)

EPA Reg. No 5831-8
Wood Preservative-455
Redy Coat Penta
14,850
(Woodtox 140-T-RTU)

TOLS008988

BZTO104(e)045809

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE

SEATTLE, WASHINGTON 98101

DEC 8 1976

REPLY TO ATTN OF: M/S 524

TO: Registered Pesticide-Producing Establishments

SUBJECT: Pesticides Reports

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended, requires each registered pesticide-producing establishment to report the types and amounts of pesticides produced, and sold or distributed, at that establishment in calendar year 1976, and the anticipated types and amounts of production during calendar year 1977. Enclosed are the Pesticides Report form on which this information is to be submitted, and instructions for its completion. This form is to be completed and the original and first copy returned to this office by February 1, 1977. Written requests for extensions of up to 30 days will be considered. This form should be submitted even if you produced no pesticides in the past year and will produce none this year, or if all your production was and will be custom-blended products only.

Information is to be provided only for those products actually produced at the reporting establishment; note that information concerning products sold or distributed by but not produced at the reporting establishment is not to be included in this report. Foreign establishments should report only that production exported to the United States. "Produce" has been defined in the regulations to mean "...manufacture, prepare, propagate, compound, or process any pesticide... or device, or to repackage or otherwise change the container of any pesticide or device" [40 CFR 167.1(c)].

Information derived from these reports will be used by the Agency to develop inspectional and sampling strategies for more efficient monitoring of compliance with the Act and to effect timely and necessary enforcement actions. At the same time these data will provide positive benefits to the producer. By knowing when, where, and in what amounts pesticides exist, the Agency can refine its enforcement efforts such that minimal disruption is experienced by the producer.

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report, or to fail to file such reports [Section 12(a)(2)(M) and (N), 86 Stat. 991]. Any information submitted in the Pesticides Report or Chemical Formulation Report will be considered confidential.

For further information, please contact Arthur Dan Baker, telephone (206) 442-1090.

TOLS008989

BZTO104(e)045810

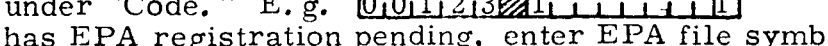
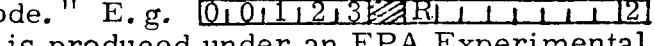
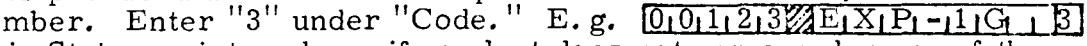
INSTRUCTIONS FOR PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. This Pesticides Report is to be completed and the original and first copy returned to the EPA Regional Office indicated on the accompanying transmittal letter.

ITEM

1. ESTABLISHMENT NAME, ADDRESS, TELEPHONE NUMBER Enter the name and address of the establishment. If preprinted name or address is incorrect, make necessary changes. Enter the telephone number of the establishment in the blank space directly above Item 2, "EPA ESTABLISHMENT NUMBER."
2. EPA ESTABLISHMENT NUMBER Enter the establishment registration number assigned to the establishment.
3. Self-explanatory
4. Self-explanatory
5. DATE Enter the date of signature in month-day-year sequence.

Items A through J must be completed for each pesticide produced at the reporting establishment, including all EPA- and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under an Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. A pesticide sold or distributed under various distributor labels should be reported only as a single product and should not be reported separately for each distributor label.

A. PRODUCT NUMBER/CODE
   1. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code." E. g. 
   2. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code." E. g. 
   3. If product is produced under an EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code." E. g. 
   4. If product is State-registered, or if product does not come under any of the above, leave product number blank and enter "4" under "Code." If product is assigned an EPA Accession Number or a State registration number, enter this number as part of the product name (Item B below). For all "Code 4" products, a Chemical Fomulation Report must also be completed (instructions follow).

B. PRODUCT NAME Enter product name exactly as it appears on product label.

C. PRODUCT CLASSIFICATION Enter the one code best describing the product.

01 Insecticide	05 Algaecide	09 Disinfectant, Sanitizer, Germicide
02 Fungicide	06 Nematocide	10 Antifouling paint
03 Rodenticide	07 Plant regulator	11 Animal repellent
04 Herbicide	08 Defoliant, Dessicant	12 Other pesticide (specify)
		13 Device

D. PRODUCT TYPE Enter the one code best describing the type of production.

1 Technical material for manufacturing use only	3 Repackaging
2 Formulation or blending	4 Other (specify)

TOLS008990

BZTO104(e)045811

E. MARKET PRODUCED FOR Enter the code best describing the market for which the pesticide is produced.
01 United States only
02 United States and export out of United States
03 Export out of United States only

F. USE CLASSIFICATION Leave blank.

G. AMOUNT PRODUCED PAST YEAR Enter the amount (pounds or gallons) of the product produced at the establishment in the immediately preceding calendar year. Foreign establishments report only the amount produced for shipment to the United States. If the establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced.

H. AMOUNT SOLD/DISTRIBUTED PAST YEAR Enter the amount (pounds or gallons of the product sold or distributed (i. e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced. Foreign establishments report only the amount sold or distributed in the United States.

I. AMOUNT PRODUCED CURRENT YEAR Enter the anticipated amount (pounds or gallons) of the product to be produced at the establishment in the current calendar year. Foreign establishments report only the amount intended for shipment to the United States. In all cases, this figure will be considered an estimate of the current year's production.

J. UNIT OF MEASURE Enter the unit of measure use in Items G, H, and I:
L=pounds G=gallons R=other (specify unit)

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page ___ of ___ .

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report (Section 12(a)(2)(M), 86 Stat. 991). The Pesticides Report will be treated as confidential.

INSTRUCTIONS FOR CHEMICAL FORMULATION REPORT

In addition to completing Items A through J, a Chemical Formulation Report must be submitted for any pesticide produced at the reporting establishment meeting the following criteria:

1 Pesticide is not registered with EPA or a State; and
2 Pesticide does not have EPA registration pending; and
3 Pesticide is not produced under an Experimental Use Permit,

e. g., an unregistered pesticide produced for export out of the United States.

The Chemical Formulation Report must include:

1 The EPA Establishment Number assigned to the reporting establishment;
2 The item number (6, 7, 8, etc.) on the Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given;
3 The name of the product exactly as it appears in Item B of the Pesticides Report; and
4 A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%).

The Chemical Formulation Report will be treated as confidential.

TOLS008991

BZTO104(e)045812

U.S. ENVIRONMENTAL PROTECTION AGENCY

REPORT BY PESTICIDE-PRODUCING ESTABLISHMENTS

(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 86 Stat. 973-999)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions carefully before completing this form. The information reported on this form is not considered as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: SIRE OIL CO

3. SIGNATURE OF ESTABLISHMENT OFFICER

4. TITLE

5. DATE (Mo., Day, Yr.)

STREET: 12005 NORTH BURGARD ST

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A. PRODUCT NO	CODE	B. PRODUCT NAME
7.	00453267	1	Woodtox 140-T Concentrate
8.	00453271	1	Woodtox 140-T Ready To Use
9.	00453270	1	Woodtox Pre Penta Ready To Use
10.	00453278	1	Timbertox 40 Concentrate
11.	05834	1	Redy Coat Penta Concentrate
12.	05838	1	Redy Coat Penta 455 Ready To Use
13.			

	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS, G-GALS)
7.	02	2	01		23000	22305	30000	G
8.	02	2	01		3925	4516	25600	G
9.	02		01		13000	5855	180000	G
10.	02	2	01		13040	14819	18000	G
11.	02	2	01		10960	10960	12000	G
12.	02	2	01		12705	12705	14400	G
13.								

CONFIDENTIAL

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS008992

BZTO104(e)045813

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

3. SIGNATURE OF ESTABLISHMENT OFFICER:

STREET: 12005 NORTH BURGARD ST

4. TITLE:

5. DATE (Mo., Day, Yr.):

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code):

Item	A. PRODUCT NO.	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS, G=GALS)
7.	00453 267	1	Woodtox 140-T Concentrate	02	2	01		23000	22305	30000	G
8.	00453 271	1	Woodtox 140-T Ready To Use	02	2	01		39295	45166	25600	G
9.	00453 270	1	Woodtox Pre Primer Ready To Use	02		01		133000	[illegible]585	180000	G
10.	00453 8	1	Timbertox 40 Concentrate	02	2	01		13040	14819	18000	G
11.	05831 4	1	Redy Coat Penta Concentrate	02	2	01		10960	10960	12000	G
12.	05831 8	1	Redy Coat Penta 455 Ready To Use	02	2	01		12705	12705	14400	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS008993

BZTO104(e)045814

Chemicals Dept., Koppers Company, Inc.
5927 Southwest Ave., St. Louis, Mo. 63110
Telephone 314-772-2200

KOPPERS

January 17, 1978

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

Dear Mr. Lesh:

Attached is completed EPA Form 3540-16, Pesticides Report For Pesticide-Producing Establishments for 1977, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

We hope we can make the 1978 forecast figures look like very low estimates.

Best wishes.

Yours very truly

Harold P. Struessel
Manager, Order-Billing Dept.

HPS

TOLS008994

BZTO104(e)045815

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

KOPPERS

January 17, 1978

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

Dear Mr. Lesh:

Attached is completed EPA Form 3540-16, Pesticides Report For Pesticide-Producing Establishments for 1977, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

We hope we can make the 1978 forecast figures look like very low estimates.

Best wishes.

Yours very truly

Harold P. Struessel
Manager, Order-Billing Dept.

HPS

TOLS008995

BZTO104(e)045816

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE

SEATTLE, WASHINGTON 98101

REPLY TO ATTN OF: M/S 624

22 DEC 1977

TO: Registered Pesticide-Producing Establishments

SUBJECT: Pesticides Reports

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended, requires each registered pesticide-producing establishment to report the following information:

1. The amount of each pesticide the establishment produced, in 1977.

2. The amount of such pesticide sold or distributed in 1977.

3. The amount of each pesticide projected for production in 1978.

Enclosed are the forms and instructions for submitting the required information. The original and first copy must be returned to this office by February 1, 1978. Written requests for extensions of up to 30 days will be considered. This form must be submitted even if you produced no pesticides in the past year and will produce none this year; or if all your production was and will be custom-blended products only.

Serious legal ramifications, including assessment of a civil penalty, may result from your failure to submit this form, if it is necessary in your case.

Only those products actually produced at the reporting establishment are to be reported; products sold or distributed by the reporting establishment but produced elsewhere are not to be included in the report for this establishment. "Produce" has been defined by regulation to mean "...manufacture, prepare, propagate, compound, or process any pesticide...or device, or to repackage or otherwise change the container of any pesticide or device" [40 CFR 167.1(c)].

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report, or to fail to file such reports [Section 12(a) (2) (M) and (N),

TOLS008996

BZTO104(e)045817

86 Stat. 7 U.S.C. 136j (a)(2)(M) and N. Any information submitted on the Pesticides Report or Chemical Formulation Report will be considered confidential.

For further information, please contact Arthur Dan Baker, telephone #(206) 442-1090.

Donald A. Donaldson
Chief, Enforcement Section
Pesticides & Toxic Substances Branch
Region X

TOLS008997

BZTO104(e)045818

INSTRUCTIONS FOR PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. This Pesticides Report is to be completed and the original and first copy returned to the EPA Regional Office indicated on the accompanying transmittal letter.

ITEM

1. EPA ESTABLISHMENT NUMBER Enter the establishment registration number assigned to the establishment, if not already preprinted.

2. ESTABLISHMENT NAME AND ADDRESS Enter name and address of establishment. If preprinted name or address is incorrect, make necessary changes.

3. SIGNATURE OF ESTABLISHMENT OFFICER Self-explanatory

4. TITLE Self-explanatory

5. DATE Enter the date of signature in month-day-year sequence.

6. TELEPHONE Enter telephone number of establishment, including area code.

Items A through J must be completed for each pesticide produced at the reporting establishment, including all EPA- and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. A pesticide sold or distributed under several distributor labels should be reported only as a single product rather than reported separately for each label.

A. PRODUCT NUMBER and CODE

1. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code." E.g. 0,0,1,2,3 1
2. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code." E.g. 0,3,1,2,3 R 2
3. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code." E.g. 0,0,1,2,3 E,X,P,-,1,G 3
4. If product does not come under any of above, leave product number blank and enter "4" under "Code." If product is assigned an EPA Accession Number or a State registration number, enter this number as part of the product name (Item B below). For all "Code 4" products, except those having EPA Accession Numbers or State registrations, a Chemical Formulation Report must also be completed (see below).

B. PRODUCT NAME Enter product name exactly as it appears on the product label.

C. PRODUCT CLASSIFICATION Enter the one code best describing the product.

01 Insecticide	06 Nematocide	10 Antifouling paint
02 Fungicide	07 Plant regulator	11 Animal repellent
03 Rodenticide	08 Defoliant, Dessicant	12 Other pesticide (specify)
04 Herbicide	09 Disinfectant, Sanitizer, Germicide	13 Device
05 Algaecide		

TOLS008998

BZTO104(e)045819

D. **PRODUCT TYPE** Enter the one code best describing the type of production.
1 Technical material for manufacturing use only
2 Formulation or blending
3 Repackaging
4 Other (specify)

E. **MARKET PRODUCED FOR** Enter the code best describing the market for which the pesticide is produced.
01 United States only
02 United States and export out of United States
03 Export out of United States only

F. USE CLASSIFICATION Leave blank

G. AMOUNT PRODUCED PAST YEAR Enter amount (pounds or gallons) of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced.

H. AMOUNT SOLD/DISTRIBUTED PAST YEAR Enter amount (pounds or gallons) of the product sold or distributed (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when product was produced.

I. AMOUNT PRODUCED CURRENT YEAR Enter anticipated amount (pounds or gallons) of the product to be produced at the establishment in current calendar year. In all cases this figure will be considered an estimate of the current year's production.

J. UNIT OF MEASURE Enter the unit of measure used in Items G, H, and I:
L = pounds G = gallons R = other (specify unit)

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page __ of __.

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report (Section 12(a)(2)(M), 86 Stat. 991). The Pesticides Report will be treated as confidential.

INSTRUCTIONS FOR CHEMICAL FORMULATION REPORT

In addition to completing the above, a Chemical Formulation Report must be submitted for any pesticide produced at the reporting establishment meeting the following criteria:

1. Pesticide is not registered with EPA or a State; and
2. Pesticide does not have EPA registration pending; and
3. Pesticide is not produced under an Experimental Use Permit, e.g., an unregistered pesticide produced for export out of the United States.

The Chemical Formulation Report must include:

1. The EPA Establishment Number assigned to the reporting establishment;
2. The Item Number (6, 7, 8, etc.) on Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given;
3. The product name exactly as it appears in Item B of the Pesticides Report; and
4. A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%).

The Chemical Formulation Report will be treated as confidential.

TOLS008999

PHONE 286-161

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

December 23, 1977

Mr. H. P. Struessel
Wood Treating Chemicals Dept.
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, Mo. 63110

Dear Mr. Struessel:

Enclosed is the Pesticide Report which we received today from the EPA which must be completed so that we can execute and mail by February 1, 1978.

Please complete and return to me so that we can mail before the deadline and avoid "serious legal ramifications, including assessment of a civil penalty" as stated in their letter. Any penalty would be for your account.

Yours very truly,

Newton P. Lesh V-pres.

Newton P. Lesh

NPL/s
Encl

TOLS009000

BZTO104(e)045821

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before [illegible]. The information reported on [illegible] is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: FIRE OIL CO

3. SIGNATURE OF ESTABLISHMENT OFFICER:

STREET: 12005 NORTH BURGARD ST

4. TITLE:

5. DATE (Mo., Day, Yr.):

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code):

Line	A. Product No.	Code	B. Product Name	C. Product Classification	D. Production Type (Specify if other)	E. Market Produced For	F. Use Classification (Specify if other)	G. Amt Produced Past Year	H. Amt Sold/Distr'd Past Yr	I. Amt Produced Current Yr	J. Unit of Measure (L=LBS, G=GALS)
7.	00453[illegible]267	1	WOODTOX 140-T CONCENTRATE	02	2	01		23000	22305	30000	G
8.	00453[illegible]271	1	WOODTOX 140-T READY-TO-USE	02	2	01		39295	45[illegible]	25600	G
9.	00453[illegible]270	1	WOODTOX PRE PRIME[illegible] READY TO USE	02		01		133000	[illegible]585	180000	G
10.	00453[illegible]8	1	[illegible]TOX 40 CONCENTRATE	02	2	01		13040	14819	18000	G
11.	05831[illegible]4	1	REDY COAT PENTA CONCENTRATE	02	2	01		10960	10960	12000	G
12.	05831[illegible]8	1	REDY COAT PENTA 455 READY TO USE	02	2	01		12705	12705	14400	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

CONFIDENTIAL

TOLS009001

BZTO104(e)045822

PORTLAND 1977 EST. 1978

	PRODUCTION	PRODUCTION	
[illegible]	[illegible]	18[illegible]	[illegible]
140 T RTU	52,000 GAL.	40,000	39,295 140-T
140 T CONC	23,000 GAL.	30,000	
TIMBERTOX 40 C.	24,000 GAL	30,000	TX-40 = 13,040 Boot Cast Conc = 10,960

TOLS009002

BZTO104(e)045823

EPA Reg. No. 5831-[redacted]

REDT COAT [redacted] CONC (TX-40-CONC) 9350 GAL
510
9860 + 1100 = 10,960

EPA Reg. No. 5831-[redacted]

REDT COAT [redacted] 455 RTU (WOODTOX 140-T-RTU) 11,605 GAL + 1100 = 12,705

WOODTOX 140 CONC 4,991 GAL
453-267 2,200
"T" 3,014
12,100
12,305

WOODTOX 140 RTU 26,720 GAL.
453-271 2,200 + 2016
"T" 7,995 110
5,005 1100
20
41,940 45,166

WOODTOX PRE-PRIME RTU 41,230 GAL.
453-270 13,365 + 1,518
"T" 48,482 + 110
11,880 116,585
114,957

~~WOODTOX PRE~~ TIMBERTOX 40 CONC 13,719 GAL.
453-8 1,045
14,764 + 55
14,819

TOLS009003

BZTO104(e)045824

[redacted]

Gibsonite

RTU	CONC
1100	1100
1760	1320
1100	660
1100	2200
1045	220
1100	1100
1100	1100
440	550
1100	1100
1760	510 (30's)
1100	1100
12,705	10,960

TOLS009004

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

KOPPERS

January 18, 1979

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

Dear Mr. Lesh:

Attached is completed EPA Form 3540-16, Pesticides Report For Pesticide Producing Establishments for 1978, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009005

BZTO104(e)045826

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

3. SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST.

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A. PRODUCT NO	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L-LBS. G-GALS)
7.	00458 267	1	Woodtox 140-T Concentrate	02	2	1	3	25000	26345	30000	G
8.	00453 271	1	Woodtox 140-T Ready-to-Use	02	2	1	3	21219	22859	24000	G
9.	00453 270	1	Woodtox Pre-Prime-T Ready-to-Use	02	2	1	3	16071	14957	16500	G
10.	00453 8	1	Timbertox 40 Concentrate	02	2	1	3	21130	19218	22000	G
11.	05831 4	1	Redy Coat Penta Concentrate	02	2	1	3	12870	12870	13000	G
12.	05831 8	1	Redy Coat Penta XXXXXXXXX 455 Ready-to-Use	02	2	1	3	15620	15620	16000	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009006

BZTO104(e)045827

PORTLAND 1978

1/16/79

PRODUCT	PRODUCTION	SALES	1979 PROJECTION
PREPRIME T RTU	160671	149957 ✓	165,000
NOV - RPT. = 143,815 DEC = 6,142 149,957			
140-T RTU	36839	38479	40,000
REDY COAT PENTA 455 RTU — less NOV. RPT. = 22,416-T 15,620-RC / 38,036	15,620 21,219	15,620 ✓ 22,859 ✓	16 000 RCP 24 000
✓ 140-T CONC	25000	26345 ✓	30000
~~NOV. RPT. = 19,473~~ ~~DEC 7,975~~ / 27,448			
PREPRIME T CONC	0	0 ✓	0
TIMBERTOX 40 CONC	34000	32088	35000
REDY COAT PENTA CONCENTRATE less		~~12,100~~ 12,870 RCP	13000 RCP
NOV - RPT. = 17,018 RCP = 12,100 29,118 RCP DEC - 770 29,888	RCP → 12,870 TX40 → 21,130	~~19,988~~ 19,218 ✓ TX-40	22,000 TX40

TOLS009007

BZTO104(e)045828

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

December 22, 1978

Mr. H. P. Struessel
Wood Treating Chemicals Dept.
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, Mo. 63110

Dear Mr. Struessel:

Enclosed is the Pesticide Report which we received today from the EPA which must be completed so that we can execute and mail by February 1, 1979.

Please complete and return to me so that we can mail before the deadline and avoid "serious legal ramifications, including assessment of a civil penalty" as stated in their letter. Any penalty would be for your account.

Yours very truly,

Newton P. Lesh V-pres.

NPL/s
Encl.

TOLS009008

BZTO104(e)045829

Rec
12-26-78

TOLS009009

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE

SEATTLE, WASHINGTON 98101

DEC 19 1978

REPLY TO ATTN OF: M/S 524

TO: Registered Pesticide-Producing Establishments

SUBJECT: Pesticides Reports

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended, requires each registered pesticide-producing establishment to report the following information:

1. The amount of each pesticide the establishment produced in 1978.

2. The amount of such pesticide sold or distributed in 1978.

3. The amount of each pesticide projected for production in 1979.

Enclosed are the forms and instructions for submitting the required information. The original and first carbon copy must be returned to this office by February 1, 1979. Please keep the last carbon copy for your files. Written requests for extensions of up to 30 days will be considered. This form must be submitted even if you produced no pesticides in the past year and will produce none this year; or if all your production was and will be custom-blended products only.

Serious legal ramifications, including assessment of a civil penalty, may result from your failure to submit this form, if it is necessary in your case.

Only those products actually produced at the reporting establishment are to be reported; products sold or distributed by the reporting establishment but produced elsewhere are not to be included in the report for this establishment. "Produce" has been defined by regulation to mean "...manufacture, prepare, propagate, compound, or process any pesticide...or device, or to repackage or otherwise change the container of any pesticide or device" [40 CFR 167.1(c)].

TOLS009010

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report, or to fail to file such reports [Section 12(a) (2) (M) and (N), 86 Stat. 7 U.S.C. 136j (a)(2)(M) and (N). Any information submitted on the Pesticides Report or Chemical Formulation Report will be considered confidential.

For further information, please contact Kimberly Giordano, telephone #(206) 442-1090.

Donald A. Donaldson
Chief, Enforcement Section
Pesticides & Toxic Substances Branch
Region 10

TOLS009011

INSTRUCTIONS FOR PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. This Pesticides Report is to be completed and the original and first copy returned to the EPA Regional Office indicated on the accompanying transmittal letter.

ITEM

1. EPA ESTABLISHMENT NUMBER Enter the establishment registration number assigned to the establishment, if not already preprinted.

2. ESTABLISHMENT NAME AND ADDRESS Enter name and address of establishment. If preprinted name or address is incorrect, make necessary changes.

3. SIGNATURE OF ESTABLISHMENT OFFICER Self-explanatory

4. TITLE Self-explanatory

5. DATE Enter the date of signature in month-day-year sequence.

6. TELEPHONE Enter telephone number of establishment, including area code.

Items A through J must be completed for each pesticide produced at the reporting establishment, including all EPA- and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. A pesticide sold or distributed under several distributor labels should be reported only as a single product rather than reported separately for each label.

A. PRODUCT NUMBER and CODE
   1. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code." E.g. 0,0,1,2,3,1 | 1
   2. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code." E.g. 0,0,1,2,3,R | 2
   3. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code." E.g. 0,0,1,2,3,E,X,P,-,1,G | 3
   4. If product does not come under any of above, leave product number blank and enter "4" under "Code." If product is assigned an EPA Accession Number or a State registration number, enter this number as part of the product name (Item B below). For all "Code 4" products, except those having EPA Accession Numbers or State registrations, a Chemical Formulation Report must also be completed (see below).

B. PRODUCT NAME Enter product name exactly as it appears on the product label.

C. PRODUCT CLASSIFICATION Enter the <u>one</u> code best describing the product.

01 Insecticide	06 Nematocide	10 Antifouling paint
02 Fungicide	07 Plant regulator	11 Animal repellent
03 Rodenticide	08 Defoliant, Dessicant	12 Other pesticide (specify)
04 Herbicide	09 Disinfectant,	13 Device
05 Algaecide	Sanitizer, Germicide	

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D. PRODUCT TYPE Enter the one code best describing the type of production.
1 Technical material for manufacturing use only
2 Formulation or blending
3 Repackaging
4 Other (specify)

E. MARKET PRODUCED FOR Enter the code best describing the market for which the pesticide is produced.
1 United States
2 United States and export out of United States
3 Export out of United States only

F. USE CLASSIFICATION Enter the code for the use assigned to the pesticide. If the pesticide has not yet been classified enter code 3.
1 General Use 2 Restricted Use 3 Other

G. AMOUNT PRODUCED PAST YEAR Enter amount (pounds or gallons) of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced. Foreign establishments report only the amount produced for shipment to the United States.

H. AMOUNT SOLD/DISTRIBUTED PAST YEAR Enter amount (pounds or gallons) of the product sold or distributed (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when product was produced. Foreign establishments report only the amount sold or distributed in the United States.

I. AMOUNT PRODUCED CURRENT YEAR Enter anticipated amount (pounds or gallons) of the product to be produced at the establishment in current calendar year. In all cases this figure will be considered an estimate of the current year's production. Foreign establishments report only the amount intended for shipment to the United States.

J. UNIT OF MEASURE Enter the unit of measure used in Items G, H, and I:
L = pounds G = gallons R = other (specify unit)

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page ____ of ____.

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report [Section 12(a)(2)(M), 7 USC 136j]. The Pesticide Report will be treated as confidential.

INSTRUCTIONS FOR CHEMICAL FORMULATION REPORT

In addition to completing the above, a Chemical Formulation Report must be submitted for any pesticide produced at the reporting establishment meeting the following criteria:
1. Pesticide is not registered with EPA or a State; and
2. Pesticide does not have EPA registration pending; and
3. Pesticide is not produced under an Experimental Use Permit, e.g., an unregistered pesticide produced for export out of the United States.

The Chemical Formulation Report must include:
1. The EPA Establishment Number assigned to the reporting establishment;
2. The Item Number (7, 8, 9, etc.) on Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given;
3. The product name exactly as it appears in Item B of the Pesticides Report; and
4. A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%).

The Chemical Formulation Report will be treated as confidential.

TOLS009013

BZTO104(e)045834

EPA Est. 33760-OR-01

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

KOPPERS

January 28, 1980

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

Dear Mr. Lesh:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments for 1979, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009015

BZTO104(e)045836

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE

SEATTLE, WASHINGTON 98101

DEC 05 1979

REPLY TO ATTN OF: M/S 524

TO: Registered Pesticide-Producing Establishments

SUBJECT: Pesticides Reports

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended, requires each registered pesticide-producing establishment to report the following information:

1. The amount of each pesticide the establishment produced in 1979.

2. The amount of such pesticide sold or distributed in 1979.

3. The amount of each pesticide projected for production in 1980.

Enclosed are the forms and instructions for submitting the required information. The original and first carbon copy must be returned to this office by FEB 01 1980. Please keep the last carbon copy for your files. Written requests for extensions of up to 30 days will be considered. This form must be submitted even if you produced no pesticides in the past year and will produce none this year; or if all your production was and will be custom-blended products only.

Please send your production report form to the following address:

Environmental Protection Agency
Pesticides & Toxic Substances Branch
Attn: Kimberly Giordano M/S 524
1200 Sixth Avenue
Seattle, WA 98101

TOLS009016

BZTO104(e)045837

Serious legal ramifications, including assessment of a civil penalty, may result from your failure to submit this form, if it is necessary in your case.

Only those products actually produced at the reporting establishment are to be reported; products sold or distributed by the reporting establishment but produced elsewhere are not to be included in the report for this establishment. "Produce" has been defined by regulation to mean "...manufacture, prepare, propagate, compound, or process any pesticide...or device, or to repackage or otherwise change the container of any pesticide or device" [40 CFR 167.1(c)].

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report, or to fail to file such reports [Section 12(a) (2) (M) and (N), 86 Stat. 7 U.S.C. 136j (a)(2)(M) and (N). Any information submitted on the Pesticides Report or Chemical Formulation Report will be considered confidential.

For further information, please contact Kimberly Giordano, telephone #(206) 442-1090.

Donald A. Donaldson
Chief, Enforcement Section
Pesticides & Toxic Substances Branch
Region 10

TOLS009017

BZTO104(e)045838

INSTRUCTIONS FOR PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. This Pesticides Report is to be completed and the original and first copy returned to the EPA Regional Office indicated on the accompanying transmittal letter.

ITEM

1. EPA ESTABLISHMENT NUMBER Enter the establishment registration number assigned to the establishment, if not already preprinted.

2. ESTABLISHMENT NAME AND ADDRESS Enter name and address of establishment. If preprinted name or address is incorrect, make necessary changes.

3. SIGNATURE OF ESTABLISHMENT OFFICER Self-explanatory

4. TITLE Self-explanatory

5. DATE Enter the date of signature in month-day-year sequence.

6. TELEPHONE Enter telephone number of establishment, including area code.

Items A through J must be completed for each pesticide produced at the reporting establishment, including all EPA and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. A pesticide sold or distributed under several distributor labels should be reported only as a single product rather than reported separately for each label.

A. PRODUCT NUMBER AND CODE

1. If a product is Federally registered, enter EPA product registration number. Enter "1" under "Code." E.g. 0,0,1,2,3 / 1
2. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code." E.g. 0,0,1,2,3 / R 2
3. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code." E.g. 0,0,1,2,3 / E,X,P,-,1,G 3
4. If product does not come under any of above, leave product number blank and enter "4" under "Code." If product is assigned EPA Accession Number or a State registration number, enter this number as part of the product name (Item B below). For all "Code 4" products, except those having EPA Accession Numbers or State registrations, a Chemical Formulation Report must also be completed (see below).

B. PRODUCT NAME Enter product name exactly as it appears on the product label.

C. PRODUCT CLASSIFICATION Enter the one code best describing the product.

01 Insecticide	06 Nematocide	10 Antifouling paint
02 Fungicide	07 Plant regulator	11 Animal repellent
03 Rodenticide	08 Defoliant, Dessicant	12 Other pesticide (specify)
04 Herbicide	09 Disinfectant, Sanitizer, Germicide	13 Device
05 Algaecide		

TOLS009018

D. PRODUCT TYPE Enter the one code best describing the type of production.
1 Technical material for manufacturing use only
2 Formulation or blending
3 Repackaging
4 Other (specify)

E. MARKET PRODUCED FOR Enter the code best describing the market for which the pesticide is produced.
1 United States
2 United States and export out of United States
3 Export out of United States only

F. USE CLASSIFICATION Enter the code for the use classification assigned to the pesticide.
2 Restricted Use
3 Unclassified

G. AMOUNT PRODUCED PAST YEAR Enter amount (pounds or gallons) of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced. Foreign establishments report only the amount produced for shipment to the United States.

H. AMOUNT SOLD/DISTRIBUTED PAST YEAR Enter amount (pounds or gallons) of the product sold or distributed (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced. Foreign establishments report only the amount sold or distributed in the United States.

I. AMOUNT PRODUCED CURRENT YEAR Enter anticipated amount (pounds or gallons) of the product to be produced at the establishment in the current year. In all cases this figure will be considered an estimate of the current year's production. Foreign establishments report only the amount intended for shipment to the United States.

J. UNIT OF MEASURE Enter the unit of measure used in Items G, H, I.
L = pounds G = gallons R = other (specify unit)

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page___ of ___.

It is unlawful to knowingly falsify all or any part of any information submitted on the Pesticides Report or Chemical Formulation Report [section 12(a)(2)(M), 7 USC 136e, 136f]. The Pesticide Report will be treated as confidential pursuant to section 7(d) of FIFRA.

INSTRUCTIONS FOR THE CHEMICAL FORMULATION REPORT

In addition to completing the above, a Chemical Formulation Report must be submitted for any pesticide produced at the reporting establishment meeting the following criteria:

1. Pesticide is not registered with EPA or a State; and
2. Pesticide does not have EPA registration pending; and
3. Pesticide is not produced under an Experimental Use Permit, E.g., an unregistered pesticide produced for export out of the United States.

The Chemical Formulation Report must include:

1. The EPA Establishment Number assigned to the reporting establishment;
2. The Item Number (7, 8, 9 etc.) on the Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given;
3. The product name exactly as it appears in Item 8 of the Pesticides Report; and
4. A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%).

The Chemical Formulation Report will be treated as confidential pursuant to section 7(d) of FIFRA.

TOLS009019

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIMBER-OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.	453270	1	Woodtox Pre-Prime-T Ready-to-Use	02	2	1	3	152576	158439	160000	G
8.	4538	1	Timbertox 40 Concentrate	02	2	1	3	22115	25354	15000	G
9.	453271	1	Woodtox 140 - T Ready-to-Use	02	2	1	3	20610	26524	15000	G
10.	453267	1	Woodtox 140 - T Concentrate	02	2	1	3	1350	11550	12000	G
11.	58314	1	Redy Coat Penta Concentrate	02	2	1	3	5885	5885	2000	G
12.	58318	1	Redy Coat Penta 455 Ready-to-Use	02	2	1	3	16390	16390	2000	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009020

BZTO104(e)045841

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME-OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.	453270	1	Woodtox Pre-Prime-T Ready-to-Use	02	2	1	3	152576	158439	160000	G
8.	4538	1	Timbertox 40 Concentrate	02	2	1	3	22115	25354	15000	G
9.	453271	1	Woodtox 140 - T Ready-to-Use	02	2	1	3	20610	26524	15000	G
10.	453267	1	Woodtox 140 - T Concentrate	02	2	1	3	13500	11550	12000	G
11.	58314	1	Redy Coat Penta Concentrate	02	2	1	3	5885	5885	2000	G
12.	58318	1	Redy Coat Penta 455 Ready-to-Use	02	2	1	3	16390	16390	2000	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009021

BZTO104(e)045842

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME-OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.	453270	1	Woodtox Pre-Prime-T Ready-to-Use	02	2	1	3	152576	158439	160000	G
8.	4538	1	Timbertox 40 Concentrate	02	2	1	3	22115	25354	15000	G
9.	453271	1	Woodtox 140 - T Ready-to-Use	02	2	1	3	20610	26524	15000	G
10.	453267	1	Woodtox 140 - T Concentrate	02	2	1	3	1350	11550	12000	G
11.	58314	1	Redy Coat Penta Concentrate	02	2	1	3	5885	5885	2000	G
12.	58318	1	Redy Coat Penta 455 Ready-to-Use	02	2	1	3	16390	16390	2000	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009022

S 1786

BZTO104(e)045843

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: **337600R01**

2. ESTABLISHMENT NAME: **TIME-OIL CO**

SIGNATURE OF ESTABLISHMENT OFFICER:

STREET: **12005 NORTH BURGARD ST**

4. TITLE:

5. DATE (Mo., Day, Yr.):

CITY: **PORTLAND** | STATE: **OR** | ZIP CODE: **97203**

6. TELEPHONE (Include area code):

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.	45320	1	Woodtox Pre-Prime-T Ready-to-Use	02	2	1	3	152576	158439	160000	G
8.	4538	1	Timbertox 40 Concentrate	02	2	1	3	22115	25354	15000	G
9.	45327	1	Woodtox 140 - T Ready-to-Use	02	2	1	3	20610	26524	15000	G
10.	45326	7	Woodtox 140 - T Concentrate	02	2	1	3	1350	11550	12000	G
11.	58314	1	Redy Coat Penta Concentrate	02	2	1	3	5885	5885	2000	G
12.	58318	1	Redy Coat Penta 455 Ready-to-Use	02	2	1	3	16390	16390	2000	G
13.											

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009023

BZTO104(e)045844

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: **337600R01**

2. ESTABLISHMENT NAME: **TIME OIL CO**

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: **12005 NORTH BURGARD ST**

4. TITLE

5. DATE *(Mo., Day, Yr.)*

CITY: **PORTLAND** | STATE: **OR** | ZIP CODE: **97203**

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.										
8.										
9.										
10.										
11.										
12.										
13.										

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009024

S 1780

BZTO104(e)045845

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME				
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
8.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
9.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
10.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
11.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
12.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
13.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009025

BZTO104(e)045846

PHONE 286-1611

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

December 10, 1979

Mr. H. P. Struessel
Wood Treating Chemicals Dept.
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, Mo. 63110

Dear Mr. Struessel:

Enclosed is the Pesticide Report which we received today from the EPA which must be completed so that we can execute and mail by February 1, 1980.

Please complete the report and return to me so that we can mail before the deadline and avoid "serious legal ramifications, including assessment of a civil penalty" as stated in their letter. Any penalty would be for your account.

Yours very truly,

Newton P Lesh V-pres.

Newton P. Lesh

NPL/s
Encl.

TOLS009026

BZTO104(e)045847

FEDERAL EXPRESS

PLEASE COMPLETE ALL INFORMATION IN THE 5 BLOCKS OUTLINED IN ORANGE.
SEE REVERSE SIDE FOR COMPLETE PREPARATION INSTRUCTIONS.

DATE: January 28, 1980 AIRBILL NO. 14653396

[redacted]

COMPANY: WOOD TREATING [redacted] DEPARTMENT/FLOOR NO.

STREET ADDRESS: 5137 SOUTHWEST [redacted]

CITY: ST. LOUIS, [redacted]

PURCHASE ORDER NO. OR YOUR REFERENCE NO.: EPA-1

[redacted]

COMPANY: [redacted] DEPARTMENT/FLOOR NO.

STREET ADDRESS: 12[redacted]

CITY: [redacted]

PAYMENT: ☒ Bill Shipper ☐ Cash In Advance ☐ [redacted]

Pieces	Weight	Declared Value
1	10	MIN
Total 1	Total 10	MIN

Description of Contents

NON-NEGOTIABLE AIRBILL SUBJECT TO CONDITIONS OF CONTRACT SET FORTH ON REVERSE OF SHIPPER'S COPY

AGT/PRO

AGT/PRO

VALUATION CHARGE

ADVANCE ORIGIN

ADVANCE DESTINATION

OTHER

TOTAL CHARGES

SERVICE (Check One)

DELIVERY INSTRUCTIONS (Check One): Delv. / Hold For Pick-Up / Set Delv. / Restricted Articles / Stdd. / Govt. / Other

PRIORITY ONE (P-1) ☐ (Overnight Packages)

☒ COURIER PAK

☐ Overnight Envelope (Up to 2 lbs.) ☒ ☐ ☐ N/A ☐ ☐ ☐

☐ Overnight Box (Up to 5 lbs.) ☐ ☐ ☐ N/A ☐ ☐ ☐

☐ Overnight Tube (Up to 5 lbs.) ☐ ☐ ☐ N/A ☐ ☐ ☐

STANDARD AIR ☐ (Scheduled 2 Day Delivery) ☐ ☐ N/A ☐ N/A ☐ ☐

4

5

RECEIVED AT ☒ Shipper's Door ☐ FEC Station

FEC EMPLOYEE NO. 1804

DATE/TIME 1-28 1632

FEC-S-0049 8/78

TOLS009027

BZTO104(e)045848

1. In tendering the shipment for carriage the shipper agrees to these Terms and Conditions of Contract which no agent or employee of [illegible] that this Federal Express Airbill is NON-[illegible]

2. Carriage is subject to the governing rates, rules and classifications of tariffs filed with the Civil Aeronautics Board in effect as of the date this contract of carriage [illegible] into and which are also stated in the most recent Federal Express Service Guide, which is available for inspection, and incorporated into this contract by reference.

3. In tendering the shipment for carriage, the shipper warrants that the shipment is packaged adequately to protect the enclosed goods and to ensure safe transportation [illegible] care in handling, and that each package is appropriately labeled, and is in good order (except as noted) for carriage [illegible] Federal Express is prohibited by Federal Regulation from accepting responsibility for loss, damage or delay to shipments when other than Federal Express surface transportation is employed and when the destination is not within the Federal Express terminal area as provided for in Tariffs published with the Civil Aeronautics Board.

4. In the event of international carriage of any shipment hereunder, the rules relating to liability established by the Convention for the Unification of Certain Rules Relating to International Carriage by Air signed at Warsaw, Poland, on October 12, 1929, shall apply to the carriage insofar as the same is governed thereby.

6. FEDERAL TRANSPORTATION EXCISE TAX Pursuant to Section 427 of the Internal Revenue Code, [illegible] on the air transportation portion of the [illegible] services related thereto is included with [illegible]

7. The liability of Federal [illegible] sum of $100.00 unless a higher [illegible] is declared [illegible] herein and a greater charge paid at the rate of $25 per [illegible] value. The maximum higher declared value is $2,000.00, except that where SSS service has been specified in connection with P-1 service, the maximum higher declared value is $5,000.00. Federal Express shall not be liable in any event for special or consequential damages, including but not limited to, loss of profit or income. In the case of loss, [illegible] the shipment.

8. Written notice of loss, damage or delay must be reported by the shipper within fifteen (15) [illegible] of the shipment.

Written notice of loss [illegible] must be reported by the shipper within ninety [illegible] after acceptance of the shipment for carriage.

All claims, other than over[illegible] in writing to the Carrier within [illegible] notification in accordance [illegible]

No claims for damage [illegible] charges thereon have been [illegible] be deducted from transportation [illegible]

9. Except as provided in the [illegible] the consignee of the shipment [illegible] damage on the delivery receipt [illegible] that the shipment has been delivered [illegible]

10. In the case of claims for concealed damage which is not discovered at the time of delivery, the shipper shall notify the Carrier in writing as promptly as possible after the discovery thereof, and in any event, not later than 15 days from the date of delivery.

If more than fifteen (15) days elapse between the date of delivery of the shipment and notice of damage by the shipper, the shipper shall show good cause why the damage was not discovered earlier and timely notification not given.

The shipper must make the original shipping cartons and packing available for inspection by the Carrier.

11. Written notification will be considered to have been made if the shipper/consignee calls and notifies Customer Service Department, in Memphis, 800-238-5355 and subsequently files a written notification.

12. All claims must be filed by the shipper.

TOLS009028

BZTO104(e)045849

FEDERAL EXPRESS

Invoice

Bank No. _____ Freight Payment Plan _____

D-U-N-S
05-807-0459

Mail Payment to:
Federal Express Corporation
P.O. Box 727 Dept. A
Memphis, Tn. 38194

Bill to:

WOOP TREATING CHEMICALS DEPT.
HAROLD STRUESSEL
5137 SOUTHWEST AVE
ST. LOUIS, MO 63110

Shipper: 630-0317-4

WOOP TREATING CHEMICALS DEPT.
5137 SOUTHWEST AVE
ST. LOUIS, MO 63110

PAYMENT DUE IN 15 DAYS

The charge below includes a 5% Federal Excise Tax on the air transportation portion and related accessorial services.

Customer Account No.	Invoice No.	Invoice Date	Important	Date Shipped	Bill To:	Consignment Scale
630-0317-4	0-032-17734	02/01/80	→	01/28/80	PRE-PAID	

Federal Express Control ID.	Airbill Number	Svc.	Rate Scale	No. Pkgs.	Weight	Net Weight Charge		Other Charges	Shipping Cost	Shipper Reference
86032119	014653396	8	F	1	2	1700			1700	EPA1

318-390-730

1. Priority 1 2. Std. Air 4. Hazardous Mat. 5. PBS 6. SSS 8. Post Paid O/P 9. Shipment Service Codes ▲

1. Address Corrections, 2. Returned Shipment, 3. Advance, 4. Handling, 5. Saturday Delivery, 6. International Service, 7. International Expedited, 8. Out of Delivery Area ▲ Other Charge Code ▲

TOTAL CHARGE 17.00 Remit this Amount within 15 days

Account Number	Invoice Number	Date	Amount Due	
630-0317-4	0-032-17734	02/01/80	17.00	Detach at Perforation ↑

6300317400321773472000170041

Remittance Stub

PAYMENT DUE IN 15 DAYS

TOLS009029

WOOD D

WOOP TREATING CHEMICALS DEPT.
5137 SOUTHWEST AVE
ST. LOUIS, MO 63110

MAIL PAYMENT TO
FEDERAL EXPRESS CORP.
P.O. BOX 727 DEPT. A
MEMPHIS, TN 38194

FEDERAL EXPRESS

To insure proper credit, please return this portion with your remittance.

FEC-DP 152 Rev. 12/78

BZTO104(e)045850

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

December 5, 1980

Mr. H. P. Struessel
Wood Treating Chemicals Dept.
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, Mo. 63110

Dear Mr. Struessel:

Enclosed is the Pesticide Report which we received today from the EPA which must be completed so that we can execute and mail by February 1, 1981. Since February 1 is Sunday in 1981 we should receive the report before January 29, 1981 in order to handle.

Please complete the report and return to me so that we can mail before the deadline and avoid "serious ramifications, including assessment of a civil penalty" as stated in their letter. Any penalty would be for your account.

Yours very truly,

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

NPL/s
Encl.

TOLS009030

BZTO104(e)045851

EXPRESS MAIL NEXT DAY SERVICE

POST OFFICE TO ADDRESSEE

B 69448404

FROM:
WOOD TREATING CHEM. DEPT.
KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE
ST. LOUIS, MO 63110

Value Declared, if any:	Customer Number, if any:
---	--EPA.RPT.

TO:
MR. N. P. LESH
TIME OIL COMPANY
12005 N. BURGARD
PORTLAND, OREGON 97203

ORIGIN:

Initials of Receiving Clerk:	ME
P.O. ZIP	63136
Date in:	1-26-81
Time in:	1600
Weight: 1 Lbs.	Postage: $7 80

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 43 for details.

INSURANCE COVERAGE:
(1) *Document Reconstruction Insurance* (Domestic and International Mail). Non-negotiable documents are insured against loss, damage or delay up to $50,000 per piece subject to a limit of $500,000 per occurrence. See USPS Notice 7 or Notice 63 for limitations of coverage. (2) *Merchandise Insurance* (Domestic and International Mail) Parcels are insured against loss or damage up to $500. The mailer must declare the value of the article at the time of mailing. See USPS Notice 13 or Notice 63 for limitations of coverage.

Claims for loss, delay, or damage must be made within 60 days. Claim forms may be obtained at the post office of mailing.

LABEL 11B ☆ SEPT/80 U.S.G.P.O. 1980-318-152

EXPRESS MAIL SERVICE
Customer Receipt

PRESS HARD YOU ARE MAKING 4 COPIES

TOLS009032

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

KOPPERS

January 26, 1981

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

Dear Mr. Lesh:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments for 1980, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009033

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

KOPPERS

January 26, 1981

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

Dear Mr. Lesh:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments for 1980, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009034

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

November 6, 1980

OFFICE OF ENFORCEMENT

MEMORANDUM

SUBJECT: Pesticides Reports

TO: Registered Pesticide-Producing Establishments

Who should complete EPA Form 3540-16 Pesticide Report?

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended, requires each registered pesticide-producing establishment to report the types and amounts of pesticides produced at, and sold or distributed by, that establishment in calendar year 1980, and the anticipated amounts of production during calendar year 1981. This year any registered pesticide-producing establishment whose production is totally confined to custom blend products is exempt from completing EPA Form 3540-16, "Pesticides Report for Pesticide-Producing Establishments."

A custom blend which will be exempt from the requirement of Section 3 registration will have to meet the following conditions:

1. The blend is prepared to the order of the user and is not held in inventory, and

2. The pesticide used in the blend bears end-use labeling directions providing for use of the product in such a blend, or the blend is recommended in writing by an appropriate State or Federal agency official, and

3. The blend is prepared in a registered establishment, and

4. The blend is delivered to the user together with:
   a. a copy of the end-use labeling of the pesticide used in the blend, and
   b. a statement specifying the composition of the mixture.

Only those establishments whose entire pesticide production is confined to "custom blend" products are exempt from reporting. Any registered establishments who intend to produce registered pesticides are required to complete EPA Form 3540-16. This form must be submitted by those registered establishments who PRODUCED NO REGISTERED PESTICIDES IN THE PAST YEAR AND WILL PRODUCE NONE THIS YEAR.

TOLS009035

BZTO104(e)045856

What products should be reported?

Only those registered pesticide products actually produced at the reporting establishment are to be reported; products which are sold or distributed but not produced at the reporting establishment are not to be included in this report. "Produce" has been defined by regulation to mean "...manufacture, prepare, propagate, compound, or process any pesticide...or device, or active ingredient used in producing a pesticide; or to repackage or otherwise change the container of any pesticide or device" (FIFRA Section 2 (w) and 40 CFR 167.1(c)).

Custom blend products should not be included on EPA Form 3540-16.

How should each establishment respond?

If your establishment has received EPA Form 3540-16 and your pesticide production is not totally confined to custom blend products, you are legally required to complete EPA Form 3540-16.

If your establishment has received EPA Form 3540-16 and your pesticide production is totally confined to custom blend products, you are required to notify the Establishment Registration and Product Reporting personnel in your region through the attached "Notification of Incorrect Custom Blend Classification."

If your establishment has not received EPA Form 3540-16 and your pesticide production is not totally confined to custom blend products, you are legally required to complete EPA Form 3540-16. Complete the attached "Notification of Incorrect Custom Blend Classification" and mail as indicated. You will then be sent EPA Form 3540-16 for those registered pesticides produced.

If your establishment has not received EPA Form 3540-16, and your pesticide production is totally confined to custom blend products, you need not respond at all.

IMPORTANT

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report, or to fail to file such reports (FIFRA Section 12(a)(2)(M) and (N), 7 USC 136e, 236f). This form is to be completed and the original and first copy returned to EPA, 1200 Sixth Avenue, Seattle, Washington 98101, by February 1, 1981. Any information submitted on the Pesticides Report or Chemical Formulation Report other than the names of the pesticides or active ingredients used in pesticides produced, sold, or distributed at your establishment will be considered confidential. For further information, please contact Kim Giordano (206/442-1090).

A. E. Conroy, II, Director
Pesticides and Toxic Substances
Enforcement Division

Attachment

TOLS009036

BZTO104(e)045857

NOTIFICATION OF INCORRECT CUSTOM BLEND CLASSIFICATION

Establishment Name: _____

_____

Establishment Number: / / / / / / - / / / - / / /

Establishment Contact: _____

Signature: _____

Telephone Number: _____

Check appropriate response in both statements:

Our establishment ☐ DID receive EPA Form 3540-16.

OR

☐ DID NOT receive EPA Form 3540-16.

Our pesticide production ☐ IS totally confined to Custom Blend Products.

OR

☐ IS NOT totally confined to Custom Blend products.

Instructions: Please complete this form if required according to attached Pesticide Report letter and mail by January 1, 1981, to:

Environmental Protection Agency
1200 Sixth Avenue
Seattle, Washington 98101
C/O Kim Giordano

Requirements: You must return this form (1) if you were not mailed EPA Form 3540-16 and your pesticide production is not confined to Custom Blend products, or (2) if you were mailed EPA Form 3540-16 and your pesticide production is confined to Custom Blend products.

TOLS009037

INSTRUCTIONS FOR PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. This Pesticides Report is to be completed and the original and first copy returned to the EPA Regional Office indicated on the accompanying transmittal letter.

ITEM

1. EPA ESTABLISHMENT NUMBER - Enter the establishment registration number assigned to the establishment, if not already preprinted.

2. ESTABLISHMENT NAME AND ADDRESS - Enter name and address of establishment. If preprinted name or address is incorrect, make necessary changes.

3. SIGNATURE OF ESTABLISHMENT OFFICER - Self-explanatory

4. TITLE - Self-explanatory

5. DATE - Enter the date of signature in month-day-year sequence.

6. TELEPHONE - Enter telephone number of establishment, including area code.

Items A through J must be completed for each pesticide produced at the reporting establishment, including all EPA-and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment should include that product on its report. A pesticide sold or distributed under several distributor labels should be reported only as a single product rather than reported separately for each label.

A. PRODUCT NUMBER and CODE

1. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code." E.g. [0,0,1,2,3 ▨ 1, ... [1]

2. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code." E.g. [0,0,1,2,3 ▨ R, ... [2]

3. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code." E.g. [0,0,1,2,3 ▨ E,X,P,-1,G, . [3]

4. If product does not come under any of above, leave product number blank and enter "4" under "Code." If product is assigned an EPA Accession Number or a State registration number, enter this number as part of the product name (Item B on next page). For all "Code 4" products, except those having EPA Accession Numbers or State registrations, a Chemical Formulation Report must also be completed (see next page).

TOLS009038

BZTO104(e)045859

B. PRODUCT NAME - Enter product name exactly as it appears on the product label.

C. PRODUCT CLASSIFICATION - Enter the one code best describing the product.

01 Insecticide	06 Nematocide	10 Antifouling paint
02 Fungicide	07 Plant regulator	11 Animal repellent
03 Rodenticide	08 Defoliant, Dessicant	12 Other pesticide (specify)
04 Herbicide	09 Disinfectant,	13 Device
05 Algaecide	Sanitizer, Germicide	14 Water Purifier - Point of Use
		15 Water Purifier - Small System

D. PRODUCT TYPE - Enter the one code best describing the type of production.

1 Technical material for manufacturing use only	3 Repackaging
2 Formulation or blending	4 Other (specify)

E. MARKET PRODUCED FOR - Enter the code best describing the market for which the pesticide is produced.

1 United States	3 Export out of United
2 United States and export out of United States	States only

F. USE CLASSIFICATION - Enter the code for the use assigned to the pesticide. If the pesticide has not yet been classified enter code 3.

2 Restricted Use 3 Other

G. AMOUNT PRODUCED PAST YEAR - Enter amount (pounds or gallons) of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced. Foreign establishments report only the amount produced for shipment to the United States.

H. AMOUNT SOLD/DISTRIBUTED PAST YEAR - Enter amount (pounds or gallons) of the product sold or distributed (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when product was produced. Foreign establishment report only the amount sold or distributed in the United States.

I. AMOUNT PRODUCED CURRENT YEAR - Enter anticipated amount (pounds or gallons) of the product to be produced at the establishment in current calendar year. In all cases this figure will be considered an estimate of the current year's production. Foreign establishments report only the amount intended for shipment to the United States.

J. UNIT OF MEASURE - Enter the unit of measure used in Items G, H, and I:

L = pounds G = gallons R = other (specify unit)

TOLS009039

BZTO104(e)045860

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page _____ of ____.

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report (Section 12(a)(2)(M), 7 USC 136j]. The Pesticide Report will be treated as confidential.

INSTRUCTIONS FOR CHEMICAL FORMULATION REPORT

In addition to completing the above, a Chemical Formulation Report must be submitted for any pesticide produced at the reporting establishment meeting the following criteria:

1. Pesticide is not registered with EPA or a State; and
2. Pesticide does not have EPA registration pending; and
3. The product name exactly as it appears in Item B of the Pesticides Report; and
4. A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%).

The Chemical Formulation Report must include:

1. The EPA Establishment Number assigned to the reporting establishment;
2. The Item Number (7,8,9, etc.) on Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given;
3. Pesticide is not produced under an Experimental Use Permit, e.g., an unregistered pesticide produced for export out of the United States.

The Chemical Formulation Report will be treated as confidential.

TOLS009040

BZTO104(e)045861

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760OR01

2. ESTABLISHMENT NAME: TIME OIL CO

STREET: 12005 NORTH BURGARD ST

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

SIGNATURE OF ESTABLISHMENT OFFICER

4. TITLE

5. DATE (Mo., Day, Yr.)

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L-LBS G-GALS)
7.	453270	1	Woodtox Pre-Prime-T Ready To Use	02	2	1	3	107000	110557	100000	G
8.	4538	1	Timbertox 40 Concentrate	02	2	1	3	9730	11115	8000	G
9.	453271	1	Woodtox 140-T Ready To Use	02	2	1	3	000	2906	000	G
10.	453267	1	Woodtox 140-T Concentrate	02	2	1	3	34000	34814	35000	G
11.	453269	1	Woodtox Pre Prime-T Concentrate	02	2	1	3	2000	1936	000	G
12.	453277	1	Tribucide P-75 Ready To Use	02	2	1	3	6962	6962	000	G
13.	58314	1	Redy Coat Penta Concentrate	02	2	1	3	770	770	000	G

☒ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009041

BZTO104(e)045862

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A. PRODUCT NO	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)
7.	58318	1	Redy Coat Penta 455 Ready To Use	02	2	1	3	000	770	10000	G
8.											
9.											
10.											
11.											
12.											
13.											

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14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009042

BZTO104(e)045863

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760OR01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.	453270	1	Woodtox Pre-Prime-T Ready To Use	02	2	1	3	107000	110557	100000	G
8.	45318	1	Timbertox 40 Concentrate	02	2	1	3	9730	11115	8000	G
9.	453271	1	Woodtox 140-T Ready To Use	02	2	1	3	000	2906	000	G
10.	453267	1	Woodtox 140-T Concentrate	02	2	1	3	34000	34814	35000	G
11.	453269	1	Woodtox Pre Prime-T Concentrate	02	2	1	3	2000	1936	000	G
12.	453277	1	Tribucide P-75 Ready To Use	02	2	1	3	6962	6962	000	G
13.	58314	1	Redy Coat Penta Concentrate	02	2	1	3	770	770	000	G

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TOLS009043

BZTO104(e)045864

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A. PRODUCT NO	CODE	B. PRODUCT NAME	C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)	G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)
7.	58318	1	Redy Coat Penta 455 Ready To Use	02	2	1	3	000	770	000000	G
8.											
9.											
10.											
11.											
12.											
13.											

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TOLS009044

BZTO104(e)045865

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME
7.	453 270	1	Woodtox Pre-Prime-T Ready To Use

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
107000	110557	100000	G

	A PRODUCT NO	CODE	B PRODUCT NAME
8.	453 8	1	Timbertox 40 Concentrate

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
9730	111115	8000	G

	A PRODUCT NO	CODE	B PRODUCT NAME
9.	453 271	1	Woodtox 140-T Ready To Use

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
000	2906	000	G

	A PRODUCT NO	CODE	B PRODUCT NAME
10.	453 267	1	Woodtox 140-T Concentrate

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
34000	34814	35000	G

	A PRODUCT NO	CODE	B PRODUCT NAME
11.	453 269	1	Woodtox Pre Prime-T Concentrate

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
2000	1936	000	G

	A PRODUCT NO	CODE	B PRODUCT NAME
12.	453 277	1	Tribucide P-75 Ready To Use

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
6962	6962	000	G

	A PRODUCT NO	CODE	B PRODUCT NAME
13.	5831 4	1	Redy Coat Penta Concentrate

C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)
02	2	1	3

G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
770	770	000	G

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EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009045

BZTO104(e)045866

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

7.

A. PRODUCT NO	CODE	B. PRODUCT NAME
58318	1	Redy Coat Penta 455 Ready To Use

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)
02	2	1	3

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)
000	770	000000	G

8.

A. PRODUCT NO	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)

9.

A. PRODUCT NO	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)

10.

A. PRODUCT NO	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)

11.

A. PRODUCT NO	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)

12.

A. PRODUCT NO	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)

13.

A. PRODUCT NO	CODE	B. PRODUCT NAME

C. PRODUCT CLASSIFICATION	D. PRODUCTION TYPE (Specify if other)	E. MARKET PRODUCED FOR	F. USE CLASSIFICATION (Specify if other)

G. AMT PRODUCED PAST YEAR	H. AMT SOLD/DISTR'D PAST YR	I. AMT PRODUCED CURRENT YR	J. UNIT OF MEASURE (L=LBS G=GALS)

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TOLS009046

BZTO104(e)045867

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760CR01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

7.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

8.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

9.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

10.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

11.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

12.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

13.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE L=LBS G=GALS

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TOLS009047

BZTO104(e)045868

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
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1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME				
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
8.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
9.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
10.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
11.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
12.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
13.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		

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EPA Form 3540-16 (Rev. 9 77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009048

BZTO104(e)045869

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
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1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE *(Mo., Day, Yr.)*

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L=LBS G=GALS)
7.										
8.										
9.										
10.										
11.										
12.										
13.										

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TOLS009049

BZTO104(e)045870

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
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1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME			
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
8.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
9.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
10.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
11.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
12.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
13.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	

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EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009050

BZTO104(e)045871

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760CR01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE *(Mo., Day, Yr.)*

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME				
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		
8.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		
9.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		
10.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		
11.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		
12.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		
13.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L-LBS G-GALS		

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77). PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009051

BZTO104(e)045872

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME				
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
8.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
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	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
10.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
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	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
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12.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
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	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

14. SIGNATURE	15. EPA OFFICE	16. DATE RECEIVED	17. DATE REVIEWED

EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009052

BZTO104(e)045873

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760GR01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE *(Mo., Day, Yr.)*

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME				
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
8.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
9.	A PRODUCT NO / CODE	B PRODUCT NAME				
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS		
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	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
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	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)		
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EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009053

BZTO104(e)045874

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760CR01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO / CODE	B PRODUCT NAME			
7.	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
	G AMT PRODUCED PAST YEAR	H AMT SOLD/DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE L=LBS G=GALS	
8.	A PRODUCT NO / CODE	B PRODUCT NAME			
	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
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	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	
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EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009054

BZTO104(e)045875

Initials Date

Prepared by

Approved by

PORTLAND, ORE. SALES - EPA REPORT FOR 1980

	1	2	3	4	5	6	7
	WOODTOX PREPRIME-T RTU ✓	TIMBERTOX 40 - CONC ✓	WOODTOX 140-T RTU ✓	WOODTOX 140-T CONC ✓	REDI-COAT PENTA CONC ✓	REDI COAT PENTA 455 - RTU ✓	WOODTOX PREPRIME-T CONC ✓
1	77348	125	1019	10119	DEC NOV 770 GAL ✓	DEC NOV 770 GAL ✓	DEC NOV 1936 GAL ✓
2	25685	100	715	24695			
3	NOV = 103,033 GAL	10890	1007	NOV 34,814 ✓			
4	515	DEC NOV 11,115 GAL ✓	56	DEC			
5	7009		110				
6	DEC = 110,557 GAL ✓		NOV 2,906 GAL ✓				
7			DEC				
8							
9	107,000 ✓	9730 ✓	0 ✓	37,000 ✓	770	0	2,000 ✓
10	100,000 ✓	8000 ✓	0 ✓	35,000 ✓	0	0	0 ✓
11							
12							
13							
14							
15							
20							
21							
22							
23							
24							
25	TRIBUCIDE R-75-RTU ✓						
26	6962 GAL-DEC ✓						
27				PRODUCTION - 1980			
28				PRODUCTION - 1981			
29							
30	6962 ✓						
31	0 ✓						
32							
33							
34							
35							
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38							
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40							
41							
42							
43							

TOLS009055

ALISON PARK TOLEDO ... WASHINGTON BLVD ... WASHINGTON GREEN

BZTO104(e)045876

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)

Form Approved OMB NO. 158-R0109

NOTE: Read all instructions before completing. The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 337600R01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

	A PRODUCT NO	CODE	B PRODUCT NAME	C PRODUCT CLASSIFICATION	D PRODUCTION TYPE (Specify if other)	E MARKET PRODUCED FOR	F USE CLASSIFICATION (Specify if other)	G AMT PRODUCED PAST YEAR	H AMT SOLD DISTR'D PAST YR	I AMT PRODUCED CURRENT YR	J UNIT OF MEASURE (L-LBS G-GALS)
7.	453270	1	WOODTOX PRE-PRIME-T READY TO USE	02	2	1	3	107000	110557	100000	G
8.	4538	1	TIMBERTOX 40 CONCENTRATE	02	2	1	3	9730	11115	8000	G
9.	453271	1	WOODTOX 140-T READY TO USE	02	2	1	3	000	2906	000	G
10.	453267	1	WOODTOX 140-T CONCENTRATE	02	2	1	3	34000	34814	35000	G
11.	453269	1	WOODTOX PRE-PRIME-T CONCENTRATE	02	2	1	3	2600	1936	000	G
12.	453277	1	TRIBUCIDE P-75 READY TO USE	02	2	1	3	6962	6962	000	G
13.	58314	1	READY-COAT PENTA CONCENTRATE	02	2	1	3	770	770	000	G

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TOLS009056

BZTO104(e)045877

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)

Form Approved
OMB NO. 158-R0109

NOTE: Read all instructions before completing.
The information reported on this form is treated as confidential.

1. EPA ESTABLISHMENT NUMBER: 33760OR01

2. ESTABLISHMENT NAME: TIME OIL CO

SIGNATURE OF ESTABLISHMENT OFFICER

STREET: 12005 NORTH BURGARD ST

4. TITLE

5. DATE (Mo., Day, Yr.)

CITY: PORTLAND | STATE: OR | ZIP CODE: 97203

6. TELEPHONE (Include area code)

7.
A PRODUCT NO: 58318 | CODE: 1 | B PRODUCT NAME: REDY COAT PENTA 455 READY TO USE
C PRODUCT CLASSIFICATION: 02 | D PRODUCTION TYPE (Specify if other): 2 | E MARKET PRODUCED FOR: 1 | F USE CLASSIFICATION (Specify if other): 3
G AMT PRODUCED PAST YEAR: 000 | H AMT SOLD DISTR'D PAST YR: 770 | I AMT PRODUCED CURRENT YR: 000 | J UNIT OF MEASURE (L=LBS G=GALS): G

8.
A PRODUCT NO | CODE | B PRODUCT NAME
C PRODUCT CLASSIFICATION | D PRODUCTION TYPE (Specify if other) | E MARKET PRODUCED FOR | F USE CLASSIFICATION (Specify if other)
G AMT PRODUCED PAST YEAR | H AMT SOLD DISTR'D PAST YR | I AMT PRODUCED CURRENT YR | J UNIT OF MEASURE (L=LBS G=GALS)

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A PRODUCT NO | CODE | B PRODUCT NAME
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EPA Form 3540-16 (Rev. 9-77) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

TOLS009057

BZTO104(e)045878

LOCATION 743 [illegible] FORM

PRESERVATIVE / PRODUCT			CURRENT MONTH QUANTITY	CURRENT MONTH SALES AMT	CURRENT MONTH PROFIT	CURRENT MONTH % P	CURRENT YEAR TO DATE QUANTITY	CURRENT YEAR TO DATE SALES AMT	CURRENT YEAR TO DATE PROFIT	CURRENT YEAR TO DATE % P
R.R. OIL USED IN TRM										
FREIGHT ADJUSTMENTS			0	0	0	.0	0	32	32	100.0
R.R. OIL USED IN TRM TOTALS				0	0	.0		32	32	100.0
WOOD TREATING CHEM										
FREIGHT ADJUSTMENTS			0	0	0	.0	0X	10-	10-	100.0
WOODTOX 140-T RTU	BULK	GA	1019	2077	528	25.4	1019✓	2077	528	25.4
WOODTOX 140-T RTU	55 GAL DR	GA	0	0	0	.0	715✓	1573	377	24.0
WOODTOX PRE-PRIME-T RTU	BULK	GA	7068	15142	4146	27.4	77348✓	149322	24072	16.1
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GA	0	0	0	.0	25685✓	65407	14889	22.8
WOODTOX PRE-PRIME-T CONC	BULK	GA	0	0	0	.0	1936✓	5615	971	17.3
WOODTOX 140-T CONC	BULK	GA	0	0	0	.0	10119✓	26309	5620	21.4
WOODTOX 140-T CONC	55 GAL DR	GA	11880	42385	10442	24.6	24695✓	86173	33345	38.7
WR 340 CONC	400 LB DR	LB	16620	5484	975	17.8	80913X	23973	4428	18.5
TIMBERTOX 40 CONC W/O DRS	55 GAL DR	GL	0	0	0	.0	125✓	419	76	18.1
TIMBERTOX 40 CONC	BULK	GA	0	0	0	.0	100✓	335	67	20.0
TIMBERTOX 40 CONC	55 GAL DR	GA	2750	11475	2140	18.6	10890✓	44524	9951	22.3
REDY COAT PENTA CONC	55 GAL DR	GA	0	0	0	.0	770✓	2503	389	15.5
REDY COAT PENTA 455 RTU	55 GAL DR	GA	0	0	0	.0	770✓	1040	113	10.9
WOODTOX 140-T RTU SPEC	BULK	GA	0	0	0	.0	1007✓	1358	209	15.4
WOODTOX 140-T RTU SPEC	55 GAL DR	GA	0	0	0	.0	55✓	119	34	28.6
PETROSET 11 PTLD STOCK	460 LB DR	LB	0	0	0	.0	14560X	19057	5649	29.6
MINERAL SPIRITS PTLD	55 GAL DR	GA	0	0	0	.0	110X	275	57	20.7
WK-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	330X	627	190	30.3
WOOD TREATING CHEM TOTALS				76563	18231	23.8		430696	100955	23.4
PENTA TRANSFERS										
WOODTOX 140-T RTU	55 GAL DR	GA	0	0	0	.0	110✓	363	193	53.2
PENTA-R PTLD STOC K	50 LB BAG	LB	0	0	0	.0	1000X	704	220	31.3
PENTA TRANSFERS TOTALS				0	0	.0		1067	413	38.7
PENTA CRYSTALS										
PENTA-R PTLD STOC K	50 LB BAG	LB	0	0	0	.0	6000X	3654	773	21.2
PENTA CRYSTALS TOTALS				0	0	.0		3654	773	21.2
PORTLAND WTC FORM TOTALS				76563	18231	23.8		435449	102173	23.5
FINAL TOTALS				847205	164585	19.4		8175716	1467935	18.0

TOLS009058

BZTO104(e)045879

LOCATION 743 PORTLAND WTC FORM

PRESERATIVE / PRODUCT			CURRENT MONTH QUANTITY	SALES AMT	PROFIT	% P	CURRENT YEAR TO DATE QUANTITY	SALES AMT	PROFIT	% P
R.R. OIL USED IN TRM										
FREIGHT ADJUSTMENTS			0	1-	1-	100.0	0	31	31	100.0
R.R. OIL USED IN TRM TOTALS				1-	1-	100.0		31	31	100.0
WOOD TREATING CHEM										
FREIGHT ADJUSTMENTS			0	0	0	.0	0	10-	10-	100.0
WOODTOX 140-T RTU	BULK	GA	0	0	0	.0	1019	2077	528	25.4
WOODTOX 140-T RTU	55 GAL DR	GA	0	0	0	.0	715	1573	377	24.0
WOODTOX PRE-PRIME-T RTU	BULK	GA	7524	15839	4133	26.1	84872	165161	28205	17.1
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GA	0	0	0	.0	25685	65407	14889	22.8
WOODTOX PRE-PRIME-T CONC	BULK	GA	0	0	0	.0	1936	5615	971	17.3
WOODTOX 140-T CONC	BULK	GA	0	0	0	.0	10119	26309	5620	21.4
WOODTOX 140-T CONC	55 GAL DR	GA	0	0	0	.0	24695	86173	33345	38.7
WR 340 CONC	408 LB DR	LB	17952	6250	1380	22.1	98865	30223	5808	19.2
TIMBERTOX 40 CONC W/O DRS	55 GAL DR	GL	0	0	0	.0	125	419	76	18.1
TIMBERTOX 40 CONC	BULK	GA	0	0	0	.0	100	335	67	20.0
TIMBERTOX 40 CONC	55 GAL DR	GA	0	250-	250-	100.0	10890	44274	9701	21.9
REDY COAT PENTA CONC	55 GAL DR	GA	0	0	0	.0	770	2503	389	15.5
REDY COAT PENTA 455 RTU	55 GAL DR	GA	0	0	0	.0	770	1040	113	10.9
TRIBUCIDE P-75 RTU	BULK	GL	6962	16280	2325	14.3	6962	16280	2325	14.3
WOODTOX 140-T RTU SPEC	BULK	GA	0	0	0	.0	1007	1358	209	15.4
WOODTOX 140-T RTU SPEC	55 GAL DR	GA	0	0	0	.0	55	119	34	28.6
PETROSET 11 PTLD STOCK	460 LB DR	LB	0	0	0	.0	14560	19057	5649	29.6
MINERAL SPIRITS PTLO	55 GAL DR	GA	0	0	0	.0	110	275	57	20.7
WK-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	330	627	190	30.3
WOOD TREATING CHEM TOTALS				38119	7588	19.9		468815	108543	23.2
PENTA TRANSFERS										
WOODTOX 140-T RTU	55 GAL DR	GA	0	0	0	.0	110	363	193	53.2
PENTA-R PTLD STOC K	50 LB BAG	LB	0	0	0	.0	1000	704	220	31.3
PENTA TRANSFERS TOTALS				0	0	.0		1067	413	38.7
PENTA CRYSTALS										
PENTA-R PTLD STOC K	50 LB BAG	LB	5000	3070	752	24.5	11000	6724	1525	22.7
PENTA CRYSTALS TOTALS				3070	752	24.5		6724	1525	22.7
PORTLAND WTC FORM TOTALS				41188	8339	20.2		476637	110512	23.2
FINAL TOTALS				814048	151449	18.6		8989764	1619384	18.0

BZTO104(e)045880

TOLS009059

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

KOPPERS

January 19, 1982

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

Dear Mr. Lesh:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments, for 1981, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009060

BZTO104(e)045881

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

KOPPERS

January 19, 1982

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Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009061

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

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)
1	4538	TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION	02	21. PRODUCT TYPE	2	22. MARKET PRODUCED FOR	1
23. USE CLASSIFICATION	2				
24. AMT. PRODUCED PAST YEAR:	14000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	15500				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	15635	▲FOREIGN:			

B

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45326 7	WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION	02	21. PRODUCT TYPE	2	22. MARKET PRODUCED FOR	1
23. USE CLASSIFICATION	2				
24. AMT. PRODUCED PAST YEAR:	51000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	40000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	42387	▲FOREIGN:			

C

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45326 9	WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION	02	21. PRODUCT TYPE	2	22. MARKET PRODUCED FOR	1
23. USE CLASSIFICATION	2				
24. AMT. PRODUCED PAST YEAR:	15000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	20000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	12100	▲FOREIGN:			

D

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45327 0	WOODTOX PRE PRIME-T READY TO USE

20. PRODUCT CLASSIFICATION	02	21. PRODUCT TYPE	2	22. MARKET PRODUCED FOR	1
23. USE CLASSIFICATION	2				
24. AMT. PRODUCED PAST YEAR:	106425	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	120000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	96344	▲FOREIGN:			

E

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45327 1	WOODTOX 140-T READY TO USE

20. PRODUCT CLASSIFICATION	02	21. PRODUCT TYPE	2	22. MARKET PRODUCED FOR	1
23. USE CLASSIFICATION	2				
24. AMT. PRODUCED PAST YEAR:	000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1222	▲FOREIGN:			

☐ CONTINUED ON ATTACHED SHEET

CONFIDENTIAL INFORMATION

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR: 1981

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009062

BZTO104(e)045883

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

DOCUMENT NUMBER (EPA USE ONLY)

D. TRANS TYPE (EPA USE ONLY)

ESTABLISHMENT NAME AND MAILING ADDRESS

1. NAME: TIME OIL CO

6. ESTABLISHMENT DUNS NUMBER: 00-959-7543

2. STREET: 12005 NORTH BURGARD ST

7. EPA ESTABLISHMENT NUMBER: 33760-OR-01

3. CITY: PORTLAND

4. STATE: OR

5. ZIP CODE: 97203

8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST

10. CITY: PORTLAND

11. STATE: OR

12. ZIP CODE: 97203

13. SIGNATURE OF ESTABLISHMENT OFFICER

14. TITLE

15. DATE (mo./day/yr.)

16. TELEPHONE

PESTICIDE PRODUCTION INFORMATION

	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	25. AMT. PRODUCED CURRENT YEAR	26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.	▲FOREIGN	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
A	1	4538	TIMBERTOX 40 CONCENTRATE	02	2	1	2	14000	15500	15635		G
B	1	453267	WOODTOX 140-T CONCENTRATE	02	2	1	2	51000	40000	42387		G
C	1	453269	WOODTOX PRE PRIME-T CONCENTRATE	02	2	1	2	1500	2000	1210		G
D	1	453270	WOODTOX PRE PRIME-T READY TO USE	02	2	1	2	10642	12000	9634		G
E	1	453271	WOODTOX 140-T READY TO USE	02	2	1	2	000	000	1222		G

☐ CONTINUED ON ATTACHED SHEET

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28. SIGNATURE

29. EPA REGIONAL OFFICE

30. DATE RECEIVED

31. DATE REVIEWED

32. REPORTING YEAR: 1981

U.S. ENVIRONMENTAL PROTECTION AGENCY

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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)
1	4538	TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION
02	2	1	2

		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
24. AMT. PRODUCED PAST YEAR:	14000	G
25. AMT. PRODUCED CURRENT YEAR:	15500	
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	11563 ▲FOREIGN:	

B

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	453267	WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION
02	2	1	2

		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
24. AMT. PRODUCED PAST YEAR:	15100	G
25. AMT. PRODUCED CURRENT YEAR:	40000	
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	42387 ▲FOREIGN:	

C

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	453269	WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION
02	2	1	2

		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
24. AMT. PRODUCED PAST YEAR:	1500	G
25. AMT. PRODUCED CURRENT YEAR:	2000	
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1210 ▲FOREIGN:	

D

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	453270	WOODTOX PRE PRIME-T READY TO USE

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION
02	2	1	2

		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
24. AMT. PRODUCED PAST YEAR:	10642 5	G
25. AMT. PRODUCED CURRENT YEAR:	12000	
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	9634 4 ▲FOREIGN:	

E

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	453271	WOODTOX 140-T READY TO USE

20. PRODUCT CLASSIFICATION	21. PRODUCT TYPE	22. MARKET PRODUCED FOR	23. USE CLASSIFICATION
02	2	1	2

		27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS
24. AMT. PRODUCED PAST YEAR:	000	G
25. AMT. PRODUCED CURRENT YEAR:	000	
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1222 ▲FOREIGN:	

☐ CONTINUED ON ATTACHED SHEET

CONFIDENTIAL
INFORMATION

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR
		1981

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009064

BZTO104(e)045885

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)

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FORM APPROVED
OMB NO. 2000-0029

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: 1 | 18. PRODUCT NUMBER: 45382 | 19. PRODUCT NAME (use 2 lines if necessary): TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 14000

25. AMT. PRODUCED CURRENT YEAR: 15500

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 15635 → | ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

B

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 453267 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 5100

25. AMT. PRODUCED CURRENT YEAR: 4000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 42387 → | ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

C

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 453269 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 1500

25. AMT. PRODUCED CURRENT YEAR: 2000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1210 → | ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

D

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 453270 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T READY TO USE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 106425

25. AMT. PRODUCED CURRENT YEAR: 120000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 96344 | ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

E

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45327 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T READY TO USE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 0

25. AMT. PRODUCED CURRENT YEAR: 0

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1212 | ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR: 1981

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009065

BZTO104(e)045886

Portland – 1981

Timbertox 40 Conc

55
165
1100
275
550
550
55
110
110
550
3300
55
165
110
110
500
110
550
550
120
110
4400
55
550
550
110
110
550
110

15,635

Woodtox P-P-T-RTU

7047
550
550
2427
3003
7132
6982
7041
2032
7047
715
1050
2500
550
550
7007
6937
550
4400
7072
2493
55
6941
6713

96,544

Woodtox 140-T Conc

3300
110
550
2043
5175
1053
2191
6015
110
220
6042
2199
6191
1029
6159

42,387

Woodtox 140-T-RTU

1222

1222

Woodtox P-P-T @ Conc

275
330
55
275
275

1210

15,635 Gal Timbertox 40 Conc
96,344 Gal. Woodtox PrePrime-T RTU
1,210 Gal Woodtox PrePrime-T Conc
42,387 Gal Woodtox 140-T Conc
1,222 Gal Woodtox 140-T RTU

TOLS009066

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)

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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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR
		1981

EPA FORM 3540-16 (REV. 10-81) **PREVIOUS EDITIONS ARE OBSOLETE.**

TOLS009067

BZTO104(e)045888

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 4, 1982

Mr. H. P. Struessel
Wood Treating Chemicals Dept.
Koppers Company, Inc.
5137 Southwest Ave.
St. Louis, Mo. 63110

Dear Mr. Struessel:

Enclosed is the Pesticide Report which we received today from the EPA which must be completed so that we can execute and mail by February 1, 1982. Normally in the past we have received this report early in December.

Please complete the report and return to me so that we can mail before the deadline and avoid "serious ramifications, including assessment of a civil penalty". Any penalty would be for your account.

Yours very truly,

Newton P Lesh V-pres.
Newton P. Lesh

NPL/s
Encl.

TOLS009068

BZTO104(e)045889

1/7/82

TPLSOO9068A

BZTO104(e)045890

United States
Environmental Protection
Agency

Pesticides and Toxic Substances
Enforcement Division
Washington DC 20460

Instructions for Pesticides Report for Pesticide-Producing Establishments

(EPA Form 3540-16 Rev.10-81)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 987), requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. In order to comply with this requirement, this report is to be completed and the original and first copy returned to the U.S. Environmental Protection Agency Office having jurisdiction over the State in which the establishment is located. Establishments located in foreign countries must return the report to the U.S. Environmental Protection Agency Headquarters Office. Addresses of the appropriate offices are on the back. This report is to be completed within 30 days of notification of registration of the pesticide producing establishment and thereafter on an annual basis by February 1st each year.

Item

1-5. Establishment Name and Mailing Address: Enter name and mailing address of establishment. If preprinted name or address is incorrect, make necessary changes.

6. Establishment Duns Number: Enter Establishment Dun and Bradstreet (Duns) Number if preprinted number is blank or incorrect.

7. EPA Establishment Number: Enter the establishment registration number assigned to the establishment, if not already preprinted.

8. Establishment SIC Codes: Enter four-digit Standard Industrial Classification (SIC) codes which describe the primary industrial functions of the plant, if not already preprinted.

9-12. Establishment Site Address: Enter site address of establishment if actual physical location differs from mailing address. If preprinted address is incorrect, make necessary changes.

13. Signature of Establishment Officer: Self-explanatory.

14. Title: Enter job title of Establishment Officer.

15. Dates: Enter the date of signature in month-day-year sequence.

16. Telephone: Enter telephone number of establishment, including area code.

Items 17 through 27 must be completed for each pesticide produced at the reporting establishment, including all EPA- and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. *A pesticide sold or 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

A. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code."

B. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code."

C. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code."

D. If product does not come under any of above, leave product number blank and enter "4" under "Code." For all "Code 4" products attach a list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%). This chemical ingredient information will be treated as confidential.

19. Product Name: Enter product name exactly as it appears on the product label.

20. Product Classification: Enter the *one* code best describing the product.

01 Insecticide	05 Algaecide
02 Fungicide	06 Nematocide
03 Rodenticide	07 Plant regulator
04 Herbicide	08 Defoliant, Dessicant

09 Disinfectant, Sanitizer, Germicide
10 Antifouling paint
11 Animal repellent
12 Other pesticide (specify)
13 Device
14 Water Purifier—Point of Use
15 Water Purifier—Small System

21. Product Type: Enter the one code best describing the type of production.
1. Technical material for manufacturing use only
2. Formulation or blending
3. Repackaging
4. Other (specify)

22. Market Produced For: Enter the code best describing the market for which the pesticide is produced. Foreign establishments must not enter this code.
1. United States
2. United States and export out of United States
3. Export out of United States only

23. Use Classification: Enter the code which describes the use classification of the product.
1. Restricted Use
2. Other

24. Amount Produced Past Year: Enter amount of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced.
Foreign establishments report *only* the amount produced for shipment to the United States.

25. Amount Produced Current Year: Enter anticipated amount of the product to be produced at the establishment in current calendar year. In all cases this figure will be considered an estimate of the current year's production.
Foreign establishments report *only* the amount intended for shipment to the United States

26. Amount Sold/Distributed Past Year Foreign: Enter the amount of the product sold or distributed for export out of the United States (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced.
Foreign establishments must leave this field blank.
Amount Sold/Distributed Past Year U.S.: Enter amount of the product sold or distributed for the United States (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced.
Foreign establishments report *only* the amount sold or distributed in the United States.

27. Unit of Measure: Enter the unit of measure used in 24, 25, and 26, above.

P = pounds	K = kilograms
U = units	L = liters
G = gallons	T = tons

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page___ of___.

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or chemical ingredient list (Section 12(a)(2)(M), 7 USC 136j). The Pesticide Report will be treated as confidential.

TOLS009069

BZTO104(e)045891

Addresses of Regional Offices	States Covered
U.S. Environmental Protection Agency Region I, Pesticides Branch John F. Kennedy Federal Building Boston, Massachusetts 02203	Massachusetts (MA), Vermont (VT), Connecticut (CT), Maine (ME), New Hampshire (NH), Rhode Island (RI)
U.S. Environmental Protection Agency Region II, Pesticides Branch 26 Federal Plaza, Room 1009 New York, New York 10278	New York (NY), New Jersey (NJ), Puerto Rico (PR), Virgin Islands (VI)
U.S. Environmental Protection Agency Region III, Toxics and Pesticides Section Curtis Building 6th & Walnut Streets Philadelphia, Pennsylvania 19106	Pennsylvania (PA), District of Columbia (DC), Delaware (DE), Maryland (MD), Virginia (VA), West Virginia (WV)
U.S. Environmental Protection Agency Region IV, Pesticides and Toxic Substances Branch 346 Courtland Street, N.E. Atlanta, Georgia 30365	Georgia (GA), North Carolina (NC), South Carolina (SC), Kentucky (KY), Alabama (AL), Florida (FL), Mississippi (MS), Tennessee (TN)
U.S. Environmental Protection Agency Region V, Pesticides Branch 230 South Dearborn Street Chicago, Illinois 60604	Illinois (IL), Indiana (IN), Michigan (MI), Ohio (OH), Minnesota (MN), Wisconsin (WI)
U.S. Environmental Protection Agency Region VI, Pesticide and Toxic Substances Branch First International Building 1201 Elm Street Dallas, Texas 75270	Texas (TX), Louisiana (LA), New Mexico (NM), Oklahoma (OK), Arkansas (AR)
U.S. Environmental Protection Agency Region VII, Toxics and Pesticides Branch 324 E. 11th Street Kansas City, Missouri 64106	Missouri (MO), Kansas (KA), Iowa (IA), Nebraska (NB)
U.S. Environmental Protection Agency Region VIII, Pesticides and Toxic Substances Branch 1860 Lincoln Street Denver, Colorado 80295	Colorado (CO), Montana (MT), Utah (UT), Wyoming (WY), North Dakota (ND), South Dakota (SD)
U.S. Environmental Protection Agency Region IX, Air and Hazardous Materials Branch 215 Fremont Street San Francisco, California 94105	California (CA), Hawaii (HI), Arizona (AZ), Nevada (NV), Guam (GU), American Samoa (AS), Trust Territories of Pacific Islands (PI), Wake Island (WK)
U.S. Environmental Protection Agency Region X, Pesticides Branch 1200 6th Avenue Seattle, Washington 98101	Washington (WA), Oregon (OR), Idaho (ID), Alaska (AK)

Applications from companies located in foreign countries should be submitted to:

U.S. Environmental Protection Agency
Pesticides and Toxic Substances Enforcement Division
401 M. Street, S.W.
Washington, D.C. 20460
U.S.A.

TOLS009070

BZTO104(e)045892

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

REPORT OF ANALYSIS

1. SAMPLE NO.	2. DATE COLLECTED
274771	7-28-82
3. REGION	4. EPA REG. NO.
10	453-267
5. ESTABLISHMENT NO.	
33760-OR-1	

6. DESCRIPTION OF SAMPLE

1 x approx. 1 pint brown glass bottle, brown liquid

7. NAME AND ADDRESS OF ESTABLISHMENT WHERE SAMPLE WAS COLLECTED *(Include ZIP code)*

Time Oil Company
12005 N. Burgard Road
Portland, Oregon 97203

8. PRODUCT NAME

Koppers Woodtox 140-T Concentrate Water Repellant Wood Preservative

9. LOT OR CODE NUMBER(s)

WC-009T

10. NAME AND ADDRESS OF PRODUCER *(If different from 7 above) (Include ZIP code)*

Koppers Co., Inc., Wood Treating Chemicals Dept., 5137 Southwest Avenue, St. Louis, MO 63110

11. RESULTS OF ANALYSIS

Sample was analyzed and found to be chemically satisfactory.

Sec. 9(a) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended *(7 U.S.C. 136g)* requires that if an analysis is made of any sample collected in connection with the enforcement of the Act, a copy of the results of such analysis must be furnished promptly to the owner, operator or agent in charge of the establishment where the sample was collected. This section of the Act is quoted on the reverse of this form.

The information contained in this report should not be used in the labeling, advertising, or other promotion of the product analyzed. Additional information regarding results of analysis may be obtained from the individual listed below.

NAME AND TITLE OF EPA OFFICIAL

H. Michael Wehr

PHONE NUMBER	DATE
378-3793	21 Sept 1982

ADDRESS OF REGIONAL OFFICE *(Include ZIP code)*

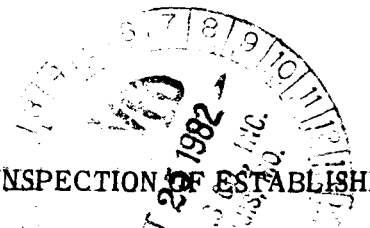
Oregon Department of Agricultur
635 Capitol Street NE
Salem, Oregon 97310

TOLS009071

EPA Form 3540-5 (Rev. 5-76) PREVIOUS EDITIONS ARE OBSOLETE.

ESTABLISHMENT COPY

BZTO104(e)045893



Sec. 9. INSPECTION OF ESTABLISHMENTS, ETC.

(a) In General. — For purposes of enforcing the provisions of this Act, officers or employees duly designated by the Administrator are authorized to enter at reasonable times, any establishment or other place where pesticides or devices are held for distribution or sale for the purpose of inspecting and obtaining samples of any pesticides or devices, packaged, labeled, and released for shipment, and samples of any containers or labeling for such pesticides or devices.

Before undertaking such inspection, the officers or employees must present to the owner, operator; or agent in charge of the establishment or other place where pesticides or devices are held for distribution or sale, appropriate credentials and a written statement as to the reason for the inspection, including a statement as to whether a violation of the law is suspected. If no violation is suspected, an alternate and sufficient reason shall be given in writing. Each such inspection shall be commenced and completed with reasonable promptness. If the officer or employee obtains any samples, prior to leaving the premises, he shall give to the owner, operator, or agent in charge a receipt describing the samples obtained and, if requested, a portion of each such sample equal in volume or weight to the portion retained. If an analysis is made of such samples, a copy of the results of such analysis shall be furnished promptly to the owner, operator, or agent in charge.

TOLS009072

BZTO104(e)045894

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

REPORT OF ANALYSIS

1. SAMPLE NO.	2. DATE COLLECTED
274770	7-28-82
3. REGION	**4. EPA REG. NO.**
10	453-270
5. ESTABLISHMENT NO.	
33760-OR-1	

6. DESCRIPTION OF SAMPLE

1 x approx. 1 pint brown glass bottle, amber liquid

7. NAME AND ADDRESS OF ESTABLISHMENT WHERE SAMPLE WAS COLLECTED *(Include ZIP code)*

Time Oil Company
12005 N. Burgard Road
Portland, Oregon 97203

8. PRODUCT NAME

Koppers Woodtox Pre-Prime-T Ready to Use Water Repellant Wood Preservative

9. LOT OR CODE NUMBER(s)

WC-0022T

10. NAME AND ADDRESS OF PRODUCER *(If different from 7 above) (Include ZIP code)*

Koppers Company, Inc., Wood Treating Chemicals Dept., 5137 Southwest Avenue, St. Louis, Missouri 63110

11. RESULTS OF ANALYSIS

Sample was analyzed and found to be chemically satisfactory.

Sec. 9(a) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended *(7 U.S.C. 136g)* requires that if an analysis is made of any sample collected in connection with the enforcement of the Act, a copy of the results of such analysis must be furnished promptly to the owner, operator or agent in charge of the establishment where the sample was collected. This section of the Act is quoted on the reverse of this form.

The information contained in this report should not be used in the labeling, advertising, or other promotion of the product analyzed. Additional information regarding results of analysis may be obtained from the individual listed below.

NAME AND TITLE OF EPA OFFICIAL	ADDRESS OF REGIONAL OFFICE *(Include ZIP code)*
H. Michael Wehr H M Wehr for	Oregon Department of Agriculture 635 Capitol Street NE Salem, Oregon 97310
PHONE NUMBER 378-3793	**DATE** 8-25-82

TOLS009073

EPA Form 3540-5 (Rev. 5-76) PREVIOUS EDITIONS ARE OBSOLETE.

ESTABLISHMENT COPY

BZTO104(e)045895

TOLS009074

BZTO104(e)045896

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

REPORT OF ANALYSIS

1. SAMPLE NO.	2. DATE COLLECTED
274771	7-28-82
3. REGION	**4. EPA REG. NO.**
10	453-267
5. ESTABLISHMENT NO.	
33760-OR-1	

6. DESCRIPTION OF SAMPLE

1 x approx. 1 pint brown glass bottle, brown liquid

7. NAME AND ADDRESS OF ESTABLISHMENT WHERE SAMPLE WAS COLLECTED *(Include ZIP code)*

Time Oil Company
12005 N. Burgard Road
Portland, Oregon 97203

8. PRODUCT NAME

Koppers Woodtox 140-T Concentrate Water Repellant Wood Preservative

9. LOT OR CODE NUMBER(s)

WC-009T

10. NAME AND ADDRESS OF PRODUCER *(If different from 7 above)* *(Include ZIP code)*

Koppers Co., Inc., Wood Treating Chemicals Dept., 5137 Southwest Avenue, St. Louis, MO 63110

11. RESULTS OF ANALYSIS

Sample was analyzed and found to be chemically satisfactory.

Sec. 9(a) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended *(7 U.S.C. 136g)* requires that if an analysis is made of any sample collected in connection with the enforcement of the Act, a copy of the results of such analysis must be furnished promptly to the owner, operator or agent in charge of the establishment where the sample was collected. This section of the Act is quoted on the reverse of this form.

The information contained in this report should not be used in the labeling, advertising, or other promotion of the product analyzed. Additional information regarding results of analysis may be obtained from the individual listed below.

NAME AND TITLE OF EPA OFFICIAL

H. Michael Wehr

PHONE NUMBER: 378-3793

DATE: 21 Sept 1982

ADDRESS OF REGIONAL OFFICE *(Include ZIP code)*

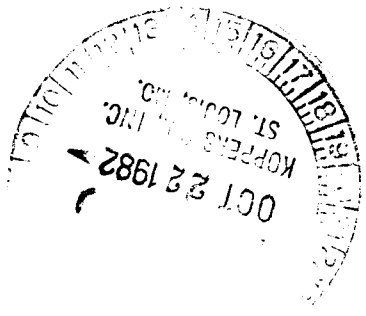
Oregon Department of Agriculture
635 Capitol Street NE
Salem, Oregon 97310

TOLS009075

EPA Form 3540-5 (Rev. 5-76) PREVIOUS EDITIONS ARE OBSOLETE.

ESTABLISHMENT COPY

BZTO104(e)045897



TOLS009076

FROM:
HAROLD P. STRUESSEL
KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE
ST. LOUIS, MISSOURI 63110

Customer Number, if any:
3540-16, 1983

TO: MR. NEIL E. WALLIS
TIME OIL COMPANY
12005 N. BURGARD
PORTLAND, OREGON 97203

LABEL 11B, MARCH/1982 ★ U.S.G.P.O. 1982-370-614

EXPRESS MAIL NEXT DAY SERVICE

POST OFFICE TO ADDRESSEE

B 87203153

ORIGIN:
Initials of Receiving Clerk: NE
P.O. ZIP Code: 63139
Date in: 1/31
Time in: 1550

Return Receipt Service
☐ To Whom & Date Del
☐ To Whom, Date & Address of Del

Weight: 1 Lbs

Postage & Fees $ 9 | 35

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 43 for details.

INSURANCE COVERAGE
See USPS Notice 7 or 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 60 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 with this stub
(Postal Service Personnel Only)

TOLS009077

BZTO104(e)045899

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

KOPPERS

February 2, 1983

Mr. Neil Wallis
Time Oil Company
12005 N. Burgard
Portland, Oregon 97203

Dear Mr. Wallis:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments, for 1982, as well as the instructions which came with; it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009078

BZTO104(e)045900

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

KOPPERS

February 2, 1983

Mr. Neil Wallis
Time Oil Company
12005 N. Burgard
Portland, Oregon 97203

Dear Mr. Wallis:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments, for 1982, as well as the instructions which came with; it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009079

BZTO104(e)045901

PHONE 286-1611

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

January 4, 1983

Mr. H. P. Struessel
Wood Treating Chemicals Dept.
Koppers Company, Inc.
5137 Southwest Avenue
St. Louis, Missouri 63110

Dear Mr. Struessel:

Enclosed is the Pesticide Report which we received today from the EPA which must be completed so that we can execute and mail by February 1, 1983.

Please complete the report and return to me so that we can mail before the deadline and avoid "serious ramifications, including assessment of a civil penalty" as stated in their letter. Any penalty would be for your account.

Yours very truly,

Neil Wallis

Neil Wallis
Terminal Manager

NW/ka
Encl.

TOLS009080

BZTO104(e)045902

United States
Environmental Protection
Agency

Pesticides and Toxic Substances
Enforcement Division
Washington DC 20460

Instructions for Pesticides Report for Pesticide-Producing Establishments

(EPA Form 3540-16 Rev. 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 report to the Environmental Protection Agency within 30-days of initial registration and by February 1st each year thereafter, the types and amounts of pesticides 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 office listed on the back of this instruction sheet. Foreign establishment reports must be sent to Washington, DC.

WARNING

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.

Item

1-5. Establishment Name and Mailing Address: Enter name and mailing address of establishment. If preprinted name or address is incorrect, make necessary changes.

6. Establishment Duns Number: Enter Establishment Dun and Bradstreet (Duns) Number if preprinted number is blank or incorrect.

7. EPA Establishment Number: Enter the establishment registration number assigned to the establishment, if not already preprinted.

8. Establishment SIC Codes: Enter four-digit Standard Industrial Classification (SIC) codes which describe the primary industrial functions of the plant, if not already preprinted.

9-12. Establishment Site Address: Enter site address of establishment if actual physical location differs from mailing address. If preprinted address is incorrect, make necessary changes.

13. Signature of Establishment Officer: Self-explanatory.

14. Title: Enter job title of Establishment Officer.

15. Dates: Enter the date of signature in month-day-year sequence.

16. Telephone: Enter telephone number of establishment, including area code.

Items 17 through 27 must be completed for each pesticide produced at the reporting establishment, including all EPA- and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. *A pesticide sold or 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

A. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code."

B. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code."

C. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code."

D. If product does not come under any of above, leave product number blank and enter "4" under "Code." For all "Code 4" products attach a list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%). This chemical ingredient information will be treated as confidential.

19. Product Name: Enter product name exactly as it appears on the product label.

20. Product Classification: Enter the *one* code best describing the product.

01 Insecticide	05 Algaecide
02 Fungicide	06 Nematocide
03 Rodenticide	07 Plant regulator .
04 Herbicide	08 Defoliant, Dessicant

09 Disinfectant, Sanitizer, Germicide
10 Antifouling paint
11 Animal repellent
12 Other pesticide (specify)
13 Device
14 Water Purifier—Point of Use
15 Water Purifier—Small System

21. Product Type: Enter the one code best describing the type of production.
1. Technical material for manufacturing use only
2. Formulation or blending
3. Repackaging
4. Other (specify)

22. Market Produced For: Enter the code best describing the market for which the pesticide is produced. Foreign establishments must not enter this code.
1. United States
2. United States and export out of United States
3. Export out of United States only

23. Use Classification: Enter the code which describes the use classification of the product.
1. Restricted Use
2. Other

24. Amount Produced Past Year: Enter amount of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced.
Foreign establishments report *only* the amount produced for shipment to the United States.

25. Amount Produced Current Year: Enter anticipated amount of the product to be produced at the establishment in current calendar year. In all cases this figure will be considered an estimate of the current year's production.
Foreign establishments report *only* the amount intended for shipment to the United States

26. Amount Sold/Distributed Past Year
Foreign: Enter the amount of the product sold or distributed for export out of the United States (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced.
Foreign establishments must leave this field blank.
Amount Sold/Distributed Past Year U.S.: Enter amount of the product sold or distributed for the United States (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced.
Foreign establishments report *only* the amount sold or distributed in the United States.

27. Unit of Measure: Enter the unit of measure used in 24, 25, and 26, above.

P = pounds	K = kilograms
U = units	L = liters
G = gallons	T = tons

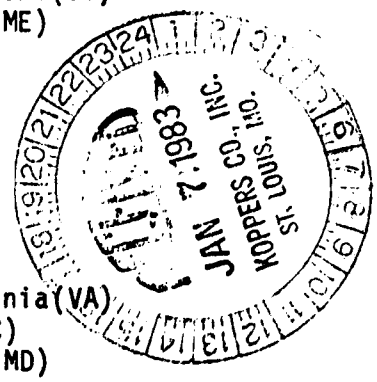
If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page___ of___.

It is unlawful to knowingly falsify all or par of any information submitted on the Pesticides Report or chemical ingredient list (Section 12(a)(2)(M), 7 USC 136j). The Pesticide Report will be treated as confidential.

TOLS009081

BZTO104(e)045903

Addresses of Regional Offices	States Covered
Environmental Protection Agency Region I, Pesticides Office John F. Kennedy Federal Building Boston, Massachusetts 02203	Massachusetts(MA) Vermont(VT) Connecticut(CT) Maine(ME) New Hampshire(NH) Rhode Island(RI)
Environmental Protection Agency Region II, Pesticides Office 26 Federal Plaza, Room 1043 New York, New York 10278	New York(NY) New Jersey(NJ) Puerto Rico(PR) Virgin Islands(VI)
Environmental Protection Agency Region III, Pesticides Office Curtis Bldg., 6th & Walnut Sts. Philadelphia, Pennsylvania 19106	Pennsylvania(PA) Virginia(VA) District of Columbia(DC) Delaware(DE) Maryland(MD) West Virginia(WV)
Environmental Protection Agency Region IV, Pesticides Office 346 Courtland Street, N.E. Atlanta, Georgia 30365	Georgia(GA) North Carolina(NC) South Carolina(SC) Kentucky(KY) Alabama(AL) Florida(FL) Mississippi(MS) Tennessee(TN)
Environmental Protection Agency Region V, Pesticides Office 230 South Dearborn Street Chicago, Illinois 60604	Illinois(IL) Indiana(IN) Michigan(MI) Ohio(OH) Minnesota(MN) Wisconsin(WI)
Environmental Protection Agency Region VI, Pesticides Office First International Building 1201 Elm Street Dallas, Texas 75270	Texas(TX) New Mexico(NM) Oklahoma(OK) Arkansas(AR) Louisiana(LA)
Environmental Protection Agency Region VII, Pesticides Office 324 E. 11th Street Kansas City, Missouri 64106	Missouri(MO) Kansas(KS) Iowa(IA) Nebraska(NB)
Environmental Protection Agency Region VIII, Pesticides Office 1860 Lincoln Street Denver, Colorado 80295	Colorado(CO) Utah(UT) Montana(MT) Wyoming(WY) South Dakota(SD) North Dakota(ND)
Environmental Protection Agency Region IX, Pesticides Office 215 Fremont Street San Francisco, California 94105	California(CA) Hawaii(HI) Guam(GU) Arizona(AZ) American Samoa(AS) Nevada(NV) Wake Island(WI) Trust Territories of Pacific Islands(PI)
Environmental Protection Agency Region X, Pesticides Office 1200 6th Avenue Seattle, Washington 98101	Washington(WA) Oregon(OR) Idaho(ID Alaska(AK)



Reports from companies located in foreign countries should be submitted to:
Environmental Protection Agency (EN-342)
Pesticides and Toxic Substances Enforcement Division
401 M. Street, S.W.
Washington, D.C. 20460 U.S.A.

TOLS009082

BZTO104(e)045904

United States
Environmental Protection
Agency

Pesticides and Toxic Substances
Enforcement Division
Washington DC 20460

Instructions for Pesticides Report for Pesticide-Producing Establishments

(EPA Form 3540-16 Rev. 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 report to the Environmental Protection Agency within 30-days of initial registration and by February 1st each year thereafter, the types and amounts of pesticides 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 office listed on the back of this instruction sheet. Foreign establishment reports must be sent to Washington, DC.

WARNING

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.

Item

1-5. Establishment Name and Mailing Address: Enter name and mailing address of establishment. If preprinted name or address is incorrect, make necessary changes.

6. Establishment Duns Number: Enter Establishment Dun and Bradstreet (Duns) Number if preprinted number is blank or incorrect.

7. EPA Establishment Number: Enter the establishment registration number assigned to the establishment, if not already preprinted.

8. Establishment SIC Codes: Enter four-digit Standard Industrial Classification (SIC) codes which describe the primary industrial functions of the plant, if not already preprinted.

9-12. Establishment Site Address: Enter site address of establishment if actual physical location differs from mailing address. If preprinted address is incorrect, make necessary changes.

13. Signature of Establishment Officer: Self-explanatory.

14. Title: Enter job title of Establishment Officer.

15. Dates: Enter the date of signature in month-day-year sequence.

16. Telephone: Enter telephone number of establishment, including area code.

Items 17 through 27 must be completed for each pesticide produced at the reporting establishment, including all EPA- and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. *A pesticide sold or 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

A. If product is Federally registered, enter EPA product registration number. Enter "1" under "Code."

B. If product has EPA registration pending, enter EPA file symbol. Enter "2" under "Code."

C. If product has EPA Experimental Use Permit, enter EPA permit number. Enter "3" under "Code."

D. If product does not come under any of above, leave product number blank and enter "4" under "Code." For all "Code 4" products attach a list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%). This chemical ingredient information will be treated as confidential.

19. Product Name: Enter product name exactly as it appears on the product label.

20. Product Classification: Enter the *one* code best describing the product.

01 Insecticide	05 Algaecide
02 Fungicide	06 Nematocide
03 Rodenticide	07 Plant regulator
04 Herbicide	08 Defoliant, Dessicant

09 Disinfectant, Sanitizer, Germicide
10 Antifouling paint
11 Animal repellent
12 Other pesticide (specify)
13 Device
14 Water Purifier—Point of Use
15 Water Purifier—Small System

21. Product Type: Enter the one code best describing the type of production.
1. Technical material for manufacturing use only
2. Formulation or blending
3. Repackaging
4. Other (specify)

22. Market Produced For: Enter the code best describing the market for which the pesticide is produced. Foreign establishments must not enter this code.
1. United States
2. United States and export out of United States
3. Export out of United States only

23. Use Classification: Enter the code which describes the use classification of the product.
1. Restricted Use
2. Other

24. Amount Produced Past Year: Enter amount of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced.
Foreign establishments report *only* the amount produced for shipment to the United States.

25. Amount Produced Current Year: Enter anticipated amount of the product to be produced at the establishment in current calendar year. In all cases this figure will be considered an estimate of the current year's production.
Foreign establishments report *only* the amount intended for shipment to the United States

26. Amount Sold/Distributed Past Year Foreign: Enter the amount of the product sold or distributed for export out of the United States (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced.
Foreign establishments must leave this field blank.
Amount Sold/Distributed Past Year U.S.: Enter amount of the product sold or distributed for the United States (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced.
Foreign establishments report *only* the amount sold or distributed in the United States.

27. Unit of Measure: Enter the unit of measure used in 24, 25, and 26, above.

P = pounds	K = kilograms
U = units	L = liters
G = gallons	T = tons

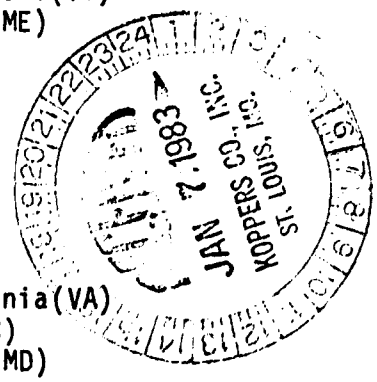
If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page___ of___.

It is unlawful to knowingly falsify all or par of any information submitted on the Pesticides Report or chemical ingredient list (Section 12(a)(2)(M), 7 USC 136j). The Pesticide Report will be treated as confidential.

TOLS009083

BZTO104(e)045905

Addresses of Regional Offices	States Covered
Environmental Protection Agency Region I, Pesticides Office John F. Kennedy Federal Building Boston, Massachusetts 02203	Massachusetts(MA) Vermont(VT) Connecticut(CT) Maine(ME) New Hampshire(NH) Rhode Island(RI)
Environmental Protection Agency Region II, Pesticides Office 26 Federal Plaza, Room 1043 New York, New York 10278	New York(NY) New Jersey(NJ) Puerto Rico(PR) Virgin Islands(VI)
Environmental Protection Agency Region III, Pesticides Office Curtis Bldg., 6th & Walnut Sts. Philadelphia, Pennsylvania 19106	Pennsylvania(PA) Virginia(VA) District of Columbia(DC) Delaware(DE) Maryland(MD) West Virginia(WV)
Environmental Protection Agency Region IV, Pesticides Office 346 Courtland Street, N.E. Atlanta, Georgia 30365	Georgia(GA) North Carolina(NC) South Carolina(SC) Kentucky(KY) Alabama(AL) Florida(FL) Mississippi(MS) Tennessee(TN)
Environmental Protection Agency Region V, Pesticides Office 230 South Dearborn Street Chicago, Illinois 60604	Illinois(IL) Indiana(IN) Michigan(MI) Ohio(OH) Minnesota(MN) Wisconsin(WI)
Environmental Protection Agency Region VI, Pesticides Office First International Building 1201 Elm Street Dallas, Texas 75270	Texas(TX) New Mexico(NM) Oklahoma(OK) Arkansas(AR) Louisiana(LA)
Environmental Protection Agency Region VII, Pesticides Office 324 E. 11th Street Kansas City, Missouri 64106	Missouri(MO) Kansas(KS) Iowa(IA) Nebraska(NB)
Environmental Protection Agency Region VIII, Pesticides Office 1860 Lincoln Street Denver, Colorado 80295	Colorado(CO) Utah(UT) Montana(MT) Wyoming(WY) South Dakota(SD) North Dakota(ND)
Environmental Protection Agency Region IX, Pesticides Office 215 Fremont Street San Francisco, California 94105	California(CA) Hawaii(HI) Guam(GU) Arizona(AZ) American Samoa(AS) Nevada(NV) Wake Island(WI) Trust Territories of Pacific Islands(PI)
Environmental Protection Agency Region X, Pesticides Office 1200 6th Avenue Seattle, Washington 98101	Washington(WA) Oregon(OR) Idaho(ID Alaska(AK)



Reports from companies located in foreign countries should be submitted to:
Environmental Protection Agency (EN-342)
Pesticides and Toxic Substances Enforcement Division
401 M. Street, S.W.
Washington, D.C. 20460 U.S.A.

TOLS009084

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

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: 1 | 18. PRODUCT NUMBER: 4538 | 19. PRODUCT NAME (use 2 lines if necessary): TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 700

25. AMT. PRODUCED CURRENT YEAR: 1200

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1995 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

B

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45326 7 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 800

25. AMT. PRODUCED CURRENT YEAR: 1500

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1452 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

C

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45326 9 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PREPRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 200

25. AMT. PRODUCED CURRENT YEAR: 400

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 154

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

▲FOREIGN:

D

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45327 0 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T Ready To Use

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 88970

25. AMT. PRODUCED CURRENT YEAR: 10000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 84882 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS:

☐ CONTINUED ON ATTACHED SHEET

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR
		1982

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009085

BZTO104(e)045907

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

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: 1 | 18. PRODUCT NUMBER: 4538 | 19. PRODUCT NAME (use 2 lines if necessary): TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 70,000

25. AMT. PRODUCED CURRENT YEAR: 120,000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 99,55 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

B

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45326 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 80,000

25. AMT. PRODUCED CURRENT YEAR: 150,000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 145,92 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

C

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45326 9 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PREPRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 20,000

25. AMT. PRODUCED CURRENT YEAR: 40,000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 15,40 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

D

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45327 0 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T Ready To Use

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 889,700

25. AMT. PRODUCED CURRENT YEAR: 1,000,000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 848,82 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS:

☐ CONTINUED ON ATTACHED SHEET

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FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR
		1982

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

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)
1	45382	TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2	
24. AMT. PRODUCED PAST YEAR:	7000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS		G
25. AMT. PRODUCED CURRENT YEAR:	12000			
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	9953	▲FOREIGN:		

B

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45324	WOODTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2	
24. AMT. PRODUCED PAST YEAR:	8000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS		G
25. AMT. PRODUCED CURRENT YEAR:	15000			
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	14592	▲FOREIGN:		

C

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45326	WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2	
24. AMT. PRODUCED PAST YEAR:	2000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS		G
25. AMT. PRODUCED CURRENT YEAR:	4000			
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1540	▲FOREIGN:		

D

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45327	WOODTOX PRE PRIME-T READY TO USE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2	
24. AMT. PRODUCED PAST YEAR:	85970	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS		G
25. AMT. PRODUCED CURRENT YEAR:	100000			
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	84882	▲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: 1982

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009087

BZTO104(e)045909

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

DOCUMENT NUMBER (EPA USE ONLY)

D. TRANS TYPE (EPA USE ONLY)

ESTABLISHMENT NAME AND MAILING ADDRESS

1. NAME: TIME OIL CO				6. ESTABLISHMENT DUNS NUMBER: 00-959-7543
2. STREET: 12005 NORTH BURGARD ST				7. EPA ESTABLISHMENT NUMBER: 33760-OR-01
3. CITY: PORTLAND	4. STATE: OR	5. ZIP CODE: 97203		8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST	10. CITY: PORTLAND	11. STATE: OR	12. ZIP CODE: 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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

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☐ CONTINUED ON ATTACHED SHEET

CONFIDENTIAL INFORMATION

FOR EPA USE ONLY

28. SIGNATURE	29. EPA REGIONAL OFFICE	30. DATE RECEIVED
	31. DATE REVIEWED	32. REPORTING YEAR: 1982

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009088

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

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)*

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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

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	31. DATE REVIEWED	32. REPORTING YEAR
		1982

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TOLS009089

BZTO104(e)045911

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

DOCUMENT NUMBER (EPA USE ONLY)

D. TRANS TYPE (EPA USE ONLY)

ESTABLISHMENT NAME AND MAILING ADDRESS

1. NAME: TIME OIL CO	6. ESTABLISHMENT DUNS NUMBER: 00-959-7543
2. STREET: 12005 NORTH BURGARD ST	7. EPA ESTABLISHMENT NUMBER: 33760-OR-01
3. CITY: PORTLAND / 4. STATE: OR / 5. ZIP CODE: 97203	8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST	10. CITY: PORTLAND	11. STATE: OR	12. ZIP CODE: 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

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☐ CONTINUED ON ATTACHED SHEET

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	31. DATE REVIEWED	32. REPORTING YEAR: 1982

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009090

BZTO104(e)045912

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

DOCUMENT NUMBER (EPA USE ONLY)

D. TRANS TYPE (EPA USE ONLY)

ESTABLISHMENT NAME AND MAILING ADDRESS

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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

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		1982

EPA FORM 3540-16 (REV. 10-81) PREVIOUS EDITIONS ARE OBSOLETE.

TOLS009091

BZTO104(e)045913

KOPPERS COMPANY I , FOREST PRODUCT GRP.
SPECIALTY WOOD CHEMICALS
SALES BY PRODUCT REPORT DECEMBER, 1982

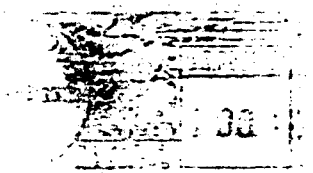
LOCATION 743 PORTLAND WTC FORM

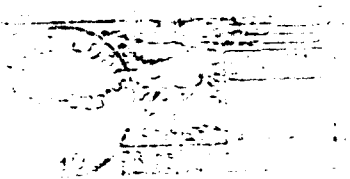
		CURRENT MONTH				CURRENT YEAR TO DATE			
		QUANTITY	SALES AMT	PROFIT	% P	QUANTITY	SALES AMT	PROFIT	% P
WOOD TREATING CHEM									
WOODTOX PRE-PRIME CONC SL	55 GAL DR GL	0	0	0	.0	165	850	266	31.3
WOODTOX PRE-PRIME-T RTU	BULK GA	0	0	0	.0	81857	179900	36317	20.2
WOODTOX PRE-PRIME-T RTU	55 GAL DR GA	0	0	0	.0	3025	10136	3538	34.9
WOODTOX PRE-PRIME-T CONC	55 GAL DR GA	0	0	0	.0	1540	7739	2448	31.6
WOODTOX 140-T CONC	BULK GA	0	0	0	.0	14592	41870	6624	15.8
WR 340 CONC	408 LB DR LB	0	0	0	.0	26112	10201	2527	24.8
TIMBERTOX 40 CONC	55 GAL DR GA	220	1210	443	36.6	9955	46211	10357	22.4
PETROSET 11 PTLD STOCK	460 LB DR LB	0	0	0	.0	2730	4286	1122	26.2
WK-60 SOLVENT PTLD	55 GAL DR GL	550	1364	298	21.8	4015	9955	2412	24.2
WOOD TREATING CHEM TOTALS			2574	741	28.8		311148	65611	21.1
PORTLAND WTC FORM TOTALS			2574	741	28.8		311148	65611	21.1

TOLS009092

BZTO104(e)045914

MA
NEXT DAY SERVI





PRESS HARD
YOU ARE MAKING 4 COPIES

FROM:
KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE
ST. LOUIS, MISSOURI

Customer Number, if any:
ANNEPAEST-82

TO:
MR. NEIL WALLIS
TIME OIL COMPANY

12005 N. BURGARD
PORTLAND, OREGON ; 97203

LABEL 11-B, MARCH 1982 • U.S.G.P.O. 1982-370-614

EXPRESS MAIL NEXT DAY SERVICE

POST OFFICE TO ADDRESSEE

B 84125477

ORIGIN:
Initials of Receiving Clerk
P.O. ZIP Code
Date in / Time in
Return Receipt Service ☐ To Whom & Date Del ☐ To Whom, Date & Address of Del.
Weight: Lbs
Postage $ Fees $

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 43 for details.

INSURANCE COVERAGE
See USPS Notice 7 or 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 30 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 with this stub (Postal Service Personnel Only)

TOLS009093

BZTO104(e)045915

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110-3497
Telephone 314-772-2200

KOPPERS

January 31, 1984

Mr. Neil E. Wallis
Time Oil Co.
12005 N. Burgard
Portland, Oregon 97203

Dear Mr. Wallis:

Attached is completed EPA form 3540-16, Pesticides Report For Pesticide Producing Establishments, for 1983, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009094

BZTO104(e)045916

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110-3497
Telephone 314-772-2200

KOPPERS

January 31, 1984

Mr. Neil E. Wallis
Time Oil Co.
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Portland, Oregon 97203

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Yours very truly,

Harold P. Struessel
Manager, Order-Billing Dept.

HPS/me

TOLS009095

BZTO104(e)045917

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
Environmental 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

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)045918

TOLS009096

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.

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)045919

TOLS009097

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: TIME OIL CO			6. ESTABLISHMENT DUNS NUMBER: 00-959-7543
2. STREET: 12005 NORTH BURGARD ST			7. EPA ESTABLISHMENT NUMBER: 33760-OR-01
3. CITY: PORTLAND	4. STATE: OR	5. ZIP CODE: 97203	8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST	10. CITY: PORTLAND	11. STATE: OR	12. ZIP CODE: 97203
13. SIGNATURE OF ESTABLISHMENT OFFICER	14. TITLE	15. DATE (mo./day/yr.)	16. TELEPHONE

PESTICIDE PRODUCTION INFORMATION

A

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 4538 | 19. PRODUCT NAME (use 2 lines if necessary): TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	8795	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G			
25. AMT. PRODUCED CURRENT YEAR:	12000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	8795	▲FOREIGN:			

B

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45326 7 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	1500	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G			
25. AMT. PRODUCED CURRENT YEAR:	4000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	2915	▲FOREIGN:			

C

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45326 9 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	969	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G			
25. AMT. PRODUCED CURRENT YEAR:	3000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1485	▲FOREIGN:			

D

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45327 0 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T Ready To Use

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	9999	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G			
25. AMT. PRODUCED CURRENT YEAR:	12000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	10515	▲FOREIGN:			

E

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 45327 1 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T Ready To Use

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G			
25. AMT. PRODUCED CURRENT YEAR:	000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1540	▲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.

TOLS009098

BZTO104(e)045920

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: TIME OIL CO

6. ESTABLISHMENT DUNS NUMBER: 00-959-7543

2. STREET: 12005 NORTH BURGARD ST

7. EPA ESTABLISHMENT NUMBER: 33760-OR-01

3. CITY: PORTLAND

4. STATE: OR

5. ZIP CODE: 97203

8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST

10. CITY: PORTLAND

11. STATE: OR

12. ZIP CODE: 97203

13. SIGNATURE OF ESTABLISHMENT OFFICER

14. TITLE

15. DATE (mo./day/yr.)

16. TELEPHONE

PESTICIDE PRODUCTION INFORMATION

A

17. PRODUCT CODE: 1
18. PRODUCT NUMBER: 4538
19. PRODUCT NAME (use 2 lines if necessary): TIMBERTOX 40 CONCENTRATE
20. PRODUCT CLASSIFICATION: 02
21. PRODUCT TYPE: 2
22. MARKET PRODUCED FOR: 1
23. USE CLASSIFICATION: 2
24. AMT. PRODUCED PAST YEAR: 8,795
25. AMT. PRODUCED CURRENT YEAR: 12,000
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 8,795 ▲FOREIGN:
27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

B

17. PRODUCT CODE: 1
18. PRODUCT NUMBER: 453267
19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE
20. PRODUCT CLASSIFICATION: 02
21. PRODUCT TYPE: 2
22. MARKET PRODUCED FOR: 1
23. USE CLASSIFICATION: 2
24. AMT. PRODUCED PAST YEAR: 1,500
25. AMT. PRODUCED CURRENT YEAR: 4,000
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 2,915 ▲FOREIGN:
27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

C

17. PRODUCT CODE: 1
18. PRODUCT NUMBER: 453269
19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T CONCENTRATE
20. PRODUCT CLASSIFICATION: 02
21. PRODUCT TYPE: 2
22. MARKET PRODUCED FOR: 1
23. USE CLASSIFICATION: 2
24. AMT. PRODUCED PAST YEAR: 969
25. AMT. PRODUCED CURRENT YEAR: 3,000
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1,485 ▲FOREIGN:
27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

D

17. PRODUCT CODE: 1
18. PRODUCT NUMBER: 453270
19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T Ready To Use
20. PRODUCT CLASSIFICATION: 02
21. PRODUCT TYPE: 2
22. MARKET PRODUCED FOR: 1
23. USE CLASSIFICATION: 2
24. AMT. PRODUCED PAST YEAR: 97,999
25. AMT. PRODUCED CURRENT YEAR: 120,000
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 105,153 ▲FOREIGN:
27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

E

17. PRODUCT CODE: 1
18. PRODUCT NUMBER: 453271
19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T Ready To Use
20. PRODUCT CLASSIFICATION: 02
21. PRODUCT TYPE: 2
22. MARKET PRODUCED FOR: 1
23. USE CLASSIFICATION: 2
24. AMT. PRODUCED PAST YEAR: 000
25. AMT. PRODUCED CURRENT YEAR: 000
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1,540 ▲FOREIGN:
27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

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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.

TOLS009099

BZTO104(e)045921

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: 12005 NORTH BURGARD ST	7. EPA ESTABLISHMENT NUMBER: 33760-OR-01
3. CITY: PORTLAND	4. STATE: OR — 5. ZIP CODE: 97203
	8. ESTABLISHMENT SIC CODES: 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)
1	45382	TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	8795	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	12000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	8795	▲FOREIGN:			

B

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45326	WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	1500	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	4000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	2915	▲FOREIGN:			

C

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45326 9	WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	960	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	3000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1485	▲FOREIGN:			

D

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45327 0	WOODTOX PRE PRIME-T Ready To Use

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	97999	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	120000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	105153	▲FOREIGN:			

E

17. PRODUCT CODE	18. PRODUCT NUMBER	19. PRODUCT NAME (use 2 lines if necessary)
1	45327 1	WOODTOX 140-T Ready To Use

20. PRODUCT CLASSIFICATION: 02	21. PRODUCT TYPE: 2	22. MARKET PRODUCED FOR: 1	23. USE CLASSIFICATION: 2		
24. AMT. PRODUCED PAST YEAR:	000	27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS	G		
25. AMT. PRODUCED CURRENT YEAR:	000				
26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.:	1540	▲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.

TOLS009100

BZTO104(e)045922

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: TIME OIL CO			6. ESTABLISHMENT DUNS NUMBER: 00-959-7543
2. STREET: 12005 NORTH BURGARD ST			7. EPA ESTABLISHMENT NUMBER: 53760-OR-01
3. CITY: PORTLAND	4. STATE: OR	5. ZIP CODE: 97203	8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST	10. CITY: PORTLAND	11. STATE: OR	12. ZIP CODE: 97203
13. SIGNATURE OF ESTABLISHMENT OFFICER	14. TITLE	15. DATE (mo./day/yr.)	16. TELEPHONE

PESTICIDE PRODUCTION INFORMATION

A

17. PRODUCT CODE: 1 — 18. PRODUCT NUMBER: 45382 — 19. PRODUCT NAME (use 2 lines if necessary): TIMBERTOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 — 21. PRODUCT TYPE: 2 — 22. MARKET PRODUCED FOR: 1 — 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 8795

25. AMT. PRODUCED CURRENT YEAR: 12000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 8795 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

B

17. PRODUCT CODE: 1 — 18. PRODUCT NUMBER: 45326 — 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 — 21. PRODUCT TYPE: 2 — 22. MARKET PRODUCED FOR: 1 — 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 15000

25. AMT. PRODUCED CURRENT YEAR: 4000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 2915 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

C

17. PRODUCT CODE: 1 — 18. PRODUCT NUMBER: 453269 — 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 — 21. PRODUCT TYPE: 2 — 22. MARKET PRODUCED FOR: 1 — 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 9609

25. AMT. PRODUCED CURRENT YEAR: 3000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1485 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

D

17. PRODUCT CODE: 1 — 18. PRODUCT NUMBER: 453270 — 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T Ready To Use

20. PRODUCT CLASSIFICATION: 02 — 21. PRODUCT TYPE: 2 — 22. MARKET PRODUCED FOR: 1 — 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 97999

25. AMT. PRODUCED CURRENT YEAR: 12000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 10515 3 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

E

17. PRODUCT CODE: 1 — 18. PRODUCT NUMBER: 453271 — 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T Ready To Use

20. PRODUCT CLASSIFICATION: 02 — 21. PRODUCT TYPE: 2 — 22. MARKET PRODUCED FOR: 1 — 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 000

25. AMT. PRODUCED CURRENT YEAR: 000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1540 ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

☐ CONTINUED ON ATTACHED SHEET

COPY LEFT FOR BUSINESS INFORMATION

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.

TOLS009101

BZTO104(e)045923

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 12005 NORTH BURGARD ST	**7. EPA ESTABLISHMENT NUMBER** 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

CONFIDENTIAL BUSINESS INFORMATION

A

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 4538 | 19. PRODUCT NAME (use 2 lines if necessary): TIMBER-TOX 40 CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 8790 | 27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

25. AMT. PRODUCED CURRENT YEAR: 10000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: | ▲FOREIGN:

B

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 4532 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 1500 | 27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

25. AMT. PRODUCED CURRENT YEAR: 4000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 2915 | ▲FOREIGN:

C

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 453269 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE-PRIME-T CONCENTRATE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 969 | 27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

25. AMT. PRODUCED CURRENT YEAR: 3000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1485 | ▲FOREIGN:

D

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 453270 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX PRE PRIME-T READY TO USE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 9799 | 27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

25. AMT. PRODUCED CURRENT YEAR: 12000

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 10513 | ▲FOREIGN:

E

17. PRODUCT CODE: 1 | 18. PRODUCT NUMBER: 453271 | 19. PRODUCT NAME (use 2 lines if necessary): WOODTOX 140-T READY TO USE

20. PRODUCT CLASSIFICATION: 02 | 21. PRODUCT TYPE: 2 | 22. MARKET PRODUCED FOR: 1 | 23. USE CLASSIFICATION: 2

24. AMT. PRODUCED PAST YEAR: 10010 | 27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS: G

25. AMT. PRODUCED CURRENT YEAR: 10010

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: 1540 | ▲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.

TOLS009102

BZTO104(e)045924

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: TIME OIL CO			6. ESTABLISHMENT DUNS NUMBER: 00-959-7543
2. STREET: 12005 NORTH BURGARD ST			7. EPA ESTABLISHMENT NUMBER: 53760-OR-01
3. CITY: PORTLAND	4. STATE: OR	5. ZIP CODE: 97203	8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST	10. CITY: PORTLAND	11. STATE: OR	12. ZIP CODE: 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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

☐ CONTINUED ON ATTACHED SHEET

CONFIDENTIAL BUSINESS INFORMATION

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.

TOLS009103

BZTO104(e)045925

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: TIME OIL CO			6. ESTABLISHMENT DUNS NUMBER: 00-959-7543
2. STREET: 12005 NORTH BURGARD ST			7. EPA ESTABLISHMENT NUMBER: 33760-OR-01
3. CITY: PORTLAND	4. STATE: OR	5. ZIP CODE: 97203	8. ESTABLISHMENT SIC CODES: 5172

ESTABLISHMENT SITE ADDRESS

9. STREET: 12005 NORTH BURGARD ST	10. CITY: PORTLAND	11. STATE: OR	12. ZIP CODE: 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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

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:

25. AMT. PRODUCED CURRENT YEAR:

26. AMT. SOLD/DISTRIBUTED PAST YEAR: ▲U.S.: ▲FOREIGN:

27. UNIT OF MEASURE: G=GALLONS, P=POUNDS, L=LITERS, U=UNITS, K=KILOGRAMS, T=TONS

☐ CONTINUED ON ATTACHED SHEET

CONFIDENTIAL BUSINESS INFORMATION

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.

TOLS009104

BZTO104(e)045926

LOCATION 743 PORTLAND WTC FORM

			CURRENT MONTH				CURRENT YEAR TO DATE			
			QUANTITY	SALES AMT	PROFIT	% P	QUANTITY	SALES AMT	PROFIT	% P
ADJUSTMENTS										
ADJUSTMENTS			0	0	0	.0	0	32-	32-	100.0
ADJUSTMENTS	TOTALS			0	0	.0		32-	32-	100.0
WOOD TREATING CHEM										
WOL PRE STAIN CON CBRO NEW	55 GAL DR	GL	0	0	0	.0	660	7270	2597	35.7
WOLMAN PRE-STAIN CB 55GALDR	GA		0	0	0	.0	1100	12974	4580	35.3
WOODTOX 140-T RTU	55 GAL DR	GA	0	0	0	.0	1540	4989	1680	33.7
WOODTOX PRE-PRIME-T RTU	BULK	GA	0	0	0	.0	84247	185029	34075	18.4
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GA	3190	9722	2503	25.7	20906	56538	9229	16.3
WOODTOX PRE-PRIME-T CONC	BULK	GA	0	0	0	.0	275	1416	573	40.5
WOODTOX PRE-PRIME-T CONC	55 GAL DR	GA	0	0	0	.0	1210	5840	1563	26.8
WOODTOX 140-T CONC	55 GAL DR	GA	0	0	0	.0	2915	10636	2062	19.4
WR 340 CONC	408 LB DR	LB	0	0	0	.0	2448	38	692-	821.1-
TIMBERTOX 40 CONC	55 GAL DR	GA	55	303	90	29.7	13035	59391	11722	19.7
PETROSET 11 PTLD STOCK	460 LB DR	LB	0	0	0	.0	1365	2143	561	26.2
WK-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	6050	15466	2824	18.3
WOOD TREATING CHEM	TOTALS			10025	2593	25.9		361730	70774	19.6
PENTA TRANSFERS										
WR 340 CONC	408 LB DR	LB	0	0	0	.0	12240	4651	999	21.5
PENTA TRANSFERS	TOTALS			0	0	.0		4651	999	21.5
WTC TO PLANT										
WOL PRE STAIN CON CBRO NEW	5 GAL DR	GL	0	0	0	.0	90	1170	493	42.1
WR 340 CONC	408 LB DR	LB	0	0	0	.0	0	892	892	100.0
WTC TO PLANT	TOTALS			0	0	.0		2062	1385	67.2
PORTLAND WTC FORM	TOTALS			10025	2593	25.9		368411	73126	19.8

TOLS009105

BZTO104(e)045927

PHONE 285-2400
CABLE ADDRESS: TIMOIL

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
SAN PEDRO
LOS ANGELES

TIME
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

TOLS009106

BZTO104(e)045928

1993

TOLS009107

BZTO104(e)045929

EXPRESS MAIL

NEXT DAY SERVICE

THE
2 POUND

PRESS HARD
NG 4 COPIES

FROM:
HAROLD P. STRUESSEL
KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE
ST. LOUIS, MISSOURI 63110

3540-16, 1983

TO:
MR. NEIL E. WALLIS
TIME OIL COMPANY
12005 N. BURGARD
PORTLAND, OREGON 97203

EXPRESS MAIL
POST OFFICE TO ADDRESSEE

B 87203153

ORIGIN

SERVICE GUARANTEE

INSURANCE COVERAGE

1

$ 9 35

Express Mail Service
Customer Receipt

REMOVE copies 1 & 2 with this stub
(Postal Service Personnel Only)

BZTO104(e)045930

TOLS009108

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110-3497
Telephone 314-772-2200

KOPPERS

April 8, 1985

Mr. Neil E. Wallis
Time Oil Co.
12005 N. Burgard
Portland, Oregon

Dear Mr. Wallis:

Attached is completed EPA form3540-16, Pesticides Report For Pesticide Producing Establishments, for 1984, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel

HPS/me

TOLS009109

BZTO104(e)045931

Koppers Company, Inc., Wood Treating Chemicals Department
5137 Southwest Ave., St. Louis, MO 63110-3497
Telephone 314-772-2200

KOPPERS

April 8, 1985

Mr. Neil E. Wallis
Time Oil Co.
12005 N. Burgard
Portland, Oregon

Dear Mr. Wallis:

Attached is completed EPA form3540-16, Pesticides Report For Pesticide Producing Establishments, for 1984, as well as the instructions which came with it.

It must still be signed, dated, etc. before returning to the EPA.

Yours very truly,

Harold P. Struessel

HPS/me

TOLS009110

BZTO104(e)045932

Form designed for use with elite (12-pitch) typewriter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543

7. EPA Establishment Number: 33760-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIMBER OIL CO	12005 NORTH BURGARD ST		
3. City		**4. State**	**5. ZIP Code**
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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: 1 — 18. EPA Product Registration Number: 453-8

19. Product Name: TIMBERTOX 40 CONCENTRATE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 9.33.5 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	7,68	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units	G
25. Amount to be Produced This Year	1985	0		
26. Amount Sold/Distributed Last Year	1984	●US 92,40	●Foreign	

B

17. Product Code: 1 — 18. EPA Product Registration Number: 453-267

19. Product Name: WOODTOX 140-T CONCENTRATE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 8.13.8 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	0	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units	G
25. Amount to be Produced This Year	1985	0		
26. Amount Sold/Distributed Last Year	1984	●US 225,5	●Foreign	

C

17. Product Code: 1 — 18. EPA Product Registration Number: 453-269

19. Product Name: WOODTOX PRE PRIME-T CONCENTRATE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 8.23.6 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	0	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units	G
25. Amount to be Produced This Year	1985	0		
26. Amount Sold/Distributed Last Year	1984	●US 1045	●Foreign	

D

17. Product Code: 1 — 18. EPA Product Registration Number: 453-270

19. Product Name: WOODTOX PRE PRIME-T READY-TO-USE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 6.76.5 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	2000	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units	G
25. Amount to be Produced This Year	1985	0		
26. Amount Sold/Distributed Last Year	1984	●US 1093,1	●Foreign	

E

17. Product Code: — 18. EPA Product Registration Number: —

19. Product Name: TOLS009111

20. Product Classification: — 21. Product Type: — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● Lbs/Gal

22. Market Produced For: — 23. Use Classification: —

24. Amount Produced Last Year	1984		27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units	
25. Amount to be Produced This Year	1985			
26. Amount Sold/Distributed Last Year	1984	●US	●Foreign	

FOR EPA USE ONLY — Continued on Attached Sheet ☐

28 Signature	29 EPA Office	30 Date Received	31 Date Reviewed	32 Reporting Year
				1984

EPA Form 3540-16 [illegible] Previous editions are obsolete

BZTO104(e)045933

Form designed for use with elite (12-pitch) typewriter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543

7. EPA Establishment Number: 33750-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIMBER OIL CO	12005 NORTH BURGARD ST		
3. City		**4. State**	**5. ZIP Code**
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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: 1 — 18. EPA Product Registration Number: 453-8

19. Product Name: TIMBERTOX 40 CONCENTRATE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 9.335 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	7,5,8	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G
25. Amount to be Produced This Year	1985	0	
26. Amount Sold/Distributed Last Year	1984 ● US	8,2,4,0	● Foreign

B

17. Product Code: 1 — 18. EPA Product Registration Number: 453-267

19. Product Name: WOODTOX 140-T CONCENTRATE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 8.138 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	0	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G
25. Amount to be Produced This Year	1985	0	
26. Amount Sold/Distributed Last Year	1984 ● US	2,2,5,5	● Foreign

C

17. Product Code: 1 — 18. EPA Product Registration Number: 453-269

19. Product Name: WOODTOX PRE PRIME-T CONCENTRATE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 8.230 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	0	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G
25. Amount to be Produced This Year	1985	0	
26. Amount Sold/Distributed Last Year	1984 ● US	1,0,4,5	● Foreign

D

17. Product Code: 1 — 18. EPA Product Registration Number: 453-270

19. Product Name: WOODTOX PRE PRIME-T READY-TO-USE

20. Product Classification: 02 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● 6.765 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2

24. Amount Produced Last Year	1984	2,0,0,0	27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G
25. Amount to be Produced This Year	1985	0	
26. Amount Sold/Distributed Last Year	1984 ● US	1,0,9,3,1	● Foreign

E

17. Product Code: — 18. EPA Product Registration Number: -

19. Product Name:

TOLS009112

20. Product Classification: — 21. Product Type: — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter, or ● Lbs/Gal

22. Market Produced For: — 23. Use Classification: —

24. Amount Produced Last Year	1984		27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units:
25. Amount to be Produced This Year	1985		
26. Amount Sold/Distributed Last Year	1984 ● US		● Foreign

FOR EPA USE ONLY — Continued on Attached Sheet ☐

28. Signature	29. EPA Office	30. Date Received	31. Date Reviewed	32. Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete.

BZTO104(e)045934

Form designed for use with elite (12-pitch) typewriter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

EPA

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL.

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543
7. EPA Establishment Number: 33760-OR-01
8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIME OIL CO	12005 NORTH BURGARD ST		
3. City		4. State	5. ZIP Code
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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

CONFIDENTIAL BUSINESS INFORMATION

A

17. Product Code: 1 — 18. EPA Product Registration Number: 453-8
19. Product Name: TIMBERTOX 40 CONCENTRATE
20. Product Classification: 0 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 9.335 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 7[illegible]8 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 2[illegible]0 ●Foreign

B

17. Product Code: 1 — 18. EPA Product Registration Number: 453-267
19. Product Name: WOODTOX 140-T CONCENTRATE
20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 8.138 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 0 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 2255 ●Foreign

C

17. Product Code: 1 — 18. EPA Product Registration Number: 453-269
19. Product Name: WOODTOX PRE PRIME-T CONCENTRATE
20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: ● kgs/Liter; or ● 8.230 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 0 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 1045 ●Foreign

D

17. Product Code: 1 — 18. EPA Product Registration Number: 453-270
19. Product Name: WOODTOX PRE PRIME-T READY-TO-USE
20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: ● kgs/Liter; or ● 6.765 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 2000 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 10931 ●Foreign

E

17. Product Code: — 18. EPA Product Registration Number: -
19. Product Name:
20. Product Classification: — 21. Product Type: — 21a. Specific Gravity (Liquids Only) stated as: ● kgs/Liter; or ● Lbs/Gal
22. Market Produced For: — 23. Use Classification: —
24. Amount Produced Last Year [1984] — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

TOLS009113

FOR EPA USE ONLY — Continued on Attached Sheet

28. Signature	29. EPA Office	30. Date Received	31. Date Reviewed	32. Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete

BZTO104(e)045935

Form designed for use with elite (12-pitch) typewriter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

EPA

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing.

Information reported on this form is treated as BUSINESS CONFIDENTIAL.

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-989-7883

7. EPA Establishment Number: 337-O-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIMBER OIL CO	1800S NORTH BURGARD ST		
3. City		4. State	5. ZIP Code
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	10. City	11. State	12. ZIP Code
1800S 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: 1 — 18. EPA Product Registration Number: 453-8

19. Product Name: TIMBERTOX 40 CONCENTRATE

20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 9.335 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: [illegible] — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G

24. Amount Produced Last Year	1984	[illegible]	0
25. Amount to be Produced This Year	1985	[illegible]	0
26. Amount Sold/Distributed Last Year	1984	●US [illegible]	0
		●Foreign	

B

17. Product Code: 1 — 18. EPA Product Registration Number: 453-267

19. Product Name: WOODTOX 140-T CONCENTRATE

20. Product Classification: 0 2 — 21. Product Type: [illegible] — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 8.138 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: [illegible] — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G

24. Amount Produced Last Year	1984	[illegible]	0
25. Amount to be Produced This Year	[illegible]	[illegible]	0
26. Amount Sold/Distributed Last Year	[illegible]	●US [illegible]	2255
		●Foreign	

C

17. Product Code: 1 — 18. EPA Product Registration Number: 453-269

19. Product Name: WOODTOX PRE PRIME-T CONCENTRATE

20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 8.230 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G

24. Amount Produced Last Year	1984		0
25. Amount to be Produced This Year	1985		0
26. Amount Sold/Distributed Last Year	1984	●US	1045
		●Foreign	

D

17. Product Code: 1 — 18. EPA Product Registration Number: 453-270

19. Product Name: WOODTOX PRE PRIME-T READY-TO-USE

20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 6.765 Lbs/Gal

22. Market Produced For: 1 — 23. Use Classification: 2 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units: G

24. Amount Produced Last Year	1984		2000
25. Amount to be Produced This Year	1985		0
26. Amount Sold/Distributed Last Year	1984	●US	10931
		●Foreign	

E

17. Product Code: — 18. EPA Product Registration Number: —

19. Product Name:

TOLS009114

20. Product Classification: — 21. Product Type: — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● Lbs/Gal

22. Market Produced For: — 23. Use Classification: — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units:

24. Amount Produced Last Year	1984		
25. Amount to be Produced This Year	1985		
26. Amount Sold/Distributed Last Year	1984	●US	
		●Foreign	

CONFIDENTIAL BUSINESS INFORMATION

FOR EPA USE ONLY — Continued on Attached Sheet ☐

28. Signature	29. EPA Office	30. Date Received	31. Date Reviewed	32. Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete

BZTO104(e)045936

Form designed for use with elite (12-pitch) typewriter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

EPA

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL.

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7503
7. EPA Establishment Number: 33760-OR-01
8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIME OIL CO	12005 NORTH BURGARD ST		
3. City		4. State	5. ZIP Code
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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

CONFIDENTIAL BUSINESS INFORMATION

A

17. Product Code: 1 — 18. EPA Product Registration Number: 453-8
19. Product Name: TIMBERTOX 40 CONCENTRATE
20. Product Classification: 0 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 9.335 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 7[illegible] — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US [illegible] ●Foreign

B

17. Product Code: 1 — 18. EPA Product Registration Number: 453-267
19. Product Name: WOODTOX 140-T CONCENTRATE
20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 8.138 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 0 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 2255 ●Foreign

C

17. Product Code: 1 — 18. EPA Product Registration Number: 453-269
19. Product Name: WOODTOX PRE PRIME-T CONCENTRATE
20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 8.230 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 0 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 1045 ●Foreign

D

17. Product Code: 1 — 18. EPA Product Registration Number: 453-270
19. Product Name: WOODTOX PRE PRIME-T READY-TO-USE
20. Product Classification: 0 2 — 21. Product Type: 2 — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● 6.765 Lbs/Gal
22. Market Produced For: 1 — 23. Use Classification: 2
24. Amount Produced Last Year [1984] 2000 — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US 10931 ●Foreign

E

17. Product Code: — 18. EPA Product Registration Number: -
19. Product Name:
20. Product Classification: — 21. Product Type: — 21a. Specific Gravity (Liquids Only) stated as: kgs/Liter; or ● Lbs/Gal
22. Market Produced For: — 23. Use Classification: —
24. Amount Produced Last Year [1984] — 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units
25. Amount to be Produced This Year [1985] 0
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

TOLS009115

FOR EPA USE ONLY — Continued on Attached Sheet

28. Signature	29. EPA Office	30. Date Received	31. Date Reviewed	32. Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete.

BZTO104(e)045937

NEIL WALLIS

TIME OIL CO.
P.O. Box 03117
12005 N. Burgard St.
Portland, Oregon 97203 Phone: (503) 286-1611

TOLS009116

BZTO104(e)045938

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 23 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

NOTICE TO REGISTRANTS OF PESTICIDE PRODUCING ESTABLISHMENTS

ATTENTION: Persons Responsible for Preparing and Submitting Annual Pesticide Production Reports

SUBJECT: Delayed Due Date for Reporting 1984 Pesticide Production Information

The PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS, EPA Form 3540-16, was not available for EPA to send to you to use in reporting your 1984 pesticide production information on or before the February 1, 1985 due date. Therefore, please follow these instructions in filing your 1984 pesticide production reports:

- Your 1984 production information is now being solicited, i.e., pre-printed forms (with instructions) are attached for your use. Please complete the forms according to the instructions and return to the appropriate EPA office listed below.
- If you have already attempted to file your 1984 production information, using an old form, or by some other means, please advise the appropriate EPA office.
- YOUR 1984 PESTICIDE PRODUCTION REPORT(S) IS DUE ON OR BEFORE APRIL 15, 1985.

If you have questions concerning this delay in reporting 1984 pesticide production information, please contact the appropriate EPA office listed below:

EPA Regional Offices	Telephone	States Covered
Region I, Boston, MA	617 223-5785	CT,MA,ME,NH,RI,VT
Region II, Edison, NJ	201 321-6672	NJ,NY,PR,VI
Region III, Philadelphia, PA	215 597-9936	DC,DE,MD,PA,VA,WV
Region IV, Atlanta, GA	404 881-3222	AL,FL,GA,KY,MS,NC,SC,TN
Region V, Chicago, IL	312 886-6009	IL,IN,OH,MI,MN,WI
Region VI, Dallas, TX	214 767-5321	AR,LA,NM,OK,TX
Region VII, Kansas City, MO	816 374-3036	IA,KS,MO,NB
Region VIII, Denver, CO	303 293-1749	CO,MT,ND,SD,UT,WY
Region IX, San Francisco, CA	415 974-0749	AS,AZ,CA,GU,HI,NV,PI,WK
Region X, Seattle, WA	206 442-1981	AK,ID,OR,WA
EPA Headquarters		
Washington, DC	202 382-5569	Foreign Producing Establishments

John L. Seitz for
A. E. Conroy II, Director
Office of Compliance Monitoring

TOLS009117

BZTO104(e)045939

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.

TOLS009118

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 produced under several distributor labels [brand names] should be reported only as a single product rather than reported separately for each label.]

17-18. PRODUCT CODE AND EPA PRODUCT REGISTRATION NUMBER:

|1| If the product is registered with EPA [has an EPA Product Registration Number], enter "1" in Item 17 and the EPA 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	05 Algaecide	10 Antifouling Paint
21 Insecticide-Fungicide	06 Nematocide	11 Animal Repellent
02 Fungicide	07 Plant Regulator	12 Other Pesticide
03 Rodenticide	08 Defoliant, Dessicant	13 Device
04 Herbicide	09 Disinfectant,	14 Water Purifier-Point of Use
44 Herbicide-Fungicide	Germicide, Sanitizer	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 an end use BLEND, FORMULATION or CONCENTRATE. [This product is suitable for use as is, or following dilution , 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 blending, dilution, or change in formula.]

|4| Enter "4" if the product is a DEVICE.

TOLS009119

21a. SPECIFIC GRAVITY: For liquid products of PRODUCT TYPE 1 and 2, enter the specific gravity of the complete product. Check the appropriate block to indicate if the specific gravity is stated in Pounds per Gallon or Kilograms per Liter.

BZTO104(e)045941

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 LAST 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 Items 24 and 32.

25. AMOUNT TO BE PRODUCED THIS 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 shown in Item 25.

26. AMOUNT SOLD/DISTRIBUTED LAST 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 Items 26 and 32.

TOLS009120

BZTO104(e)045942

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 Telephone (617-223-5785)	CT, MA ME, NH RI, VT	Environmental Protection Agency Region VI, Pesticides Office First International Building 1201 Elm Street Dallas, TX 75270 Telephone (214-767-9745)	AR, LA NM, OK TX
Environmental Protection Agency Region II, Pesticides Office Raritan Depot Woodbridge Ave., Building 209 Edison, NJ 08837 Telephone (201-321-6672)	NJ, NY PR, VI	Environmental Protection Agency Region VII, Pesticides Office 324 East 11th Street Kansas City, MO 64106 Telephone (816-374-3036)	IA, KS MO, NB
Environmental Protection Agency Region III, Pesticides Office 841 Chestnut Street, 6th Floor Philadelphia, PA 19106 Telephone (215-597-9936)	DE, DC MD, PA VA, WV	Environmental Protection Agency Region VIII, Pesticides Office 1860 Lincoln Street Denver, CO 80295 Telephone (303-837-3926)	CO, MT ND, SD UT, WY
Environmental Protection Agency Region IV, Pesticides Office 345 Courtland Street N. E. Atlanta, GA 30365 Telephone (404-881-3222)	AL, FL GA, KY MS, NC SC TN	Environmental Protection Agency Region IX, Pesticides Office 215 Fremont Street San Francisco, CA 94105 Telephone (415-974-0749)	AZ, AS CA, GU HI, NV PI, WK
Environmenal Protection Agency Region V, Pesticides Office 230 Dearborn Street Chicago, IL 60604 Telephone (312-886-6009)	IL, IN OH, MI MN, WI	Environmental Protection Agency Region X, Pesticides Office 1200 6th Avenue Seattle, WA 98101 Telephone (206-442-1981)	AK, ID OR, WA

TOLS009121

BZTO104(e)045943

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 23 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

NOTICE TO REGISTRANTS OF PESTICIDE PRODUCING ESTABLISHMENTS

ATTENTION: Persons Responsible for Preparing and Submitting Annual Pesticide Production Reports

SUBJECT: Delayed Due Date for Reporting 1984 Pesticide Production Information

The PESTICIDES REPORT FOR PESTICIDE-PRODUCING ESTABLISHMENTS, EPA Form 3540-16, was not available for EPA to send to you to use in reporting your 1984 pesticide production information on or before the February 1, 1985 due date. Therefore, please follow these instructions in filing your 1984 pesticide production reports:

- Your 1984 production information is now being solicited, i.e., pre-printed forms (with instructions) are attached for your use. Please complete the forms according to the instructions and return to the appropriate EPA office listed below.
- If you have already attempted to file your 1984 production information, using an old form, or by some other means, please advise the appropriate EPA office.
- YOUR 1984 PESTICIDE PRODUCTION REPORT(S) IS DUE ON OR BEFORE APRIL 15, 1985.

If you have questions concerning this delay in reporting 1984 pesticide production information, please contact the appropriate EPA office listed below:

EPA Regional Offices	Telephone	States Covered
Region I, Boston, MA	617 223-5785	CT,MA,ME,NH,RI,VT
Region II, Edison, NJ	201 321-6672	NJ,NY,PR,VI
Region III, Philadelphia, PA	215 597-9936	DC,DE,MD,PA,VA,WV
Region IV, Atlanta, GA	404 881-3222	AL,FL,GA,KY,MS,NC,SC,TN
Region V, Chicago, IL	312 886-6009	IL,IN,OH,MI,MN,WI
Region VI, Dallas, TX	214 767-5321	AR,LA,NM,OK,TX
Region VII, Kansas City, MO	816 374-3036	IA,KS,MO,NB
Region VIII, Denver, CO	303 293-1749	CO,MT,ND,SD,UT,WY
Region IX, San Francisco, CA	415 974-0749	AS,AZ,CA,GU,HI,NV,PI,WK
Region X, Seattle, WA	206 442-1981	AK,ID,OR,WA
EPA Headquarters		
Washington, DC	202 382-5569	Foreign Producing Establishments

John L. Seitz for
A. E. Conroy II, Director
Office of Compliance Monitoring

TOLS009122

BZTO104(e)045944

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.

TOLS009123

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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 produced under several distributor labels [brand names] should be reported only as a single product rather than reported separately for each label.]

17-18. PRODUCT CODE AND EPA PRODUCT REGISTRATION NUMBER:

|1| If the product is registered with EPA [has an EPA Product Registration Number], enter "1" in Item 17 and the EPA 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	05 Algaecide	10 Antifouling Paint
21 Insecticide-Fungicide	06 Nematocide	11 Animal Repellent
02 Fungicide	07 Plant Regulator	12 Other Pesticide
03 Rodenticide	08 Defoliant, Dessicant	13 Device
04 Herbicide	09 Disinfectant,	14 Water Purifier-Point of Use
44 Herbicide-Fungicide	Germicide, Sanitizer	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 an end use BLEND, FORMULATION or CONCENTRATE. [This product is suitable for use as is, or following dilution , 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 blending, dilution, or change in formula.]

|4| Enter "4" if the product is a DEVICE.

21a. SPECIFIC GRAVITY: For liquid products of PRODUCT TYPE 1 and 2, enter the specific gravity of the complete product. Check the appropriate block to indicate if the specific gravity is stated in Pounds per Gallon or Kilograms per Liter.

TOLS009124

BZTO104(e)045946

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 LAST 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 Items 24 and 32.

25. AMOUNT TO BE PRODUCED THIS 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 shown in Item 25.

26. AMOUNT SOLD/DISTRIBUTED LAST 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 Items 26 and 32.

TOLS009125

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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 Telephone (617-223-5785)	CT, MA ME, NH RI, VT	Environmental Protection Agency Region VI, Pesticides Office First International Building 1201 Elm Street Dallas, TX 75270 Telephone (214-767-9745)	AR, LA NM, OK TX
Environmental Protection Agency Region II, Pesticides Office Raritan Depot Woodbridge Ave., Building 209 Edison, NJ 08837 Telephone (201-321-6672)	NJ, NY PR, VI	Environmental Protection Agency Region VII, Pesticides Office 324 East 11th Street Kansas City, MO 64106 Telephone (816-374-3036)	IA, KS MO, NB
Environmental Protection Agency Region III, Pesticides Office 841 Chestnut Street, 6th Floor Philadelphia, PA 19106 Telephone (215-597-9936)	DE, DC MD, PA VA, WV	Environmental Protection Agency Region VIII, Pesticides Office 1860 Lincoln Street Denver, CO 80295 Telephone (303-837-3926)	CO, MT ND, SD UT, WY
Environmental Protection Agency Region IV, Pesticides Office 345 Courtland Street N. E. Atlanta, GA 30365 Telephone (404-881-3222)	AL, FL GA, KY MS, NC SC TN	Environmental Protection Agency Region IX, Pesticides Office 215 Fremont Street San Francisco, CA 94105 Telephone (415-974-0749)	AZ, AS CA, GU HI, NV PI, WK
Environmenal Protection Agency Region V, Pesticides Office 230 Dearborn Street Chicago, IL 60604 Telephone (312-886-6009)	IL, IN OH, MI MN, WI	Environmental Protection Agency Region X, Pesticides Office 1200 6th Avenue Seattle, WA 98101 Telephone (206-442-1981)	AK, ID OR, WA

TOLS009126

BZTO104(e)045948

Form designed for use with elite (12-pitch) typewriter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

EPA

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543

7. EPA Establishment Number: 33760-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIME OIL CO	12005 NORTH BURGARD ST		
3. City		**4. State**	**5. ZIP Code**
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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. EPA Product Registration Number ___-___
19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐
22. Market Produced For ☐ 23. Use Classification ☐
21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
24. Amount Produced Last Year [1984]
25. Amount to be Produced This Year [1985]
26. Amount Sold/Distributed Last Year [1984] ●US
27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐
●Foreign

B

17. Product Code ☐ 18. EPA Product Registration Number ___-___
19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐
22. Market Produced For ☐ 23. Use Classification ☐
21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
24. Amount Produced Last Year [1984]
25. Amount to be Produced This Year [1985]
26. Amount Sold/Distributed Last Year [1984] ●US
27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐
●Foreign

C

17. Product Code ☐ 18. EPA Product Registration Number ___-___
19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐
22. Market Produced For ☐ 23. Use Classification ☐
21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
24. Amount Produced Last Year [1984]
25. Amount to be Produced This Year [1985]
26. Amount Sold/Distributed Last Year [1984] ●US
27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐
●Foreign

D

17. Product Code ☐ 18. EPA Product Registration Number ___-___
19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐
22. Market Produced For ☐ 23. Use Classification ☐
21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
24. Amount Produced Last Year [1984]
25. Amount to be Produced This Year [1985]
26. Amount Sold/Distributed Last Year [1984] ●US
27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐
●Foreign

E

17. Product Code ☐ 18. EPA Product Registration Number ___-___
19. Product Name

TOLS009127

20. Product Classification ☐☐ 21. Product Type ☐
22. Market Produced For ☐ 23. Use Classification ☐
21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
24. Amount Produced Last Year [1984]
25. Amount to be Produced This Year [1985]
26. Amount Sold/Distributed Last Year [1984] ●US
27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐
●Foreign

FOR EPA USE ONLY Continued on Attached Sheet ☐

28. Signature	29. EPA Office	30. Date Received	31. Date Reviewed	32. Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete

BZTO104(e)045949

Form designed for use with elite (12-pitch) typewriter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543

7. EPA Establishment Number: 33760-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIME OIL CO	12005 NORTH BURGARD ST		
3. City		**4. State**	**5. ZIP Code**
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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. EPA Product Registration Number ___-___

19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐ 21a. Specific Gravity (Liquids Only) stated as: ● ___ kgs/Liter, or ● ___ Lbs/Gal

22. Market Produced For ☐ 23. Use Classification ☐

24. Amount Produced Last Year [1984]

25. Amount to be Produced This Year [1985]

26. Amount Sold/Distributed Last Year [1984] ●US

27. Unit of Measure P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

●Foreign

B

17. Product Code ☐ 18. EPA Product Registration Number ___-___

19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐ 21a. Specific Gravity (Liquids Only) stated as: ● ___ kgs/Liter, or ● ___ Lbs/Gal

22. Market Produced For ☐ 23. Use Classification ☐

24. Amount Produced Last Year [1984]

25. Amount to be Produced This Year [1985]

26. Amount Sold/Distributed Last Year [1984] ●US

27. Unit of Measure P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

●Foreign

C

17. Product Code ☐ 18. EPA Product Registration Number ___-___

19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐ 21a. Specific Gravity (Liquids Only) stated as: ● ___ kgs/Liter, or ● ___ Lbs/Gal

22. Market Produced For ☐ 23. Use Classification ☐

24. Amount Produced Last Year [1984]

25. Amount to be Produced This Year [1985]

26. Amount Sold/Distributed Last Year [1984] ●US

27. Unit of Measure P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

●Foreign

D

17. Product Code ☐ 18. EPA Product Registration Number ___-___

19. Product Name

20. Product Classification ☐☐ 21. Product Type ☐ 21a. Specific Gravity (Liquids Only) stated as: ● ___ kgs/Liter, or ● ___ Lbs/Gal

22. Market Produced For ☐ 23. Use Classification ☐

24. Amount Produced Last Year [1984]

25. Amount to be Produced This Year [1985]

26. Amount Sold/Distributed Last Year [1984] ●US

27. Unit of Measure P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

●Foreign

E

17. Product Code ☐ 18. EPA Product Registration Number ___-___

19. Product Name

TOLS009128

20. Product Classification ☐☐ 21. Product Type ☐ 21a. Specific Gravity (Liquids Only) stated as: ● ___ kgs/Liter, or ● ___ Lbs/Gal

22. Market Produced For ☐ 23. Use Classification ☐

24. Amount Produced Last Year [1984]

25. Amount to be Produced This Year [1985]

26. Amount Sold/Distributed Last Year [1984] ●US

27. Unit of Measure P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

●Foreign

FOR EPA USE ONLY Continued on Attached Sheet ☐

28. Signature	29. EPA Office	30. Date Received	31. Date Reviewed	32. Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete

BZTO104(e)045950

Form designed for use with elite (12-pitch) typewriter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing.
Information reported on this form is treated as BUSINESS CONFIDENTIAL.

Form Approved. OMB No. 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543

7. EPA Establishment Number: 33760-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIME OIL CO	12005 NORTH BURGARD ST		
3. City		4. State	5. ZIP Code
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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. EPA Product Registration Number: - -
19. Product Name:
20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
22. Market Produced For: ☐ 23. Use Classification: ☐
24. Amount Produced Last Year [1984] 27. Unit of Measure: P=Pound G=Gallons
25. Amount to be Produced This Year [1985] K=Kilograms L=Liters T=Tons U=Units ☐
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

B

17. Product Code: ☐ 18. EPA Product Registration Number: - -
19. Product Name:
20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
22. Market Produced For: ☐ 23. Use Classification: ☐
24. Amount Produced Last Year [1984] 27. Unit of Measure: P=Pound G=Gallons
25. Amount to be Produced This Year [1985] K=Kilograms L=Liters T=Tons U=Units ☐
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

C

17. Product Code: ☐ 18. EPA Product Registration Number: - -
19. Product Name:
20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
22. Market Produced For: ☐ 23. Use Classification: ☐
24. Amount Produced Last Year [1984] 27. Unit of Measure: P=Pound G=Gallons
25. Amount to be Produced This Year [1985] K=Kilograms L=Liters T=Tons U=Units ☐
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

D

17. Product Code: ☐ 18. EPA Product Registration Number: - -
19. Product Name:
20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
22. Market Produced For: ☐ 23. Use Classification: ☐
24. Amount Produced Last Year [1984] 27. Unit of Measure: P=Pound G=Gallons
25. Amount to be Produced This Year [1985] K=Kilograms L=Liters T=Tons U=Units ☐
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

E

17. Product Code: ☐ 18. EPA Product Registration Number: - -
19. Product Name:
TOLS009129
20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter; or ● . Lbs/Gal
22. Market Produced For: ☐ 23. Use Classification: ☐
24. Amount Produced Last Year [1984] 27. Unit of Measure: P=Pound G=Gallons
25. Amount to be Produced This Year [1985] K=Kilograms L=Liters T=Tons U=Units ☐
26. Amount Sold/Distributed Last Year [1984] ●US ●Foreign

FOR EPA USE ONLY Continued on Attached Sheet ☐

28 Signature	29 EPA Office	30. Date Received	31 Date Reviewed	32 Reporting Year
				1984

EPA Form 3540-16 (Rev. 1-85) Previous editions are obsolete

BZTO104(e)045951

Form designed for use with elite (12-pitch) typewriter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pesticides Report For Pesticide-Producing Establishments

EPA

(Section 7, Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 92 Stat. 829)

NOTE: Read all instructions before completing

Information reported on this form is treated as BUSINESS CONFIDENTIAL

Form Approved. OMB No 2000-0029
Approval expires 1-31-88

6. Establishment Duns Number: 00-959-7543

7. EPA Establishment Number: 33760-OR-01

8. EPA Establishment SIC Codes: 5172

ESTABLISHMENT NAME AND MAILING ADDRESS

1. Establishment Name	2. Street Name and Number or Postal Number		
TIME OIL CO	12005 NORTH BURGARD ST		
3. City		4. State	5. ZIP Code
PORTLAND		OR	97203

ESTABLISHMENT SITE ADDRESS

9. Street Name	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. EPA Product Registration Number: -

19. Product Name:

20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: . kgs/Liter, or ● . Lbs/Gal

22. Market Produced For: ☐ 23. Use Classification: ☐

24. Amount Produced Last Year: [1984] 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

25. Amount to be Produced This Year: [1985]

26. Amount Sold/Distributed Last Year: [ ] ●US ●Foreign

B

17. Product Code: ☐ 18. EPA Product Registration Number: -

19. Product Name:

20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: . kgs/Liter, or ● . Lbs/Gal

22. Market Produced For: ☐ 23. Use Classification: ☐

24. Amount Produced Last Year: [1984] 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

25. Amount to be Produced This Year: [1985]

26. Amount Sold/Distributed Last Year: [ ] ●US ●Foreign

C

17. Product Code: ☐ 18. EPA Product Registration Number: -

19. Product Name:

20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter, or ● . Lbs/Gal

22. Market Produced For: ☐ 23. Use Classification: ☐

24. Amount Produced Last Year: [1984] 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

25. Amount to be Produced This Year: [1985]

26. Amount Sold/Distributed Last Year: [1984] ●US ●Foreign

D

17. Product Code: ☐ 18. EPA Product Registration Number: -

19. Product Name:

20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter, or ● . Lbs/Gal

22. Market Produced For: ☐ 23. Use Classification: ☐

24. Amount Produced Last Year: [1984] 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

25. Amount to be Produced This Year: [1985]

26. Amount Sold/Distributed Last Year: [1984] ●US ●Foreign

E

17. Product Code: ☐ 18. EPA Product Registration Number: -

19. Product Name:

TOLS009130

20. Product Classification: ☐☐ 21. Product Type: ☐ 21a. Specific Gravity (Liquids Only) stated as: ● . kgs/Liter, or ● . Lbs/Gal

22. Market Produced For: ☐ 23. Use Classification: ☐

24. Amount Produced Last Year: [1984] 27. Unit of Measure: P=Pound G=Gallons K=Kilograms L=Liters T=Tons U=Units ☐

25. Amount to be Produced This Year: [1985]

26. Amount Sold/Distributed Last Year: [1984] ●US ●Foreign

CONFIDENTIAL BUSINESS INFORMATION

FOR EPA USE ONLY Continued on Attached Sheet ☐

28 Signature	29 EPA Office	30 Date Received	31 Date Reviewed	32 Reporting Year
				1984

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Original Contract

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CONSTRUCTION CONTRACT

ENVIRONMENTAL CLEAN-UP

THIS CONTRACT is made as of the 9th day of November, 1988 at Seattle, Washington, by and between Time Oil Co., a Washington corporation ("Time" herein), located at 2737 West Commodore Way, Seattle, Washington 98199, and Ecova Corporation ("Contractor" herein), located at 3820 159th Avenue North East, Redmond, WA 98052 for work relating to environmental clean-up at 12005 North Burgard Road, Portland, OR ("Site" herein).

IT IS AGREED by and between the parties hereto as follows:

1. SCOPE OF WORK: Contractor has examined the Site, analyzed soil and water samples, reviewed soil and water data provided by Time, and has evaluated the treatability of the soil at the Site. Contractor agrees to perform the services for the treatment of 3,440 cubic yards of soil contaminated with pentachlorophenol and operation of an aqueous bioreactor described in Contractor's Work Plan prepared for Time dated September 12, 1988, as modified by Contractor's letters dated October 12, 1988 and October 18, 1988. Contractor agrees that it will treat the soil and water at the Site through chemical and biological degradation by implementing a soil slurry technology and will achieve a clean-up level of 0.5 ppm (500 ppb) or less total pentachlorophenol and related chlorinated phenols in the soil and water. Contractor shall demonstrate achievement of clean-up level in accordance with procedures acceptable to the Oregon Department of Environmental Quality (DEQ). Soil borrow pits, stockpiles and Contractor's equipment shall be located subject to Time's approval so as not to interfere with Time's business. Time may make any alterations, deviations, additions or omissions from the Scope of Work, without affecting or making void this contract, however, no work other than as provided herein or specifically authorized by Time in writing shall become a part of this contract. Additional work is to be authorized only in writing signed by both parties.

2. PRICE: Time agrees to pay contractor Four hundred and forty-five thousand dollars ($445,000.00), including state sales tax, if applicable, which amount shall be referred to herein as the "contract price". Any change to the contract price may only be made in writing executed by both parties hereto. Any work performed which is not covered by such a written agreement shall be considered fully paid for upon payment of the contract price.

   Excavation and treatment of soil in excess of 3,440 cubic yards will be performed by Contractor at an additional cost to Time of $90.00 per cubic yard. Measurement of soil for the purpose of payment shall be the arithmetic average of the following methods:

   a. Measurement of width, length and depth of excavation.

   b. Licensed surveyor's calculation of the volume of soil contained in the pre-treatment stockpile.

3. TERMS OF PAYMENT: Upon completion of project design, mobilization, excavation and well installation tasks, as defined in the Work Plan and modifying letters, Time will pay Contractor a sum of $160,000. The remainder of the contract price ($285,000 plus $90 per cubic yard of soil to be treated in excess of 3440 cubic yards) will be paid monthly based on the percentage of total soil volume treated to the specified clean-up level. An amount not to exceed ten percent of each billing will be retained. Each billing shall be accompanied by a progress report describing work accomplished to date and including results of soil and water analyses performed during the billing period. At project conclusion, Contractor shall prepare, to Time's satisfaction, a written report evidencing completion of the services to be performed under the Scope of Work. Final payment, including all amounts retained, is to be made within 30 days after acceptance of the completed project and the written report by Time.

4. TIME FOR PERFORMANCE AND SECURITY AGREEMENT: All work shall be completed within 19 months from the date of this contract, exclusive of time reasonably required to obtain permit approval by government agencies. If Contractor fails to achieve specified clean-up levels as agreed, Time shall not be obligated to pay Contractor for any services rendered and Contractor shall promptly refund to Time all sums paid to it by Time under this Contract less sums paid on account of soils treated to the specified clean-up level.

for ECOVA-owned equipment

In order to secure this pay back obligation, Contractor grants to Time a security interest in all tanks, piping and related materials installed or placed on Time's property and used by Contractor in the conduct of the work described herein. Contractor warrants that all such equipment at the time it is brought to Time Oil's facility will be free of all other liens or interests of any third parties and that Time's security interest in that equipment shall remain a first lien thereon until fulfillment of all of Contractor's obligations under this agreement.

5. TERMINATION: Time may, at any time, terminate the services remaining to be performed under the Scope of Work by giving Contractor advance written notice of such termination. In the event of any such termination, Time will pay Contractor for all:

   a. Services performed prior to Contractor's receipt of notice of termination;

   b. Services performed after such receipt in accordance with Time's instructions or as reasonably required to effect an orderly termination; and

   c. Costs reasonably incurred by Contractor on account of the termination (e.g., based on commitments made by Contractor to its suppliers and other third parties in anticipation of performing the terminated Service, but excluding any costs based on loss of profit or revenues that would otherwise have been earned on terminated Services).

payment by Time

6. BOND: Contractor agrees that before ~~commencement~~ of any work hereunder it will promptly furnish Time ~~with a payment bond issued by a surety company~~ proof of payment acceptable to Time ~~and in an amount acceptable to Time guaranteeing full payment~~ of all persons furnishing labor or materials in connection with the work hereunder and the prompt discharge of any liens filed against the property of Time on account of such work.

7. INSURANCE: Until completion of its performance hereunder, Contractor agrees to maintain Workmen's Compensation Insurance in the form and amounts required by state law, and Broad Form Comprehensive Public Liability with minimum limits of $1,000,000.00 per person and $1,000,000.00 per accident for bodily injury and $500,000.00 per accident for property damage. Contractor shall promptly deliver to Time certificates of said insurance naming Time as an additional insured before commencing work and such certificates shall provide that said insurance shall not be cancelled prior to thirty (30) days written notice to Time.

8. PERMITS: Contractor agrees, at his expense, to obtain all governmental permits, licenses and approvals, and to comply with all laws, rules, building codes, zoning ordinances, regulations and requirements, now or hereafter existing, of all governmental authorities concerned therewith, applicable to Contractor's activities pursuant to the Scope of Work. Contractor shall furnish Time with written evidence of all such necessary permits, licenses and approvals before commencing work. Time shall have the right to withhold from any payments due hereunder an amount sufficient to compensate it for any damages it may incur as a result of Contractor's failure to secure any necessary permit or comply with any law or regulation. Excluded from this paragraph are approvals by the Oregon DEQ of the treatment process and final clean-up level, responsibility for which shall be Time's. At Time's request, Contractor shall assist Time in the obtaining of DEQ approvals, compensation for which shall be paid by Time at Contractor's standard hourly rates.

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9. CONFIDENTIAL AND PROPRIETARY INFORMATION:

a. The parties will cooperate and coordinate the services with any related activities of Time and Time's consultants, contractors, and representatives. Time will furnish Contractor with such documents, data, information, and other items which are available to Time and which are necessary or useful for Contractor's performance of the Scope of Work. Except to the extent otherwise specified by Time in writing upon Contractor's receipt of any such items, Contractor will be entitled to rely upon the same.

b. In connection with this Agreement, either party ("Disclosing Party") may disclose to the other party ("Receiving Party") certain information that is confidential or proprietary to the Disclosing Party whether of a technical, business or other nature ("Confidential Information"). Confidential Information may include, but is not necessarily limited to, any information that is disclosed by Time to Contractor under sub-paragraph (a) above or that is disclosed by Contractor with regard to its means, methods, processes, techniques, procedures, technology, know-how and trade secrets used in performance of the Services. The Disclosing Party will conspicuously mark or otherwise identify its Confidential Information as such prior to, upon or promptly after disclosure to the Receiving Party.

c. The Receiving Party will treat all Confidential Information as confidential and proprietary of the Disclosing Party and will use the Confidential Information solely for the purposes for which it is provided by the Disclosing Party. Without limiting the generality of the foregoing, the Receiving Party will take reasonable precautions to prevent any unauthorized use or disclosure of Confidential Information.

d. The obligations under sub-paragraph (c) above, will not apply to any:

(1) Information that is or becomes part of the public domain through no fault of the Receiving Party;

(2) Information that is obtained by the Receiving Party from a third party other than in connection with this Agreement and without any obligation to treat the same as confidential or proprietary;

(3) Information that is independently developed by the Receiving Party without reference to any Confidential Information;

(4) Any disclosure required by legal process or applicable law, provided that the Receiving Party will use reasonable efforts to give advance notice to, and cooperate with, the Disclosing Party in connection with any such disclosure; and

(5) Any disclosure with the consent of the Disclosing party.

e. Contractor reserves all right, title and interest in and to the means, methods, processes, techniques, procedures, technology, know-how, and trade secrets used in performance of the scope of work, whether developed prior to or during performance of the scope of work, together with any and all patent, copyright, trade secret, and other intellectual property rights associated with the same. No title, right or license to the same is transferred to Time under or by virtue of this Agreement.

f. Time reserves all right, title, and interest in and to any and all soil, rock, water and other samples from any Site. Unless otherwise specified, all such samples will be returned to Time at the Site from which they were obtained.

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10. INDEPENDENT AGENTS: Each party is engaged in an independent business and will perform its obligations under this Agreement and all Orders as an independent contractor and not as an agent or representative of the other party. Neither party will have any right or authority to create any obligation or make any representation or warranty in the name or on behalf of the other party. This Agreement will not be interpreted or construed to create an association, joint venture or partnership between the parties or to impose any partnership obligation or liability upon either party.

11. ASSIGNMENT: Contractor shall not assign or transfer this contract, or any interest therein or any part thereof, without the prior consent in writing of Time.

12. GUARANTEE: Contractor agrees to perform all work in a workmanlike manner and guarantees all work will be free from defects in material and labor for a period of one year after completion. No payment made under this contract shall be construed to be an acceptance of defective work or improper materials. Contractor further guarantees that it is familiar with the work site and scope of work and is competent to perform the work described in the manner and within the time stated herein.

13. LIENS: Contractor covenants that no liens will attach against the subject premises for material or labor arising from the work herein contemplated. If at any time there shall be evidence of lien or claim for which, if established, Time may become liable, and which is chargeable to Contractor, Time shall have the right to retain out of any payment then due, or thereafter to become due, an amount sufficient to completely indemnify Time against such lien or claim, should there prove to be any such claim.

14. INDEMNITY: Contractor agrees to indemnify Time and hold Time harmless from any and all claims, liabilities, demands, actions, costs and expense (including attorneys' fees) of whatsoever nature, arising out of any acts or omissions of contractor, its agents or employees, hereunder. In the event of any contamination or damage to the environment or any other property arising out of an act or omission of Contractor, Time will promptly notify Contractor of the same and provide Contractor the opportunity to correct or otherwise remedy the contamination or damage at Contractor's expense. Lack of notification by Time does not release Contractor from any obligation it may otherwise have under this agreement.

15. REMEDIES: All rights and remedies of Time herein shall be cumulative, and no right or remedy shall be exclusive of any other, and the pursuit of any such right or remedy shall not be deemed a waiver of any other or different remedy or relief which Time might otherwise be entitled by law or in equity.

16. FORCE MAJEURE: Contractor shall not be held liable for delays resulting from fire, earthquakes, war, or acts of any government, whether foreign or domestic, or any other cause beyond his control. However, contractor has specifically taken into account and shall be held liable for potential delays caused by labor disturbances, material availability, and weather.

17. INTERPRETATION: This contract will be deemed executed and shall become binding and of full force and effect when signed by Time at its office by its authorized representative. This contract incorporates the entire agreement between the parties except as modified by written change order or other written agreement signed by both parties.

18. SUCCESSORS: This Contract will be fully binding upon, inure to the benefit of, and be enforceable by the parties in their respective successors and assigns.

19. APPLICABLE LAW: The nature, validity and interpretation of this contract shall be governed by the laws of the State of Washington.

DATED 11/9/88

TIME OIL CO.

By: Robert D Almchott
Vice President

DATED 11/2/88

CONTRACTOR

By: Joseph M. Bolton
Joseph M. Bolton
President

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Work Plan
for
Soil and Groundwater Remediation
Time Oil Northwest Terminal
Portland, Oregon

to

TIME OIL COMPANY

Submitted by:

ECOVA CORPORATION
3820 159th Avenue NE
Redmond, Washington 98052
Project Number: 821401

September 12, 1988

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E C O V A

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2. SCOPE OF WORK

2.1 OVERVIEW

Ecova has developed a remediation program incorporating physical, chemical, and biological treatment technologies aimed at eliminating the PCP contaminants in the soil and groundwater. Contaminants will be separated from the soil media and biodegraded in solution to complete mineralization until the target levels are achieved.

The goal of this program has been to develop a cost-effective remediation strategy based upon biological degradation technologies which will reduce the PCP concentration to the levels acceptable to the appropriate regulatory agency, which is assumed to be Oregon Department of Environmental Quality (ODEQ). The program has been developed considering the following objectives:

- o Optimize the chemical and biological degradation of the PCP through use of soil slurry technologies;
- o Develop flexible remediation options that can treat both contaminated soil and groundwater;
- o Minimize the potential for migration of contaminants beyond the treatment area;
- o Develop options that can be implemented and completed in timely manner.
- o Use, to the extent practicable, Time Oil resources available on-site;

The proposed treatment program is conceptually illustrated in Figure 2-1, Work Breakdown Structure. As shown in this figure, work on the project will commence immediately upon receiving authorization to proceed. Work will start with the engineering design and procurement of equipment needed for remediation. Time Oil will secure approval of the treatment program by ODEQ. Ecova will support Time Oil in its negotiations with ODEQ as directed by Time Oil's project manager and outlined in Section 2.3.2, Regulatory Authorization.

Following completion of the engineering of the treatment system and regulatory authorization, Ecova will mobilize to the Portland site and commence construction activities. While the treatment system is being constructed, the contaminated soil will be completely excavated and stockpiled on a plastic liner. The excavation will then be filled with borrow material obtained from the land treatment area.

Upon completion of construction of all of the treatment facilities, the treatment system will be operated on a batch basis until the stockpiled soil has been fully treated. Groundwater will be pumped by the groundwater extraction system and treated at the plant until the negotiated target cleanup concentrations have been reached. With completion of all treatment operations, the system will be decommissioned and the site cleaned of any remaining trash and debris. Removal of the treatment equipment units will proceed as discussed in Section 2.3.7, Demobilization.

As shown in Figure 2-1, an onsite worker health and safety program will be implemented and conducted throughout the remediation program.

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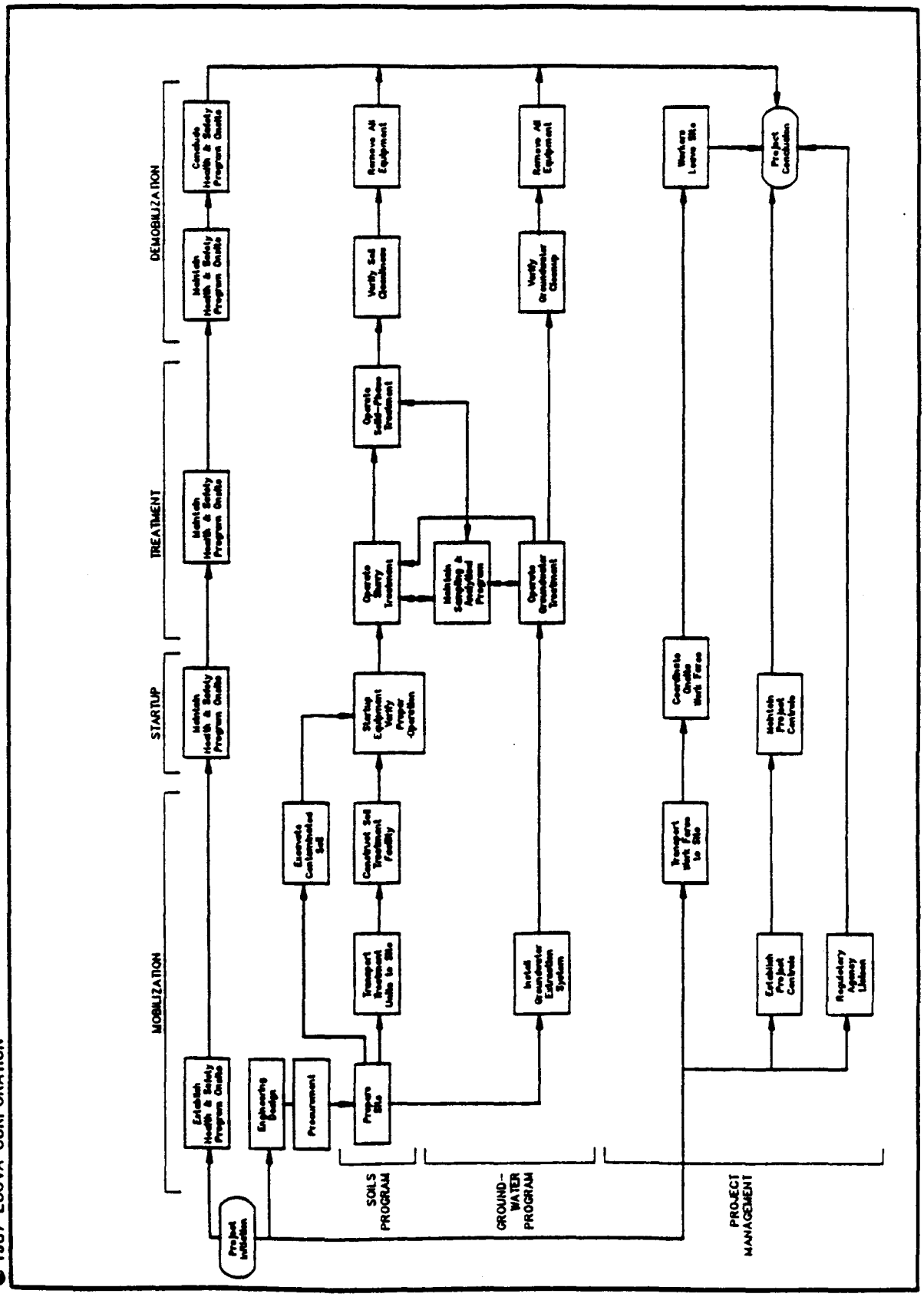
FIGURE 2-1. Work Breakdown Structure



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The conceptual engineering design of the treatment system proposed for the remediation project is discussed below, followed by a detailed discussion of each task in the program.

2.2 CONCEPTUAL ENGINEERING DESIGN

Ecova has prepared a conceptual engineering design which fulfills the program objectives discussed in the overview. Figures 2-2, Block Flow Diagram, and 2-3, Process Flow Diagram, illustrate this design for the onsite treatment system at the Time Oil Northwest Terminal site for complete remediation of the PCP contamination present in soils and groundwater.

Initial design parameters were determined from the data provided by Time Oil and Ecova treatability test results as presented in Appendixes A, B, C, and D. A summary of the primary design parameters is detailed in Table 2-1.

TABLE 2-1. Design Basis Parameters For Soil Bioslurry Treatment System Time Oil Company

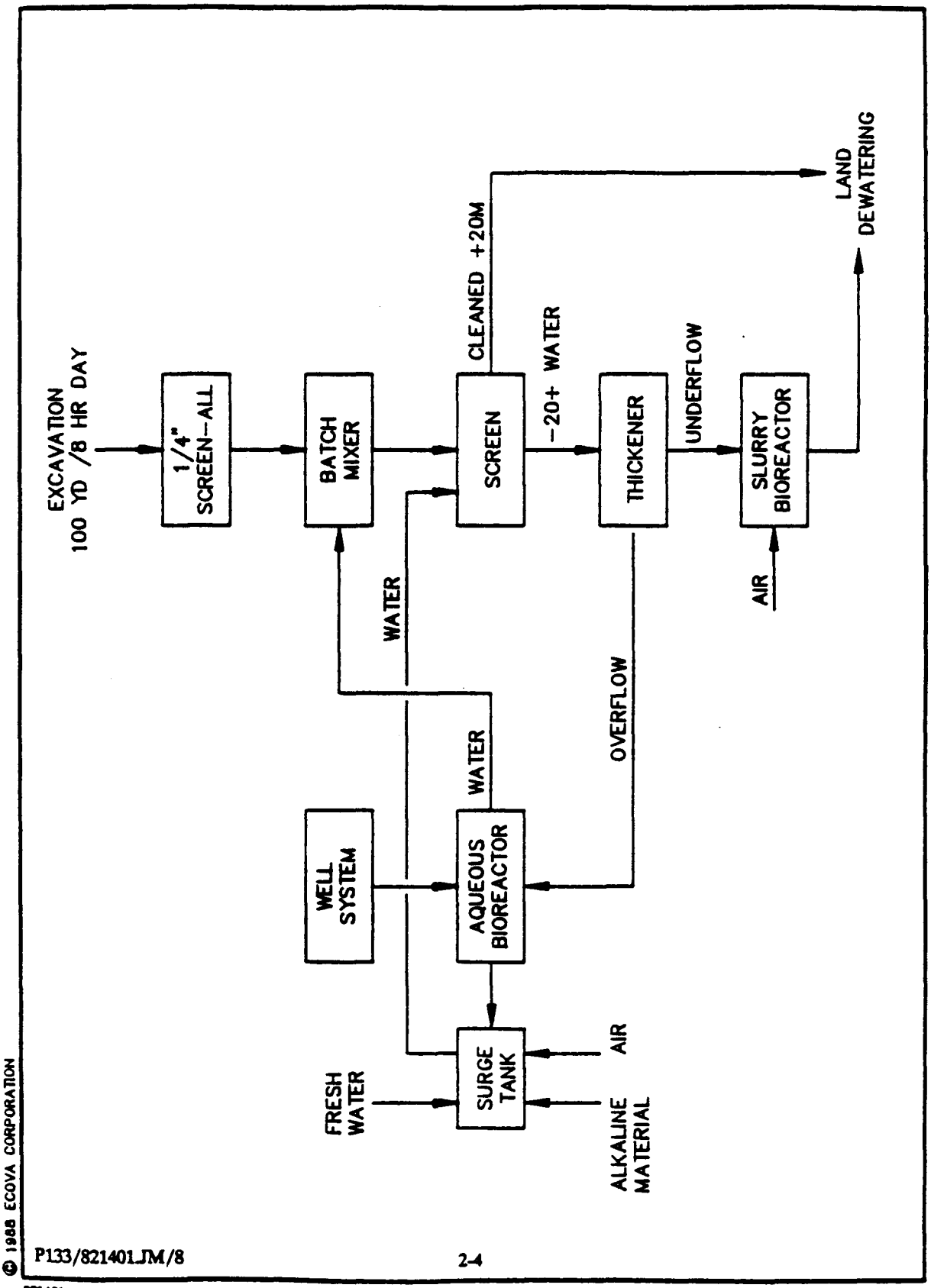
Assumed Parameters

Contaminated Soil to be Treated:	3440 cubic yards
Percentage Oversize (20 mesh):	15%
Average PCP Concentration:	680 ppm, dry soil
Slurry Solids Percentage:	35%
Contaminant Half Life:	1.4 days
Slurry Tank Volume (2 units):	50,000 gallons
Number of Batches:	32
Soil Treated Per Batch Cycle:	108 cu.yd.
Mixer Horsepower Requirements:	1.0 hp/1000 gals
Solid Phase Treatment/Disposal Area Size:	38,000 square feet
Depth of Solid Phase:	2.5 feet

	Target Cleanup Criteria (PCP Concentration in Dry Soil)		
Derived Parameters	500 ppm	100 ppm	50 ppm
Reactor Retention Time:	0.6 days	3.9 days	5.3 days
Batch Cycle Time:	Continuous	5.0 days	7.0 days
Approx. Treatment Duration:	46 days	160 days	224 days

As discussed in the Introduction a composite PCP concentration of 680 ppm was obtained from the July samples obtained by Ecova from the site. In examining the soil boring data and interpretation provided by Time Oil, we conclude that this concentration is approximately equal to the average concentration that would be obtained from a blended feedstock made up from stockpiled soil following the plan shown in Appendix A, Soil Boring Analysis. The average concentration is the key parameter in the design basis since this value determines the feed rate to and residence time in the bioreactors. The quantity of contaminated soil present determines the capacity of bioreactor needed, the length of time needed for treatment given the average concentration and degradation rate, and the size of land treatment/disposal area needed.

FIGURE 2-2. Block Flow Diagram



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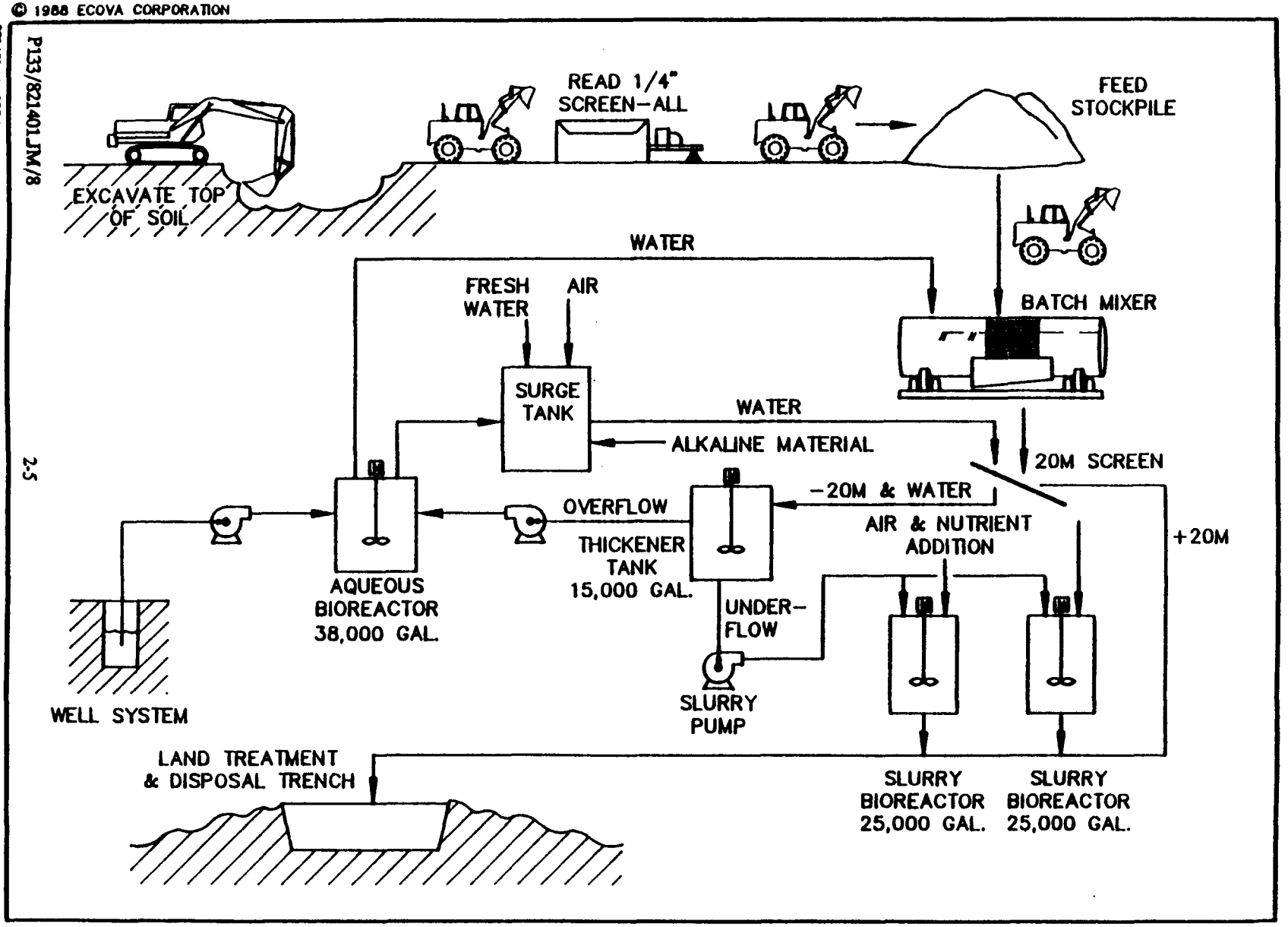

FIGURE 2-3. Process Flow Diagram

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The treatment system consists of the following major subsystems as discussed in detail below:

- o Excavation/Screening/Stockpiling Operation
- o Batch Mixer Unit and Feed Hopper/Conveyor
- o Shale Shaker Screen Unit
- o Thickener Unit
- o Slurry Bioreactor Unit
- o Groundwater Extraction System
- o Aqueous Bioreactor Unit
- o Liquid Surge Tank
- o Solid Phase Treatment/Land Disposal Unit
- o Miscellaneous Pumps, Piping, Etc.

2.2.1 EXCAVATION/SCREENING/STOCKPILING OPERATION

To halt the migration of PCP contamination from the contaminated soil into the groundwater and to provide a blended feedstock for the treatment operation, Ecova will excavate and remove the contaminated soils. The contaminated soils will then be screened, blended and stockpiled until the slurry treatment system is ready to accept them as feed material. Excavation will follow the plan developed during the engineering phase as previously described.

During construction of the treatment system the contaminated soil will be completely excavated, screened to minus 0.25 inch to remove construction debris or other oversize material, and stockpiled on a bermed plastic liner. The pile will be covered with polyethylene sheeting until reclaim operations for input to the treatment system commence. This step will result in a prepared and blended feedstock for the treatment system. The stockpile will also provide containment for rainfall runoff to prevent any further contaminant migration.

Removal operations will be performed with two pieces of standard earthmoving equipment: a three cubic yard front end loader (wheeled) and a backhoe. Soil will be removed until soils that are not contaminated (through testing) are encountered or until the groundwater table is reached. The threshold criteria used to distinguish contaminated from uncontaminated soils will be established by agreement with ODEQ and Time Oil before excavation commences.

The removed soils will be passed over a coarse screen located in the excavation area. A two-stage Read Screen-All unit equipped with minus 2 inch and minus 0.25 inch screens will be used to remove construction debris, gravel and other oversize material. In Ecova's experience, this is an essential step to minimize downstream operating problems that oversize debris can cause for materials handling equipment such as pumps, conveyors and mixers. Oversize materials can be directly disposed in the solid phase treatment/disposal area or can undergo additional washing in the batch mixer to remove surface PCP contamination which might be present.

Screened soil will be placed in lifts on a stockpiled area lined with a 12 mil polyethylene plastic liner. A low earthen berm will surround the stockpile to contain any contaminated rainfall runoff and a plastic lined sump area will be provided to catch and accumulate water. Any water captured will be pumped into the recovered groundwater storage tank. An equipment decontamination area will be included within the bermed, lined area to provide for cleaning of the earthmoving equipment after excavation of the contaminated soil is complete. A steamcleaner will be used to assure that decontamination is thorough. Decontamination fluids accumulated in the sump will be treated in the treatment system after startup.

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Blending the excavated soil is important since the boring data indicate that there are significant hot spots. If these hot spots were to be fed into the bioreactor, they could result in the kill-off the microorganisms and severely disrupt the biodegradation process. Blending assures a slurry feedstock very close to the overall average PCP concentration. The screening operation will achieve some blending of the contaminated soil. Distributed placement of the soils in the stockpile area will also facilitate the blending operation.

After placement in the stockpile, the soil will be covered by six mil polyethylene plastic sheeting to control airborne dust emissions during storage. The sheeting will be carefully weighted to prevent damage by the high winds occurring periodically in the Willamette River valley.

The excavation will be backfilled with borrow material obtained on-site. Borrow material will be obtained from the decontaminated slurry disposal landfill area (solid phase treatment), the construction of which shall be phased to coincide with the excavation operations.

2.2.2 BATCH MIXER UNIT AND FEED HOPPER/CONVEYOR

The first step in the treatment process operation will be to reclaim from the stockpile and feed the blended soil into a hopper/conveyor and into the batch mixer unit. In the batch mixer, the soil is tumbled to break up lumps and sprayed with water to form a thin slurry. Coarse screening of the feed material will have already been performed during the excavation, so the primary purpose of the batch mixer is to form the thin slurry for further screening in the shale shaker screen. Makeup water will come from the aqueous bioreactor tank with alkaline adjustment to raise the soil pH from around 5 to approximately 7.2 prior to feeding into the next units.

The batch mixer unit is a rotating drum unit that has low energy requirements, and is inexpensive to operate, reliable, and commonly available. The unit is portable and requires no concrete foundations for mounting. The unit will only be operated while charging the slurry bioreactor with a new batch of feed.

2.2.3 SHALE SHAKER SCREEN UNIT

After formation of the thin slurry, additional fine screening of the material will take place in the shale shaker unit mounted above the thickener tank. A shale shaker screen is a multideck, vibrating box screen used extensively in the oil drilling industry to remove rock and gravel from drilling muds. These have several screen decks which will successively remove oversize material from 0.25 to 0.033 inch (standard 20 mesh screen). Minus 20 mesh particle size is optimum for maintaining a thick slurry with minimum mixer horsepower requirements and no sanding/settling problems. The unit discharges into the thickener tank.

Oversize screened material is expected not to be contaminated, and therefore would be disposed directly in the solid-phase treatment land disposal area.

2.2.4 THICKENER UNIT

Finely screened thin slurry from the shale shaker screen is thickened by removing excess water up to the necessary density for feed to the slurry bioreactor. The design basis density is 35 percent solids which is an optimum slurry density for the type of soils found at the site. Overflow clarified water

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is pumped to the aqueous bioreactor unit; underflow thickened slurry is pumped to the slurry bioreactor units.

The Ecova thickener unit is a rectangular box tank that operates under a zone gravitational settling regime. The unit is fed from one end and overflows from the opposite end. Thickened slurry is withdrawn from the bottom of the tank. The unit is a 15,000-gallon, transportable, modular steel tank that is mobilized to the site on a self-loading flatbed trailer. It requires no concrete foundation, normally being placed for operation on an asphalt or gravel pad. The unit comes equipped with plumbing and liquid pump for transport of the clarified liquid.

2.2.5 SLURRY BIOREACTOR UNIT

The Ecova Slurry Bioreactor unit is also a rectangular box tank that is equipped with three electric motor-driven slow speed mixer units. The mixer blades provide agitation to keep the slurry in suspension, well mixed and operating under aerobic conditions. Additionally, the unit is equipped with air sparge to provide oxygen in solution.

Like the thickener unit, the bioreactor unit is a transportable, modular steel tank that is mobilized to the site on a self-loading flatbed trailer. Nominally, the unit has approximately a 25,000 gallon capacity. It also requires no concrete foundation, normally being placed for operation on an asphalt or gravel pad.

Consideration was given to modifying the existing 38,000-gallon steel tank located at the site. While this is potentially feasible because the tank appears to be structurally sound, there are a number of possible complications that could make this conversion more costly than mobilizing a modular tank. The tank was engineered for holding oil or water liquids rather than high density slurries. This would undoubtedly reduce the capacity of the tank to that comparable to a standard Ecova bioreactor unit. The capital cost of modifying this tank is probably not warranted when the duration of operation is to be short (a few months). Finally, the unknown condition of the steel wall introduces some risk for slurry application. Therefore, an additional Ecova bioreactor will be mobilized.

2.2.6 GROUNDWATER EXTRACTION SYSTEM

In a separate letter dated August 11, 1988, Ecova proposed a program to install additional monitoring wells at the site. If appropriate, these wells could be used as groundwater extraction wells. The proposed program also included an evaluation of the overall groundwater situation and subsequent design of the extraction system for recovery of PCP contaminated groundwater. Pending additional study of the extent of groundwater contamination, the needed rate of groundwater pumping, and installation of any additional recovery wells or trenches, detailed design of the groundwater treatment component of this scope of work is not possible.

However, the soil treatment system uses extensive quantities of water for slurry makeup and therefore large quantities of contaminated groundwater can simultaneously be treated in the slurry bioreactors, if available. It is likely that groundwater extraction and treatment may continue after completion of soil treatment. Therefore provisions for continued groundwater treatment have been included in the conceptual design.

It is recommended that the groundwater study program proceed as quickly as possible to gather the needed data on quantities and contaminant concentrations.

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2.2.7 AQUEOUS BIOREACTOR UNIT

A provision for an aqueous bioreactor unit has been included in the conceptual design of the treatment system. There are several purposes for inclusion of this unit. First, the unit provides overflow capacity for storing water from the thickener unit. Overflow water from the thickener will have solubilized some PCP from the slurried soil and the bioreactor unit will provide capacity for treating this flow. Second, the unit provides additional bioreactor capacity for treating both overflow water and extracted groundwater. Groundwater would be pumped directly to this unit. Liquid bioreactors are capable of higher rates of degradation for PCP than are slurry- or solid-phase treatment operations. Third, the bioreactor unit will serve as a source of decontaminated recycle water and biomass for fresh slurry makeup when preparing another batch for the slurry bioreactor. Further, since the treatment of groundwater may need to continue after completion of the soil treatment phase, this bioreactor unit will provide the capacity.

The aqueous bioreactor will be constructed from the 38,000 gallon tank currently on site. Modifications necessary to convert the tank to this service include: 1) Thorough cleaning and patching as needed; 2) Equipping the tank for compressed air sparge; 3) Modifying the piping to allow connection to the rest of the treatment system and pumps; and 4) Flow and level control instrumentation. Overflow from this tank will be sent to the surge tank for temporary storage.

2.2.8 LIQUID SURGE TANK

Provision has been included for an additional surge tank which will primarily be used to temporarily contain excess water which may accumulate in the system, such as during the rainy season, when higher groundwater extraction rates are needed, or if there are restrictions on fresh makeup water availability during the summer dry season.

Currently we anticipate this tank to consist of one of the existing horizontal tanks located on site (formerly buried gasoline tanks). These tanks are the approximate capacity needed and appear to be in adequate shape. Capacity needed for the surge tank is expected to be between 5000 to 10,000 gallons. Modifications include flushing, leak repair, and piping connection. These horizontal tanks will have to be moved from their present location to allow construction of the treatment system. The tank selected for service as the surge tank will be relocated onto a gravel pad which will serve as a supporting foundation.

2.2.9 SOLID PHASE TREATMENT/LAND DISPOSAL UNIT

After each batch of soil has finished slurry treatment, the bioreactors will be emptied via pumping through a pipeline to the solid-phase treatment/land disposal unit that is located north of the treatment system. This unit will consist of an excavation of approximately 38,000 square feet of clean soil to a depth of 2.5 ft. As discussed previously, clean soil from this excavation will be used as borrow material for filling the contaminated excavation near the warehouse at the site.

This unit will not be lined with either a clay or membrane liner. By not using a lining, excess water from the treated slurry disposal will percolate into the groundwater up-gradient from the contaminated site carrying PCP-degrading microorganisms into the contaminated area. This also serves to eliminate excess decontaminated water from the system. However, decanted water forming on the surface of the impoundment may be pumped back into the surge or aqueous bioreactor tanks, if needed.

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2.2.10 MISCELLANEOUS PUMPS, PIPING, ETC.

Other equipment will be needed to fill out the necessary equipment list for operation of the treatment system. Included on this list are:

- o Piping to connect the processing units and pumps to each other;
- o Slurry and liquid pumps needed to move the materials through the piping and treatment units;
- o Air compressor to provide for bioreactor air sparging;
- o Leased earthmoving equipment for excavation and reclaiming operations;
- o Office and Lab trailer;
- o Gravel as a base for under the processing units;
- o Plastic liner for the stockpile only (12 mil black polyethylene proposed)
- o Clean sand to protect the liner during stockpile construction;
- o Electrical materials needed to provide electrical service to the treatment units;
- o Small hand tools;
- o Personal protective equipment including coveralls, gloves, etc.

2.3 WORK PROGRAM

Following the development of the conceptual treatment system as previously discussed, a planned program for implementing the installation and operation of this system onsite was prepared and as discussed below as illustrated in Figure 2-1, work breakdown structure.

2.3.1 TASK ONE - TREATMENT SYSTEM DESIGN

Upon authorization to proceed, Ecova will refine the conceptual engineering design as discussed in Section 2.2. The site will be surveyed by an Oregon licensed surveyor to provide an accurate base map. The engineering effort will focus primarily upon the civil design and construction of the materials handling, treatment and disposal subsystems for the soil slurry system.

The excavation plan will be prepared in detail for:

1) Removal of the contaminated soil including special operating considerations for shoring around the warehouse foundations to prevent structural damage;
2) Materials handling including screening, blending, and transport operations;
3) Layout and design of the stockpile area including the runoff water sump, berms, and liner;
4) Removal and construction of the solid phase treatment/disposal area; and
5) Backfilling sequence for borrow material.

Design drawings will be prepared showing the equipment layout, cut and fill locations, and other information needed in the engineering effort.

2.3.2 TASK TWO - SECURING REGULATORY AUTHORIZATION

As the engineering design work progresses, it is assumed that Time Oil will conduct negotiations with ODEQ to secure approval of the treatment program. Ecova anticipates providing support to Time Oil in this effort in the form of professional consulting services, attending meetings with ODEQ, preparing and revising any needed submittal documents, etc. This support will be performed

Proprietary information subject to information on the cover page of this Work Plan. E C O V A

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as directed by Time Oil on a time and material basis. It is impossible to adequately anticipate the necessary level of effort required in negotiating with ODEQ.

We propose that Ecova services for this activity be provided on a change order basis. As an activity is identified that needs services provided by Ecova, a short change order would be prepared by the Ecova Project Manager and sent by facsimile for review and approval by Time Oil. This change order would provide a short description of the specific service requested, the anticipated costs (not to exceed) to perform this activity, and the expected schedule. Change Orders such as these typically do not exceed one page in length and represent modifications to the contracted work. A copy of the change order would be signed by the Time Oil Project Manager and returned to Ecova which would authorize the work. A separate breakout of costs for this element would be provided on the invoice from Ecova. Using this system, Time Oil has full control of any time and material costs that are outside the contract scope.

Securing regulatory approval is a milestone in the remediation program since mobilization and construction of treatment equipment should not commence until all regulatory constraints have been identified.

2.3.3 TASK THREE - MOBILIZATION AND CONSTRUCTION

With a final engineering design, an approved work plan, and equipment procured, Ecova will mobilize its construction and installation team to the Portland site to build the treatment systems. The mobil office/lab trailer will be set up. The treatment units will be mobilized by truck to the site and assembled. Gravel pads will be laid for placement of the tanks and treatment units. Piping and electrical connections will be made. Modifications to the 38,000 gallon tank needed to convert it to aqueous bioreactor service will be made. Connection to utilities will be made.

Again, activities under this task would be sequenced to coincide with Task Four, Excavation of Contaminated Soil, so that the stockpile of contaminated soil is ready when the treatment system is ready to commence operations.

2.3.4 TASK FOUR - EXCAVATION OF CONTAMINATED SOIL

Task Four will consist of the activities previously described in the Excavation/Screening/Stockpiling Operation in the Conceptual Engineering Design.

2.3.5 TASK FIVE - STARTUP AND SHAKEDOWN

Upon completion of the installation of all processing equipment and construction of the disposal area, startup and shakedown of the treatment system will commence. Since the treatment operations are expected to be operated in batch mode, careful monitoring of several initial batches will be followed to insure that biological activity is progressing as expected and that optimum biodegradation rates are obtained. During the first batch, an acclimated culture is being built up from the Ecova proprietary strain which will provide the optimum PCP biodegradation. After initial culture development, subsequent batches will be inoculated with the initial culture during recharge of the bioreactors.

Startup and shakedown operations are expected to occur over approximately a one month period (two to four batches).

2.3.6 TASK SIX - TREATMENT OPERATIONS

After establishment of an acclimated culture and verification of complete biodegradation, treatment operations can proceed on a routine basis. As each batch completes the treatment cycle, the slurry reactors will be emptied and recharged with a fresh soil slurry. Treated slurry will be pumped to the disposal landfill area. Sequential batches will be run until the stockpile has been completely treated.

The biotreatment system will operate in largely unattended operation mode during each batch. Ecova will rely upon Time Oil personnel onsite to periodically monitor the rotating and moving equipment in the process for normal operation. In this manner, the system will not have to be continuously manned, with subsequent cost savings to Time Oil. (In the event of equipment failure, an Ecova maintenance team would be mobilized to correct the problem.) The Ecova operations team will mobilize to Portland after completion of the biotreatment process for each batch. The operations team for routine batch reactor operation will consist of two Ecova technicians from the Redmond office.

After arriving at the site, the operations team will check out the operating equipment and commence pumping the treated slurry out of the bioreactors into the landfill disposal (solid phase treatment) area.

2.3.7 TASK SEVEN - DEMOBILIZATION

At the completion of all treatment activities, the treatment system will be decommissioned and the site cleaned of all trash. All decontaminated materials placed in the disposal area will be levelled and dewatered.

As part of this work plan, we propose that all equipment owned by Ecova be allowed to remain on site after completion of the treatment activities (without imposition of a storage charge by Time Oil) until such time as it becomes necessary to mobilize it to another project site. This period would not exceed one year. By allowing storage of our equipment, Ecova is able to pass along the savings in demobilization charges to Time Oil which would otherwise be incurred. Demobilization charges would be incurred by the next project for which the equipment is used.

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ECOVA

BZTO104(e)045970

E C O V A

October 12, 1988

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

RE: Revised Scope of Work for ECOVA Proposal to Provide Remediation Services Dated September 12, 1988

Dear Fred:

Following up on our telephone conversation yesterday, I have recalculated the estimated costs for performing the work in the subject proposal. The revised costs for 3440 cubic yards are as follows:

Total Project Costs.....$428,900

Additional Treatment and
Excavation Costs per cubic yard.....$90

This cost estimate assumes that a new cleanup criteria of 0.5 ug/g (ppm) will be attained for the contaminated soil, on a dry basis. A cleanup criteria of 0.5 ug/L (ppm) will also be attained for any groundwater treated in the bioreactor. We propose to determine that the cleanup criteria have been reached for each batch based on a GC/FID analytical method.

Also, the incremental costs will apply for soil up to 5000 cubic yards. If additional soil above 5000 cubic yards must be treated, we propose to provide a revised cost estimate. Economies of scale will apply and, in Time Oil's best interests, ECOVA can quote a lower treatment cost per yard for unexpectedly high quantities of contaminated soil that might be encountered.

As we discussed, the current scope of work does not include any work for implementing a system for cleanup of the groundwater. We have assumed that groundwater would be available for slurry makeup only, without including any provision for recovery or reinjection of water. Currently we anticipate letting excess water seep back into the groundwater in the disposal area, recovering any decanted water needed for additional slurry makeup. ECOVA will work cooperatively with whomever is selected to implement the groundwater system.

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Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
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Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

In order to achieve this level of cleanup, the batch time for the bioreactors must be increased to approximately 14.5 days. This results in a treatment period of 15 months, using the two ECOVA bioreactors originally included in our proposal. This is a significantly longer batch cycle since the cleanup criteria is two orders of magnitude lower than we originally estimated.

The method you have proposed for determining the volume of soil to be treated (calculating the average of the excavated hole volume and the volume of the stockpiled soil) is perfectly satisfactory. Also, the performance bond requirement that we discussed (bonding up to the contract amount) is acceptable.

We are prepared to commence work on this project immediately upon receiving authorization, and as I mentioned before, we are very excited about working with you. If you need any additional information, I will be happy to provide it.

Sincerely,

Mark W. Anderson

Mark W. Anderson
Project Manager

E C O V A

October 18, 1988

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 Commodore Way
Seattle, Washington 98199

Dear Fred:

SUBJECT: **PROPOSAL TO PROVIDE GROUNDWATER MONITORING SERVICES AT THE TIME OIL NORTHWEST TERMINAL, PORTLAND, OREGON**

Following up our meeting of this date, we are pleased to submit a revised Statement of Work to define the extent of pentachlorophenol (PCP) groundwater contamination at the site.

Background

A total of nine groundwater monitoring wells have been installed at the Northwest Terminal. Six of the wells are driven 1.5 and 2.0 inch diameter wells; three wells are 2.0 inch diameter drilled wells. The majority of the wells are 20 feet deep, have an average screen length of 6 feet and intercept the water table at approximately 15 feet below ground surface. The wells are located in the vicinity of and down gradient from the former PCP mixing operation.

Shallow groundwater beneath the site flows south towards the Willamette River. Site soils consist of find/medium sand containing some silt and clay. Groundwater flow can be expected to be fairly rapid (100-200 feet/year) in such materials. While installing the monitoring wells, an aquitard was found at around 20 feet depth suggesting the presence of multiple aquifers.

On August 20, 1987, and again on October 16, 1987, water levels and samples were obtained from the site wells. These measurements confirmed that groundwater was flowing south under an average gradient of 0.008 ft/ft. Water from well MW-B was analyzed on August 20, 1987, for PCP and contained 2300 ug/L. It is apparent that a PCP plume, originating from the mixing area, is migrating towards the river.

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(212) 840-1663 FAX

Scope of Work

Immediate project objectives are to define the extent of the contaminant plume and to halt its movement. ECOVA proposes to execute this project in two phases. Phase I will consist of well installation, groundwater sampling, and pump testing. Phase II will consist of design and installation of a system to recover the contaminated groundwater plume. Phase II will be implemented after the results of Phase I have been assessed.

Phase I - Well Installation and Sampling

The Phase I investigation will characterize subsurface conditions beneath the site and define the vertical extent of site contamination. ECOVA will install a cluster of three monitoring wells between the former PCP mixing area and well MW-B. These wells will be referred to as J-1, J-2, and J-3, and are expected to be screened over discrete 5-foot intervals respectively as follows:

- Above the aquitard (nominally at 20' depth below land surface);
- Just below the aquitard (nominally at 25' depth); and
- At a greater depth below the aquitard (nominally at 40' depth).

A two well cluster will be installed to replace the single shallow well MW-B. These two wells will consist of a shallow (nominally at 20' depth) 4-inch diameter well to replace MW-B and a new deep (nominally at 40' depth) 4-inch diameter well. In addition, ECOVA will install a shallow (nominally at 20' depth) 2 inch diameter well to replace MW-G. Final depths and completion details of all wells will depend on subsurface conditions encountered at the site. However, to ensure that representative water samples are obtained from each well, the following construction techniques will be used:

- At the first two well locations, a soil boring will be advanced using a mud rotary or hollow stem auger drilling method. Soil samples will be obtained using a split spoon sampler. The strata will be logged and examined for visual contamination by the onsite ECOVA Geologist. The depth to the upper aquitard (approximately 20 feet below grade) will be confirmed.

- For the deeper wells, 10-inch surface casings will be installed to the top of the aquitard and grouted in place in 14-inch holes drilled using the mud rotary drilling method. After allowing the grout to set up, the borings will be advanced to final depth using an air rotary rig equipped with a casing advance system. The 4-inch wells will be installed to final depth as the temporary drive casing is withdrawn. This construction sequence will ensure that no contaminants from the shallow zone are carried down into the deeper layers.

- The shallow borings will be drilled by hollow stem auger. At the required completion depth (approximately 20 feet), PVC flush joint, threaded casing and screen will be installed through the auger stem. The screen will be machine-slotted and the annular space filled with a graded filter sand; the remaining annular space above the screen will be sealed with bentonite and grouted to surface. Shallow wells at the first two locations will be 4-inch diameter, and the third location will be 2-inch diameter.

- All wells will be developed using a surge block technique. Well casing elevations will be surveyed relative to MSL and water levels obtained. Three to five casing volumes of water will be evacuated from the well bore prior to sampling. The samples will be shipped to ECOVA's Analytical Laboratory in Redmond and analyzed for PCP.

- An aquifer testing program will be designed and implemented based on observations made during drilling, results of laboratory analyses of groundwater samples, and anticipated aquifer yields estimated during well development. The pump test(s) will provide sufficient information on aquifer characteristics to serve as a basis for design of the groundwater remediation system. At a minimum, one eight hour pump test will be conducted to define aquifer parameters beneath the site.

As we have previously discussed, additional deeper wells may be required if contamination is found in the deeper wells in the newly installed well clusters. A field decision should be made whether to install the wells while the drilling rig is on site.

Phase II - Plume Recovery

Following analysis of the analytical lab tests (3-week turnaround) and results of the test pumping, a recovery system may be installed. If contamination is confined to the upper zone, the system will consist of a recovery trench (French drain) laid across the plume path. Water from the drain would feed into a sump and be pumped directly (via existing piping) to Tank No. 5313 or other available tank.

If the contamination is found to extend a significant depth below the water table a drain may not be appropriate for contaminant recovery. In this situation, a simple recovery well system will be used for plume capture. The new monitoring wells have been designed to accommodate submersible pumps to function as part of the recovery well system.

Estimated Costs - Phase I

Total estimated costs for the Phase I program are detailed below. These costs assume installation and development of one well per day.

o Drilling Supervision and Sampling	$ 3,120
o Pump Testing and Analysis	$ 520
o Field Expenses and Equipment	$ 900
o Analytical (6 TCP samples plus QA/QC sample)	$ 600
o Summary Report	$ 600
Subcontractor Costs:	
o Drilling, well installation, and well development (five 4-inch wells and one 2-inch well; three double cased)	$ 6,500
o Well materials	$ 3,900
TOTAL (Rounded)	$16,100

E C O V A

We have located a drilling firm able to perform the work required. Drilling equipment will be available in early November. Rapid approval of this work plan will allow us to confirm arrangements with the driller. If you have any questions concerning this work plan, please feel free to contact Eric Paukstaitis, ECOVA Senior Hydrogeologist at (206) 883-1900.

Sincerely,

Mark W. Anderson,
Project Manager

John V. Kinsella,
Vice President, Operations

cc: File

MWA/PROP-TOC.01

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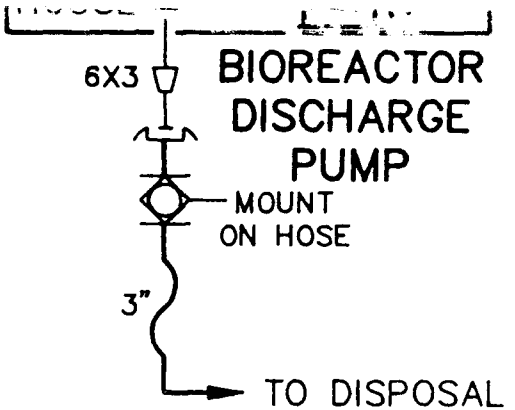
BZTO104(e)045978



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TIME OIL

PORTLAND, OREGON

SOIL REMEDIATION PROGRAM

PIPING & INSTRUMENTATION DIAGRAM #1 OF 2

FILE NO.
TOLS009156

DWG. NO.
821401-D-005

SCALE
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REV. 0

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2/200/99

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REDUCER, BUSHING, OR SWAGE
2" X 1"

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TIME OIL

PORTLAND, OREGON

SOIL REMEDIATION PROGRAM

PIPING & INSTRUMENTATION DIAGRAM #2 OF 2

FILE NO.
TOLS009157

DWG. NO.
821401-D-006

SCALE
NONE

REV. 0

E C O V A

October 4, 1989
J.N. 821401

Mr. Fred Proby
The Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Dear Fred:

Enclosed is your monthly report covering operations for September 1989.

Under separate cover are the Piping and Instrumentation Diagrams you requested. As required by Paragraph 9(b) of our contract, ECOVA is notifying you that the Diagrams are considered to be Confidential Information entitled to the full protection of the terms in Paragraph 9. Each individual drawing is marked as PROPRIETARY AND CONFIDENTIAL.

The items called out in the monthly report for ECOVA's action are in process and will be provided to you as soon as they are completed.

Please call me at 883-1900 if I can answer any questions or provide further service.

Sincerely yours,

Roderick A. Carr

Roderick A. Carr
Contract Administrator

Encl.: Monthly Report (1)
Piping and Instrumentation Diagram (2)

cc. Dave Edwards

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
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ATTACHMENT A

NOTES FROM 9/28/89 BREAKFAST MEETING OF FRED PROBY & ROD CARR

The following items were discussed and action accomplished or assigned as indicated by the following code:

__XXX__ preceding the item indicates item accomplished

_____E preceding indicates action to be accomplished by ECOVA

____TO preceding indicates action to be accomplished by Time Oil

==========

__XXX__ 1. Transmittal from Time Oil to ECOVA of draft contract for Visalia Site Remediation.

__XXX__ 2. Transmittal from Time Oil to ECOVA of letter authorization for discharge of treated soil to "settling pond".

_____E 3. Suggested by Time Oil that ECOVA have a standardized procedures manual for the site, which outlines the steps and actions which are to be followed for routine operations at the Northwest Terminal.

_____E 4. Suggested by Time Oil that ECOVA develop and utilize a standardized logging procedure which a format that forces logging of appropriate activities, and provides space for logging of actions and events of exception. Time Oil is asking in essence that ECOVA act in a reliable and professional manner in documenting activities at the job site.

_____E 5. Time Oil requests a copy of the original Piping and Instrumentation Diagram developed by Mark Anderson. Suggested that Site Supervisor be trained in the operation of the whole system, and be given an understanding of the actual contractual work scope so as to be able to work within the bounds of the contract and to see both the short term and long term goals of the effort.

Drawing #821401-D-005 has been located and will be made available to Time Oil as well as the Job Site. The drawing is dated 2/17/89 and may need to be updated by Dave Edwards. If so, both the 2/17/89 original and the update will be provided to all receivers.

_____E 6. In project letter to Time Oil (September 12, 1989, page 4, ECOVA had indicated that the installation

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charges for Electrical Power would be paid by Time Oil, and ECOVA would pay for usage. Time Oil says that the ECOVA project detail budget, provides for ECOVA to actually incur the expense. Time Oil elected to physically pay the bill because in so doing it could obtain the service at a reduced rate, assisting ECOVA. But that the "agreement" was that ECOVA would then offset the $4,763.04 against appropriate change orders as reimbursement.

Telecon with Mark Anderson reveals that ECOVA did agree to reimburse Time Oil, and that in addition discussion had begun about possibly splitting the cost based on Time Oil's consideration of retaining Tank 38K in an operable condition after ECOVA had left the site.

E 7. Time Oil is very concerned about QA/QC, documentation of analytical results and Time's ability to utilize the data to support its dealings with Oregon DEQ. Ample demonstration was provided of previous deficiencies in ECOVA submittal of analytical data. This item requires attention to the following:

a) Control all future submissions such that a clear documentation of QA/QC, chain of custody, internal review and so forth accompanies each and every data point. Two signatures from the support laboratory will be required, additionally, ECOVA signatures from the Time Oil Project Manager and Reviewing Principal will be required on all submittals to the client.

b) ECOVA will gather all extant analytical records and documentation, providing them to Time Oil in an organized, comprehensive submittal.

c) ECOVA will develop and maintain a database of all analytical results which will allow retrieval of all data by agreed upon fields of information. Structure of the individual data record will be determined as mutually agreed between Time Oil and ECOVA.

d) Analytical support for Time Oil will be carried out after mutual agreement as to the level of QA/QC required, based on data quality objectives of the individual analysis.

e) Unless full QA/QC and documentation can be

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produced for the analysis carried out on the KB3 samples, for which ECOVA wishes to charge $700, Time Oil will not authorize payment for the analysis.

f) Progress Report from ECOVA to Time Oil dated July 14, 1989 is missing a site map to show where the samples were taken. It is also missing the backup information which would validate the analytical data. ECOVA will locate, identify and submit.

g) Confirmatory sampling from the edges of the pit, submitted on June 16, 1989 is lacking of support documentation. Oregon DEQ will be very interested in what levels of contaminants Time Oil has chosen to leave in the ground. Hence this data needs to have the maximum in QA/QC support, and must be well documented. ECOVA to supply the required documentation.

In addition, Time Oil would like the see the data of the soil remaining in place presented in a three dimensional format using "SURFER" software, presently owned by ECOVA.

XXX

8) Agreed between Time Oil and ECOVA that Fred Proby and Rod Carr will have a regular breakfast meeting on the last Thursday of the month, confirmed by telephone earlier in the week. Contents of such meeting can then be easily documented in the Monthly Report which is in preparation during the following week.

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ATTACHMENT B

SEPTEMBER 1989 - MONTHLY OPERATIONS REPORT - NORTHWEST TERMINAL
TO: FRED PROBY, TIME OIL
DAVE EDWARDS, ECOVA
JOHN KINSELLA, ECOVA
ROD CARR, ECOVA

FROM: JIM BORTHEN, ECOVA

September Activities

Started batches 1,2 and 3 in tanks T3, T2 and T1 on 8/22, 9/5, and 9/5/89 respectively. In commenting on operations the following points should be noted.

1) T3 contained many contaminants that were not in T1 and T2. When washing the sand out of the tanks, we had no problems with T1 and T2. But, while washing out T3 we were forced to wear respirators because of the funes from contaminants still in the sand. Also, there was a noticeable oil "slick" in the material.

2) T1 and T2 were loaded with soil 8 days before bacteria were added. During that time, the pH was kept high (at approximately 9.0) and agitation was on.

3) T1 and T2 have good recirculation systems which aid in the circulation of sand within the tank. T3 has no circulation system. T1's system seems to work the best, followed by T2 and T3. This may account for some of the observed relative performance characteristics.

We discharged a total of 60 yards of clean soil in September, with makes a total of 65 yards of soil cleaned.

Miscellaneous Items

A. We set up a thickener on its stand and inoculated it with bacteria, using it as a large bio-reactor which we will use for charging the processing tanks.

B. We have taken the radiator out of the air line from the compressor so that the air supplied to the tanks is warm. This is in support of a program to provide as much extra heat to the tanks as possible for the winter.

C. We installed 90 feet of 3" steel pipe in the disposal line. This is to help in the pumping of the sand slurry to the disposal area. I expect to install 200' of 3" plastice pipe in the rest of the line. This is to replace the fire hose which tends to plug with sand thereby causing a high

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resistance to pumping.

D. We have completed routine maintenance work on the compressor. Such maintenance will produce lowest life cycle costs and highest reliability in the equipment.

E. The soil stockpile has been surveyed by Center Line Concepts. They had previously surveyed the excavation pit. We now need to calculate the volumes.

F. We have made initial progress on initial design work for a heat exchanger/boiler for heating the three tanks during the winter months.

G. Initial design work on the disposal line pump is underway. Pumping of the sand slurry 200 yards is a technical challenge.

Next Month

I anticipate processing 80 yards of soil in October. This will be 30 yards each in T1 and T2 and 20 yards in T3. I do not expect to do much better than 10 days on the processing time, but would like to keep the turnaround time to less than 10 days, for a per batch total of not more than 20 days. For the October Report we will have completed batches 4, 5, and 6 and be processing batches 7, 8, and 9.

TOLS009163

BZTO104(e)045985

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

October 12. 1989

ECOVA Corporation
Attn: Mr. Rod Carr
3820 159th Avenue NE
Redmond, WA 98052

Dear Rod:

I am returning ECOVA's invoice #102154 dated September 30, 1989 for the Northwest Terminal pentachlorophenol cleanup project on the grounds that it does not comply with the terms of our contract. Please refer to paragraph 3 of the contract which states, in part, that monthly payments beyond the mobilization phase "will be based on the percentage of total soil volume treated to the specified cleanup level." This clause requires that two conditions be met: (1) the total soil volume to be treated must be known (in order to compute a percentage) and (2) the treated soil must meet the specified cleanup level. The method for calculating the total volume of soil to be treated is described in paragraph 2 of the contract. If the volume of soil to be treated exceeds 3,440 cubic yards, the excess yardage is to be multiplied by $90 and that value added to the portion of the contract amount designated for the treatment phase ($285,000). If the total volume is less than 3,440 cubic yards, there is no reduction in the contract price. This was considered to be "compensation" for ECOVA assuming the risk of a fixed-price contract.

Each month, you will treat some percentage of the "total volume" of soil. The invoice for that month should be the corresponding percentage of the "total price". For example, if the total volume is confirmed to be 4,000 cubic yards (560 cubic yards excess), then the total price for the treatment phase would be $335,400 [$285,000 + ($90 x 560)]. Treatment of 65 cubic yards would amount to 1.625% of the total volume. The invoice for that month would be $5,450.25 (.01625 x $335,400).

Since ECOVA has not yet provided Time with a surveyor's calculation of the total volume of soil excavated for treatment, it follows that any invoice for soil treatment is premature. It has been over 3 months since the excavation phase was completed, so there is no excuse for not having determined the volume of soil.

The second condition of the terms for payment must be met by providing Time with properly documented laboratory analyses on samples of each batch, from each reactor, collected prior to discharge. Paragraph 3 of our contract specifies that this data should accompany the monthly Progress Report; payment cannot be made without it. The level of quality assurance and quality control documentation should be sufficient to satisfy the Oregon Department of Environmental Quality, as stated in paragraph 1 of our contract. The two Progress Reports submitted to date (August and September, 1989) do not contain the required information.

In the future, copies of the confirming analyses should be on hand at ECOVA's field office prior to discharge and kept there at all times. They were not available for my inspection on October 6, 1989 approximately one week after the second batch of soil had been discharged to the disposal pond. Attention to such details is absolutely essential to maintain a highly professional operation.

Attached is a suggested format for your monthly billings. It should not be difficult to construct a spreadsheet to calculate each month's bill, once we have developed the base figures.

Sincerely,

Fred Proby
Environmental Specialist

Attachments a/s

E X A M P L E E X A M P L E E X A M P L E

INVOICE

To: Time Oil Company
Attn: Mr. Fred Proby
PO Box 24447 Terminal Station
Seattle, WA 98124

For: Northwest Terminal
Pentachlorophenol Cleanup

From: ECOVA Corporation
PO Box 94081
Seattle, WA 98124-9481

Invoice Date:
Invoice #
ECOVA Reference:

Period Covered:_____to_____

Total soil volume to be treated:	3,440 cubic yards
Soil volume treated this period:	65 cubic yards
Total soil volume treated to date:	65 cubic yards
Percentage of soil treated to date:	1.889%
Total soil treatment price:	$285,000.00
Treatment price payable to date:	$ 5,385.16
Less previous treatment payable:	$ 0
Treatment price payable this period:	$ 5,385.16
Change Orders approved this period:	$ 0.00
Total payable this period:	$ 5,385.16
Less 10% Retainage:	$ 538.52
TOTAL AMOUNT DUE THIS INVOICE:	$ 4,846.64

(Terms:net 30 days, 1.5% per month over 30 days)

CONTRACT SUMMARY:

Mobilization Phase	$160,000.00 (paid in full)
Change Orders to date	$ 0.00
Soil Treatment Price	$285,000.00
Total Contract Amount	$445,000.00
Total payable to date (+ retainage)	$165,385.16
Percent of Contract payable	37.16%
Amount Remaining in Contract	$279,614.84
Retainage this invoice	$ 538.52
Total Retainage to date	$ 538.52

Prepared By:_____ Reviewed For Ecova By:_____

TOLS009166

BZTO104(e)045988

ECOVA

October 11, 1989

Void

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Mr. Proby:

Enclosed please find two copies of our invoice #102154 for professional services performed in September 1989.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

David Edwards /HK

David Edwards
Project Manager

152/OCT.INV:bkh
Enclosures

cc: Penny Sol
Project File

Corporate Office
3820 159th Avenue
Redmond, WA 980
(206) 883-1900
(206) 867-2210 FA

Gulf Coast Region
12790 Merit Drive #22
Lock Box 145
Dallas, TX 7525
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

TOLS009167

BZTO104(e)045989

INVOICE

TO: Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Void
FLP

FROM: ECOVA CORPORATION
P.O. Box 94081
Seattle, WA 98124-9481
(206) 883-1900

OUR REFERENCE: 821401
INVOICE DATE: Sept. 30, 1989
INVOICE # 102154

Item	Quantity	Description	Unit Price	U/M	Extended Price
		For Professional Services through September 30, 1989:			
	65.00	Cubic Yards of Treated Soil	90.00	CU.	5,850.00
		INVOICE TOTAL			$5,850.00
		TERMS: NET 30 DAYS 1.5% PER MONTH OVER 30 DAYS			

mmx

TOLS009168

BZTO104(e)045990

COPY

INVOICE

TO: Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

FROM: ECOVA CORPORATION
P.O. Box 94081
Seattle, WA 98124-9481
(206) 883-1900

OUR REFERENCE: 821401
INVOICE DATE: Sept. 30, 1989
INVOICE # 102154

Item	Quantity	Description	Unit Price	U/M	Extended Price
		For Professional Services through September 30, 1989:			
	65.00	Cubic Yards of Treated Soil	90.00	CU.	5,850.00
		INVOICE TOTAL			$5,850.00
		TERMS: NET 30 DAYS 1.5% PER MONTH OVER 30 DAYS			

mmx

TOLS009169

BZTO104(e)045991

Re: NW Penta

left message on 11/20 for Bill Mahaffey to call this

STATEMENT

TO: Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

FROM: ECOVA CORPORATION
P.O. Box 94081
Seattle, WA 98124-9481
(206) 883-1900

CUSTOMER NUMBER: 821401
STATEMENT DATE: 11/15/89

TERMS: NET 30 DAYS
1.5% PER MONTH OVER 30 DAYS

DATE	INVOICE #	TRANSACTION	AMOUNT	ADJUSTMENTS	BALANCE
09/30/89	102154	INVOICE	5,850.00		5,850.00

PAST DUE

Current	1-30	31-60	61-90	Over 90	Total Due
0.00	5,850.00	0.00	0.00	0.00	5,850.00

mmx

TOLS009170

BZTO104(e)045992

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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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

October 31, 1989

ECOVA Corporation
Attn: Bill Mahaffey
3820 159th Avenue NE
Redmond, WA 98052

Re: Northwest Terminal Pentachlorophenol Cleanup

Dear Bill:

Enclosed are Change Orders number 1 and 2 for extra work and number 3 for a schedule adjustment. Kindly signify Ecova's acceptance by signing and returning a copy of each Change Order. The listed extra work is authorized and, having already been completed, ECOVA may submit invoices for the indicated amounts.

Should work outside of the scope of the contract be necessary in the future, written Change Orders will be issued by Time only after approval of a cost estimate. Verbal authorization to incur expenses will not be granted and expenses incurred without written authorization by Time will not be reimbursed. Accordingly, we both must be more diligent in anticipating out-of-scope work well in advance of the need so that proper approval may be obtained.

Sincerely,

Fred Proby
Environmental Specialist

enclosures a/s

flp.22

TOLS009171

BZTO104(e)045993

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 1
Date: October 30, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Survey reference elevations of existing wells	$ 330.00
2. Use gasoline-compatible liner on Tank 38002	$ 670.00
3. Characterize contamination encountered in clean soil borrow area	$ 3,960.00
4. Evaluate additional solvents (eg. KB3) encountered during penta excavation:	
Collect additional samples	$ 930.00
Sample analysis	$ 3,620.00
Revise Health and Safety Plan	$ 360.00
5. Analyze water from Time Oil "slop tank"	$ 110.00
6. Additional effort on groundwater study:	
Extra pump test	$ 1,500.00
Analyze water for solvents	$ 300.00
7. Provide consultation on Oregon DEQ rules	$ 360.00
Total	$ 10,790.00
Less credit for power drop paid for by Time	$(4,763.00)
Total this Change Order	$ 6,027.00
Revised Contract Price	$451,027.00

Requested By: _____

Approved By: _____

Contractor: _____

TOLS009172

BZTO104(e)045994

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 2
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Collect eight soil samples for PCB analysis outside of Crosby & Overton dike wall	$ 700.00
Total this Change Order	$ 700.00
Revised Contract Price	$451,727.00

Requested By: _____

Approved By: _____

Contractor: _____

TOLS009173

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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TIME

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 3
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Reason For Schedule Change	Weeks Added
1. Power drop to site delayed by Portland Electric due to bad weather	5
2. Discovery of solvents in excavation	3
3. Delay in locating clean soil for backfilling	5
Total Weeks Added to Schedule	13
Performance Period Extended To	September 9, 1990
Impact on Contract Price	None

Requested By: _____

Approved By: _____

Contractor: _____

TOLS009174

BZTO104(e)045996

ECOVA CHANGE ORDER

CLIENT: TIME OIL COMPANY

PROJECT: NORTHWEST TERMINAL PCP REMEDIATION

LOCATION: PORTLAND, OREGON

CHANGE ORDER NO. 01

DATE 10/27/89

ORIGINATOR W. MAHAFFEY

PROJECT NO. 821401

COST CODE

DESCRIPTION OF CHANGE

INCREASE IN SCOPE OF SERVICES. ADDITIONAL WORK TO BE PERFORMED. EXTRA SERVICES REQUIRED BY VERBAL REQUEST OF FRED PROBY TIME OIL COMPANY. ADJUSTMENT OF SCHEDULE DUE TO DELAYS BEYOND CONTROL OF ECOVA. ITEMS TO BE PAYABLE UPON ACCEPTANCE OF CHANGE ORDER BY TIME OIL COMPANY.

CAUSE OF CHANGE

DIFFERING SITE CONDITIONS FROM THOSE ANTICIPATED BY BOTH PARTIES UPON ENTERING INTO THE CONTRACT. PERFORMANCE OF OUT OF SCOPE SERVICES ON VERBAL ORDER OF TIME OIL COMPANY.

SCHEDULE IMPACT

DELAY BEYOND CONTROL OF ECOVA FOR ORIGINAL POWER DROP TO SITE - FIVE WEEKS; DELAY FOR DISCOVERY OF SOLVENTS AND UNEXPECTED CONTAMINANTS, THREE WEEKS; DELAY IN OBTAINING CLEAN SOIL FOR BACKFILLING, FIVE WEEKS. REQUEST FOR NO COST EXTENSION OF PERIOD OF PERFORMANCE TO BE EXTENDED TO SEPTEMBER 9, 1990.

QUALITY IMPACT

NONE

COST IMPACT

NET ADDITIONAL COST: $9,876.96

SEE ATTACHED DETAIL SHEET

PROPOSED:

$ 9,876.96 William P. Mahaffey 10/27/89
Amount ECOVA Project Manager Date

Roderick A. Carr 10/27/89 $
ECOVA Contract Administrator Date

TOLS009175

ACCEPTED:

Amount Client Project Manager Date

BZTO104(e)045997

ATTACHMENT A - DETAIL SHEET FOR CHANGE ORDER #01, J.N. 821401

	ITEM	PRICE
1.	Reference Elevation Measurements on Wells	$ 330.00
2.	Extra Cost of Gasoline Compatible Liner for Tank 38002.	670.00
3.	Eight (8) Additional Soil Samples for PCB Outside Crosby and Overton Dike Wall	700.00
4.	Contamination Characterization of Location Where Clean Fill Soil was to be Obtained for filling excavation	3,960.00
5.	Additional Solvents Encountered in Soil	
	Sampling	930.00
	Sample Analysis	3,620.00
	Changes to Health and Safety Plan	360.00
6.	One (1) GC Analysis of Sump "Slop" Tank Water	110.00
7.	Groundwater Study	1,500.00
	Sample Analysis	300.00
8.	ECOVA support for TIME OIL re OREGON DEQ	360.00
9.	Dioxin Analysis - One (1) sample	1,800.00
	Gross Total	$ 14,640.00
	Less Credit for Power Drop Charge	<4,763.00>
	Net Balance Due	$ 9,876.96

TOLS009176

BZTO104(e)045998

Working Copy

PHONE 285-2400
CABLE ADDRESS: TIMOIL
FAX) 206-283-8036

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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

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 3
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Reason For Schedule Change	Weeks Added
1. Power drop to site delayed by Portland Electric due to bad weather	5
2. Discovery of solvents in excavation	3
3. Delay in locating clean soil for backfilling	5
Total Weeks Added to Schedule	13
Performance Period Extended To	September 9, 1990
Impact on Contract Price	None

Requested By: _____

Approved By: _____

Contractor: Roderick A. Carr
Contract Administrator
ECOVA CORP.

TOLS009177

BZTO104(e)045999

PHONE 285-2400
CABLE ADDRESS: TIMOIL
FAX) 206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 2
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Collect eight soil samples for PCB analysis outside of Crosby & Overton dike wall	$ 700.00
Total this Change Order	$ 700.00
Revised Contract Price	$451,727.00

Requested By: _____

Approved By: _____

Contractor: Roderick A. Carr
Contract Administrator
ECOVA CORP.

TOLS009178

BZTO104(e)046000

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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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

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 1
Date: October 30, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
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Collect additional samples	$ 930.00
Sample analysis	$ 3,620.00
Revise Health and Safety Plan	$ 360.00
5. Analyze water from Time Oil "slop tank"	$ 110.00
6. Additional effort on groundwater study:	
Extra pump test	$ 1,500.00
Analyze water for solvents	$ 300.00
7. Provide consultation on Oregon DEQ rules	$ 360.00
Total	$ 10,790.00
Less credit for power drop paid for by Time	$(4,763.00)
Total this Change Order	$ 6,027.00
Revised Contract Price	$451,027.00

Requested By: _____

Approved By: _____

Contractor: Roderick A Carr
Contract Administrator
ECOVA Corp.

TOLS009179

CONSTRUCTION CONTRACT

ENVIRONMENTAL CLEAN-UP

Contract

THIS CONTRACT is made as of the 9th day of November, 19 88 at Seattle, Washington, by and between Time Oil Co., a Washington corporation ("Time" herein), located at 2737 West Commodore Way, Seattle, Washington 98199, and Ecova Corporation ("Contractor" herein), located at 3820 159th Avenue North East, Redmond, WA 98052 for work relating to environmental clean-up at 12005 North Burgard Road, Portland, OR ("Site" herein).

IT IS AGREED by and between the parties hereto as follows:

1. SCOPE OF WORK: Contractor has examined the Site, analyzed soil and water samples, reviewed soil and water data provided by Time, and has evaluated the treatability of the soil at the Site. Contractor agrees to perform the services for the treatment of 3,440 cubic yards of soil contaminated with pentachlorophenol and operation of an aqueous bioreactor described in Contractor's Work Plan prepared for Time dated September 12, 1988, as modified by Contractor's letters dated October 12, 1988 and October 18, 1988. Contractor agrees that it will treat the soil and water at the Site through chemical and biological degradation by implementing a soil slurry technology and will achieve a clean-up level of 0.5 ppm (500 ppb) or less total pentachlorophenol and related chlorinated phenols in the soil and water. Contractor shall demonstrate achievement of clean-up level in accordance with procedures acceptable to the Oregon Department of Environmental Quality (DEQ). Soil borrow pits, stockpiles and Contractor's equipment shall be located subject to Time's approval so as not to interfere with Time's business. Time may make any alterations, deviations, additions or omissions from the Scope of Work, without affecting or making void this contract, however, no work other than as provided herein or specifically authorized by Time in writing shall become a part of this contract. Additional work is to be authorized only in writing signed by both parties.

2. PRICE: Time agrees to pay contractor Four hundred and forty-five thousand dollars ($445,000.00), including state sales tax, if applicable, which amount shall be referred to herein as the "contract price". Any change to the contract price may only be made in writing executed by both parties hereto. Any work performed which is not covered by such a written agreement shall be considered fully paid for upon payment of the contract price.

   Excavation and treatment of soil in excess of 3,440 cubic yards will be performed by Contractor at an additional cost to Time of $90.00 per cubic yard. Measurement of soil for the purpose of payment shall be the arithmetic average of the following methods:

   a. Measurement of width, length and depth of excavation.

   b. Licensed surveyor's calculation of the volume of soil contained in the pre-treatment stockpile.

3. TERMS OF PAYMENT: Upon completion of project design, mobilization, excavation and well installation tasks, as defined in the Work Plan and modifying letters, Time will pay Contractor a sum of $160,000. The remainder of the contract price ($285,000 plus $90 per cubic yard of soil to be treated in excess of 3440 cubic yards) will be paid monthly based on the percentage of total soil volume treated to the specified clean-up level. An amount not to exceed ten percent of each billing will be retained. Each billing shall be accompanied by a progress report describing work accomplished to date and including results of soil and water analyses performed during the billing period. At project conclusion, Contractor shall prepare, to Time's satisfaction, a written report evidencing completion of the services to be performed under the Scope of Work. Final payment, including all amounts retained, is to be made within 30 days after acceptance of the completed project and the written report by Time.

4. TIME FOR PERFORMANCE AND SECURITY AGREEMENT: All work shall be completed within 19 months from the date of this contract, exclusive of time reasonably required to obtain permit approval by government agencies. If Contractor fails to achieve specified clean-up levels as agreed, Time shall not be obligated to pay Contractor for any services rendered and Contractor shall promptly refund to Time all sums paid to it by Time under this Contract less sums paid on account of soils treated to the specified clean-up level.

for ECOVA-owned equipment

In order to secure this pay back obligation, Contractor grants to Time a security interest in all tanks, piping and related materials installed or placed on Time's property and used by Contractor in the conduct of the work described herein. Contractor warrants that all such equipment at the time it is brought to Time Oil's facility will be free of all other liens or interests of any third parties and that Time's security interest in that equipment shall remain a first lien thereon until fulfillment of all of Contractor's obligations under this agreement.

5. TERMINATION: Time may, at any time, terminate the services remaining to be performed under the Scope of Work by giving Contractor advance written notice of such termination. In the event of any such termination, Time will pay Contractor for all:

   a. Services performed prior to Contractor's receipt of notice of termination;

   b. Services performed after such receipt in accordance with Time's instructions or as reasonably required to effect an orderly termination; and

   c. Costs reasonably incurred by Contractor on account of the termination (e.g., based on commitments made by Contractor to its suppliers and other third parties in anticipation of performing the terminated Service, but excluding any costs based on loss of profit or revenues that would otherwise have been earned on terminated Services).

payment by Time

6. BOND: Contractor agrees that before ~~commencement~~ of any work hereunder it will promptly furnish Time ~~with a payment bond issued by a surety company~~ proof of payment acceptable to Time ~~and in an amount acceptable to Time guaranteeing full payment~~ of all persons furnishing labor or materials in connection with the work hereunder and the prompt discharge of any liens filed against the property of Time on account of such work.

7. INSURANCE: Until completion of its performance hereunder, Contractor agrees to maintain Workmen's Compensation Insurance in the form and amounts required by state law, and Broad Form Comprehensive Public Liability with minimum limits of $1,000,000.00 per person and $1,000,000.00 per accident for bodily injury and $500,000.00 per accident for property damage. Contractor shall promptly deliver to Time certificates of said insurance naming Time as an additional insured before commencing work and such certificates shall provide that said insurance shall not be cancelled prior to thirty (30) days written notice to Time.

8. PERMITS: Contractor agrees, at his expense, to obtain all governmental permits, licenses and approvals, and to comply with all laws, rules, building codes, zoning ordinances, regulations and requirements, now or hereafter existing, of all governmental authorities concerned therewith, applicable to Contractor's activities pursuant to the Scope of Work. Contractor shall furnish Time with written evidence of all such necessary permits, licenses and approvals before commencing work. Time shall have the right to withhold from any payments due hereunder an amount sufficient to compensate it for any damages it may incur as a result of Contractor's failure to secure any necessary permit or comply with any law or regulation. Excluded from this paragraph are approvals by the Oregon DEQ of the treatment process and final clean-up level, responsibility for which shall be Time's. At Time's request, Contractor shall assist Time in the obtaining of DEQ approvals, compensation for which shall be paid by Time at Contractor's standard hourly rates.

TOLS009181

BZTO104(e)046003

9. CONFIDENTIAL AND PROPRIETARY INFORMATION:

a. The parties will cooperate and coordinate the services with any related activities of Time and Time's consultants, contractors, and representatives. Time will furnish Contractor with such documents, data, information, and other items which are available to Time and which are necessary or useful for Contractor's performance of the Scope of Work. Except to the extent otherwise specified by Time in writing upon Contractor's receipt of any such items, Contractor will be entitled to rely upon the same.

b. In connection with this Agreement, either party ("Disclosing Party") may disclose to the other party ("Receiving Party") certain information that is confidential or proprietary to the Disclosing Party whether of a technical, business or other nature ("Confidential Information"). Confidential Information may include, but is not necessarily limited to, any information that is disclosed by Time to Contractor under sub-paragraph (a) above or that is disclosed by Contractor with regard to its means, methods, processes, techniques, procedures, technology, know-how and trade secrets used in performance of the Services. The Disclosing Party will conspicuously mark or otherwise identify its Confidential Information as such prior to, upon or promptly after disclosure to the Receiving Party.

c. The Receiving Party will treat all Confidential Information as confidential and proprietary of the Disclosing Party and will use the Confidential Information solely for the purposes for which it is provided by the Disclosing Party. Without limiting the generality of the foregoing, the Receiving Party will take reasonable precautions to prevent any unauthorized use or disclosure of Confidential Information.

d. The obligations under sub-paragraph (c) above, will not apply to any:

(1) Information that is or becomes part of the public domain through no fault of the Receiving Party;

(2) Information that is obtained by the Receiving Party from a third party other than in connection with this Agreement and without any obligation to treat the same as confidential or proprietary;

(3) Information that is independently developed by the Receiving Party without reference to any Confidential Information;

(4) Any disclosure required by legal process or applicable law, provided that the Receiving Party will use reasonable efforts to give advance notice to, and cooperate with, the Disclosing Party in connection with any such disclosure; and

(5) Any disclosure with the consent of the Disclosing party.

e. Contractor reserves all right, title and interest in and to the means, methods, processes, techniques, procedures, technology, know-how, and trade secrets used in performance of the scope of work, whether developed prior to or during performance of the scope of work, together with any and all patent, copyright, trade secret, and other intellectual property rights associated with the same. No title, right or license to the same is transferred to Time under or by virtue of this Agreement.

f. Time reserves all right, title, and interest in and to any and all soil, rock, water and other samples from any Site. Unless otherwise specified, all such samples will be returned to Time at the Site from which they were obtained.

TOLS009182

BZTO104(e)046004

10. INDEPENDENT AGENTS: Each party is engaged in an independent business and will perform its obligations under this Agreement and all Orders as an independent contractor and not as an agent or representative of the other party. Neither party will have any right or authority to create any obligation or make any representation or warranty in the name or on behalf of the other party. This Agreement will not be interpreted or construed to create an association, joint venture or partnership between the parties or to impose any partnership obligation or liability upon either party.

11. ASSIGNMENT: Contractor shall not assign or transfer this contract, or any interest therein or any part thereof, without the prior consent in writing of Time.

12. GUARANTEE: Contractor agrees to perform all work in a workmanlike manner and guarantees all work will be free from defects in material and labor for a period of one year after completion. No payment made under this contract shall be construed to be an acceptance of defective work or improper materials. Contractor further guarantees that it is familiar with the work site and scope of work and is competent to perform the work described in the manner and within the time stated herein.

13. LIENS: Contractor covenants that no liens will attach against the subject premises for material or labor arising from the work herein contemplated. If at any time there shall be evidence of lien or claim for which, if established, Time may become liable, and which is chargeable to Contractor, Time shall have the right to retain out of any payment then due, or thereafter to become due, an amount sufficient to completely indemnify Time against such lien or claim, should there prove to be any such claim.

14. INDEMNITY: Contractor agrees to indemnify Time and hold Time harmless from any and all claims, liabilities, demands, actions, costs and expense (including attorneys' fees) of whatsoever nature, arising out of any acts or omissions of contractor, its agents or employees, hereunder. In the event of any contamination or damage to the environment or any other property arising out of an act or omission of Contractor, Time will promptly notify Contractor of the same and provide Contractor the opportunity to correct or otherwise remedy the contamination or damage at Contractor's expense. Lack of notification by Time does not release Contractor from any obligation it may otherwise have under this agreement.

15. REMEDIES: All rights and remedies of Time herein shall be cumulative, and no right or remedy shall be exclusive of any other, and the pursuit of any such right or remedy shall not be deemed a waiver of any other or different remedy or relief which Time might otherwise be entitled by law or in equity.

16. FORCE MAJEURE: Contractor shall not be held liable for delays resulting from fire, earthquakes, war, or acts of any government, whether foreign or domestic, or any other cause beyond his control. However, contractor has specifically taken into account and shall be held liable for potential delays caused by labor disturbances, material availability, and weather.

17. INTERPRETATION: This contract will be deemed executed and shall become binding and of full force and effect when signed by Time at its office by its authorized representative. This contract incorporates the entire agreement between the parties except as modified by written change order or other written agreement signed by both parties.

18. SUCCESSORS: This Contract will be fully binding upon, inure to the benefit of, and be enforceable by the parties in their respective successors and assigns.

19. APPLICABLE LAW: The nature, validity and interpretation of this contract shall be governed by the laws of the State of Washington.

DATED 11/9/88

TIME OIL CO.

By: Robert D Altenbach
Vice President

DATED 11/2/88

CONTRACTOR

By: Joseph M. Bolton
Joseph M. Bolton
President

TOLS009183

BZTO104(e)046005

Work Plan
for
Soil and Groundwater Remediation
Time Oil Northwest Terminal
Portland, Oregon

to

TIME OIL COMPANY

Submitted by:

ECOVA CORPORATION
3820 159th Avenue NE
Redmond, Washington 98052
Project Number: 821401

September 12, 1988

E C O V A

TOLS009184

BZTO104(e)046006

2. SCOPE OF WORK

2.1 OVERVIEW

Ecova has developed a remediation program incorporating physical, chemical, and biological treatment technologies aimed at eliminating the PCP contaminants in the soil and groundwater. Contaminants will be separated from the soil media and biodegraded in solution to complete mineralization until the target levels are achieved.

The goal of this program has been to develop a cost-effective remediation strategy based upon biological degradation technologies which will reduce the PCP concentration to the levels acceptable to the appropriate regulatory agency, which is assumed to be Oregon Department of Environmental Quality (ODEQ). The program has been developed considering the following objectives:

- o Optimize the chemical and biological degradation of the PCP through use of soil slurry technologies;
- o Develop flexible remediation options that can treat both contaminated soil and groundwater;
- o Minimize the potential for migration of contaminants beyond the treatment area;
- o Develop options that can be implemented and completed in timely manner.
- o Use, to the extent practicable, Time Oil resources available on-site;

The proposed treatment program is conceptually illustrated in Figure 2-1, Work Breakdown Structure. As shown in this figure, work on the project will commence immediately upon receiving authorization to proceed. Work will start with the engineering design and procurement of equipment needed for remediation. Time Oil will secure approval of the treatment program by ODEQ. Ecova will support Time Oil in its negotiations with ODEQ as directed by Time Oil's project manager and outlined in Section 2.3.2, Regulatory Authorization.

Following completion of the engineering of the treatment system and regulatory authorization, Ecova will mobilize to the Portland site and commence construction activities. While the treatment system is being constructed, the contaminated soil will be completely excavated and stockpiled on a plastic liner. The excavation will then be filled with borrow material obtained from the land treatment area.

Upon completion of construction of all of the treatment facilities, the treatment system will be operated on a batch basis until the stockpiled soil has been fully treated. Groundwater will be pumped by the groundwater extraction system and treated at the plant until the negotiated target cleanup concentrations have been reached. With completion of all treatment operations, the system will be decommissioned and the site cleaned of any remaining trash and debris. Removal of the treatment equipment units will proceed as discussed in Section 2.3.7, Demobilization.

As shown in Figure 2-1, an onsite worker health and safety program will be implemented and conducted throughout the remediation program.

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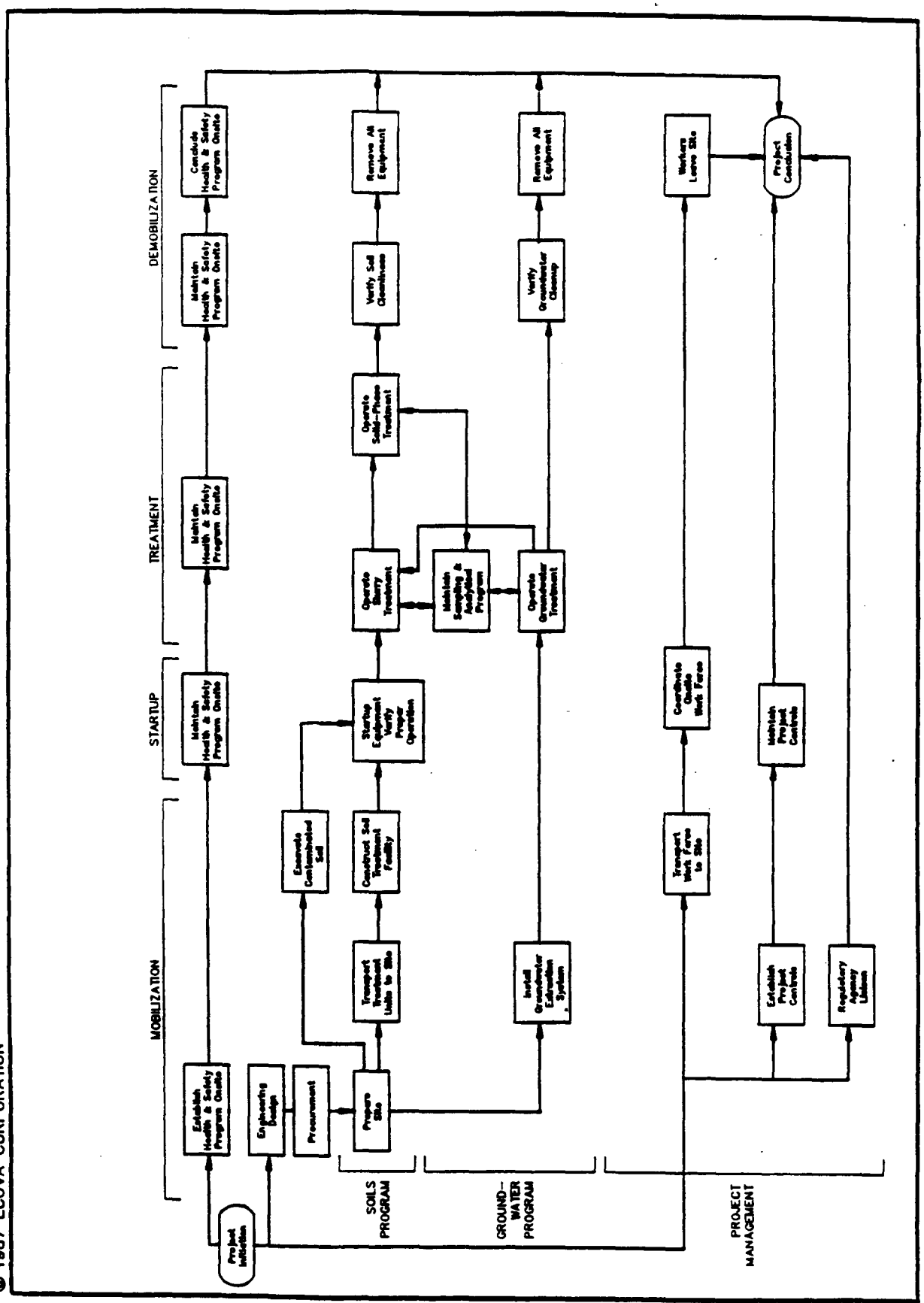
FIGURE 2-1. Work Breakdown Structure



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The conceptual engineering design of the treatment system proposed for the remediation project is discussed below, followed by a detailed discussion of each task in the program.

2.2 CONCEPTUAL ENGINEERING DESIGN

Ecova has prepared a conceptual engineering design which fulfills the program objectives discussed in the overview. Figures 2-2, Block Flow Diagram, and 2-3, Process Flow Diagram, illustrate this design for the onsite treatment system at the Time Oil Northwest Terminal site for complete remediation of the PCP contamination present in soils and groundwater.

Initial design parameters were determined from the data provided by Time Oil and Ecova treatability test results as presented in Appendixes A, B, C, and D. A summary of the primary design parameters is detailed in Table 2-1.

TABLE 2-1. Design Basis Parameters For Soil Bioslurry Treatment System Time Oil Company

Assumed Parameters

Contaminated Soil to be Treated:	3440 cubic yards
Percentage Oversize (20 mesh):	15%
Average PCP Concentration:	680 ppm, dry soil
Slurry Solids Percentage:	35%
Contaminant Half Life:	1.4 days
Slurry Tank Volume (2 units):	50,000 gallons
Number of Batches:	32
Soil Treated Per Batch Cycle:	108 cu.yd.
Mixer Horsepower Requirements:	1.0 hp/1000 gals
Solid Phase Treatment/Disposal Area Size:	38,000 square feet
Depth of Solid Phase:	2.5 feet

	Target Cleanup Criteria (PCP Concentration in Dry Soil)		
Derived Parameters	500 ppm	100 ppm	50 ppm
Reactor Retention Time:	0.6 days	3.9 days	5.3 days
Batch Cycle Time:	Continuous	5.0 days	7.0 days
Approx. Treatment Duration:	46 days	160 days	224 days

As discussed in the Introduction a composite PCP concentration of 680 ppm was obtained from the July samples obtained by Ecova from the site. In examining the soil boring data and interpretation provided by Time Oil, we conclude that this concentration is approximately equal to the average concentration that would be obtained from a blended feedstock made up from stockpiled soil following the plan shown in Appendix A, Soil Boring Analysis. The average concentration is the key parameter in the design basis since this value determines the feed rate to and residence time in the bioreactors. The quantity of contaminated soil present determines the capacity of bioreactor needed, the length of time needed for treatment given the average concentration and degradation rate, and the size of land treatment/disposal area needed.

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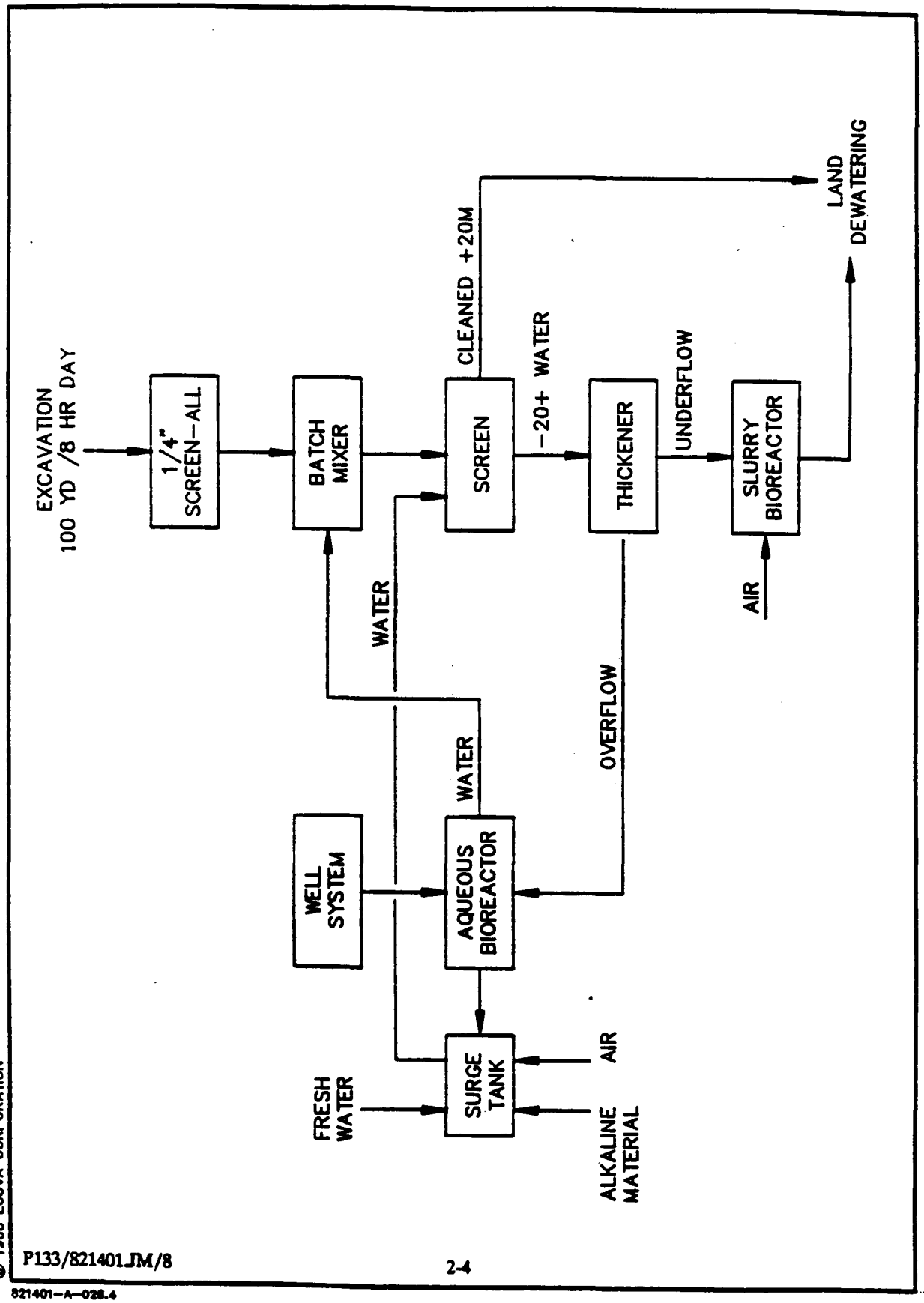
FIGURE 2-2. Block Flow Diagram



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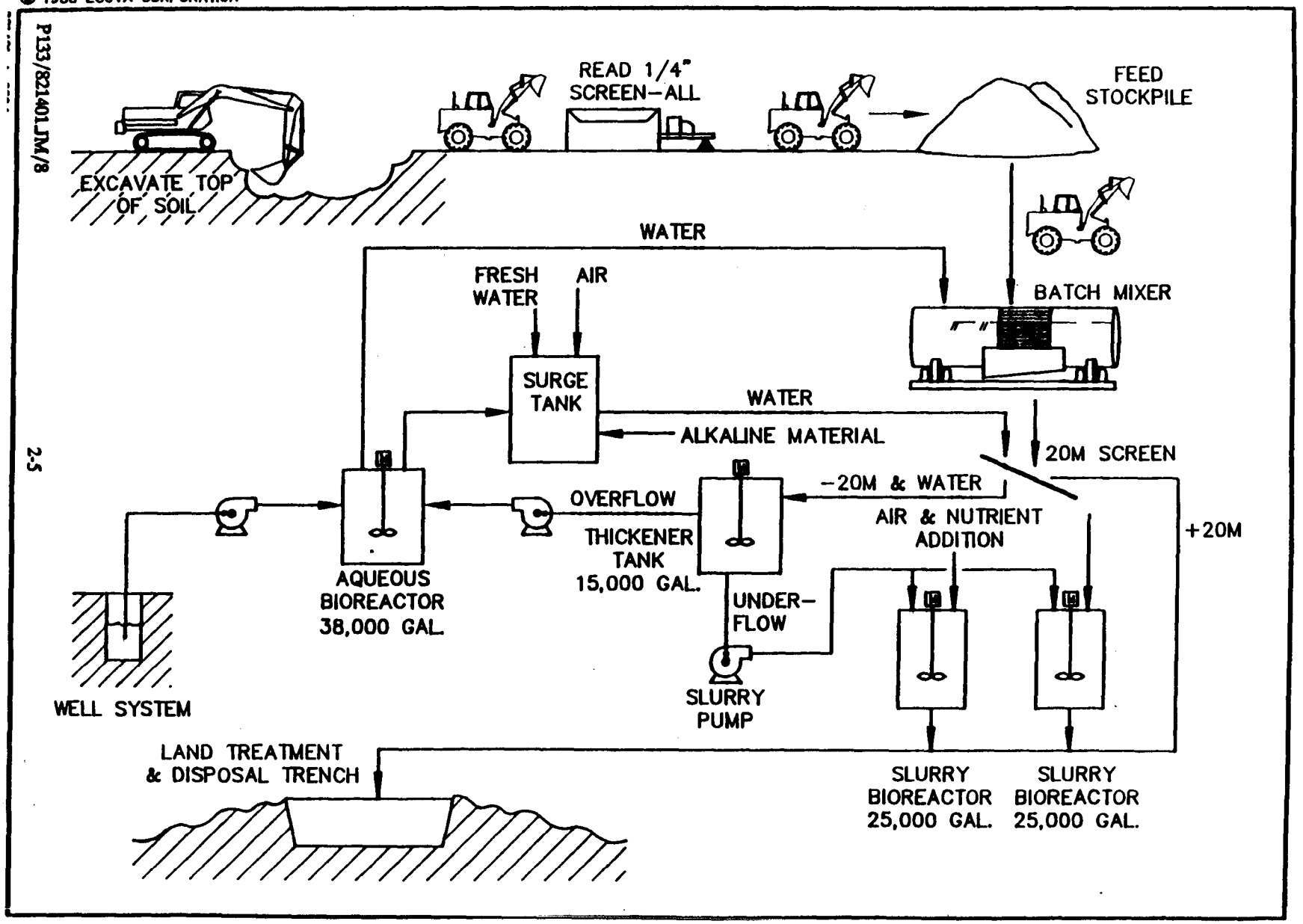

FIGURE 2-3. Process Flow Diagram

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The treatment system consists of the following major subsystems as discussed in detail below:

- o Excavation/Screening/Stockpiling Operation
- o Batch Mixer Unit and Feed Hopper/Conveyor
- o Shale Shaker Screen Unit
- o Thickener Unit
- o Slurry Bioreactor Unit
- o Groundwater Extraction System
- o Aqueous Bioreactor Unit
- o Liquid Surge Tank
- o Solid Phase Treatment/Land Disposal Unit
- o Miscellaneous Pumps, Piping, Etc.

2.2.1 EXCAVATION/SCREENING/STOCKPILING OPERATION

To halt the migration of PCP contamination from the contaminated soil into the groundwater and to provide a blended feedstock for the treatment operation, Ecova will excavate and remove the contaminated soils. The contaminated soils will then be screened, blended and stockpiled until the slurry treatment system is ready to accept them as feed material. Excavation will follow the plan developed during the engineering phase as previously described.

During construction of the treatment system the contaminated soil will be completely excavated, screened to minus 0.25 inch to remove construction debris or other oversize material, and stockpiled on a bermed plastic liner. The pile will be covered with polyethylene sheeting until reclaim operations for input to the treatment system commence. This step will result in a prepared and blended feedstock for the treatment system. The stockpile will also provide containment for rainfall runoff to prevent any further contaminant migration.

Removal operations will be performed with two pieces of standard earthmoving equipment: a three cubic yard front end loader (wheeled) and a backhoe. Soil will be removed until soils that are not contaminated (through testing) are encountered or until the groundwater table is reached. The threshold criteria used to distinguish contaminated from uncontaminated soils will be established by agreement with ODEQ and Time Oil before excavation commences.

The removed soils will be passed over a coarse screen located in the excavation area. A two-stage Read Screen-All unit equipped with minus 2 inch and minus 0.25 inch screens will be used to remove construction debris, gravel and other oversize material. In Ecova's experience, this is an essential step to minimize downstream operating problems that oversize debris can cause for materials handling equipment such as pumps, conveyors and mixers. Oversize materials can be directly disposed in the solid phase treatment/disposal area or can undergo additional washing in the batch mixer to remove surface PCP contamination which might be present.

Screened soil will be placed in lifts on a stockpiled area lined with a 12 mil polyethylene plastic liner. A low earthen berm will surround the stockpile to contain any contaminated rainfall runoff and a plastic lined sump area will be provided to catch and accumulate water. Any water captured will be pumped into the recovered groundwater storage tank. An equipment decontamination area will be included within the bermed, lined area to provide for cleaning of the earthmoving equipment after excavation of the contaminated soil is complete. A steamcleaner will be used to assure that decontamination is thorough. Decontamination fluids accumulated in the sump will be treated in the treatment system after startup.

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Blending the excavated soil is important since the boring data indicate that there are significant hot spots. If these hot spots were to be fed into the bioreactor, they could result in the kill-off the microorganisms and severely disrupt the biodegradation process. Blending assures a slurry feedstock very close to the overall average PCP concentration. The screening operation will achieve some blending of the contaminated soil. Distributed placement of the soils in the stockpile area will also facilitate the blending operation.

After placement in the stockpile, the soil will be covered by six mil polyethylene plastic sheeting to control airborne dust emissions during storage. The sheeting will be carefully weighted to prevent damage by the high winds occurring periodically in the Willamette River valley.

The excavation will be backfilled with borrow material obtained on-site. Borrow material will be obtained from the decontaminated slurry disposal landfill area (solid phase treatment), the construction of which shall be phased to coincide with the excavation operations.

2.2.2 BATCH MIXER UNIT AND FEED HOPPER/CONVEYOR

The first step in the treatment process operation will be to reclaim from the stockpile and feed the blended soil into a hopper/conveyor and into the batch mixer unit. In the batch mixer, the soil is tumbled to break up lumps and sprayed with water to form a thin slurry. Coarse screening of the feed material will have already been performed during the excavation, so the primary purpose of the batch mixer is to form the thin slurry for further screening in the shale shaker screen. Makeup water will come from the aqueous bioreactor tank with alkaline adjustment to raise the soil pH from around 5 to approximately 7.2 prior to feeding into the next units.

The batch mixer unit is a rotating drum unit that has low energy requirements, and is inexpensive to operate, reliable, and commonly available. The unit is portable and requires no concrete foundations for mounting. The unit will only be operated while charging the slurry bioreactor with a new batch of feed.

2.2.3 SHALE SHAKER SCREEN UNIT

After formation of the thin slurry, additional fine screening of the material will take place in the shale shaker unit mounted above the thickener tank. A shale shaker screen is a multideck, vibrating box screen used extensively in the oil drilling industry to remove rock and gravel from drilling muds. These have several screen decks which will successively remove oversize material from 0.25 to 0.033 inch (standard 20 mesh screen). Minus 20 mesh particle size is optimum for maintaining a thick slurry with minimum mixer horsepower requirements and no sanding/settling problems. The unit discharges into the thickener tank.

Oversize screened material is expected not to be contaminated, and therefore would be disposed directly in the solid-phase treatment land disposal area.

2.2.4 THICKENER UNIT

Finely screened thin slurry from the shale shaker screen is thickened by removing excess water up to the necessary density for feed to the slurry bioreactor. The design basis density is 35 percent solids which is an optimum slurry density for the type of soils found at the site. Overflow clarified water

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is pumped to the aqueous bioreactor unit; underflow thickened slurry is pumped to the slurry bioreactor units.

The Ecova thickener unit is a rectangular box tank that operates under a zone gravitational settling regime. The unit is fed from one end and overflows from the opposite end. Thickened slurry is withdrawn from the bottom of the tank. The unit is a 15,000-gallon, transportable, modular steel tank that is mobilized to the site on a self-loading flatbed trailer. It requires no concrete foundation, normally being placed for operation on an asphalt or gravel pad. The unit comes equipped with plumbing and liquid pump for transport of the clarified liquid.

2.2.5 SLURRY BIOREACTOR UNIT

The Ecova Slurry Bioreactor unit is also a rectangular box tank that is equipped with three electric motor-driven slow speed mixer units. The mixer blades provide agitation to keep the slurry in suspension, well mixed and operating under aerobic conditions. Additionally, the unit is equipped with air sparge to provide oxygen in solution.

Like the thickener unit, the bioreactor unit is a transportable, modular steel tank that is mobilized to the site on a self-loading flatbed trailer. Nominally, the unit has approximately a 25,000 gallon capacity. It also requires no concrete foundation, normally being placed for operation on an asphalt or gravel pad.

Consideration was given to modifying the existing 38,000-gallon steel tank located at the site. While this is potentially feasible because the tank appears to be structurally sound, there are a number of possible complications that could make this conversion more costly than mobilizing a modular tank. The tank was engineered for holding oil or water liquids rather than high density slurries. This would undoubtedly reduce the capacity of the tank to that comparable to a standard Ecova bioreactor unit. The capital cost of modifying this tank is probably not warranted when the duration of operation is to be short (a few months). Finally, the unknown condition of the steel wall introduces some risk for slurry application. Therefore, an additional Ecova bioreactor will be mobilized.

2.2.6 GROUNDWATER EXTRACTION SYSTEM

In a separate letter dated August 11, 1988, Ecova proposed a program to install additional monitoring wells at the site. If appropriate, these wells could be used as groundwater extraction wells. The proposed program also included an evaluation of the overall groundwater situation and subsequent design of the extraction system for recovery of PCP contaminated groundwater. Pending additional study of the extent of groundwater contamination, the needed rate of groundwater pumping, and installation of any additional recovery wells or trenches, detailed design of the groundwater treatment component of this scope of work is not possible.

However, the soil treatment system uses extensive quantities of water for slurry makeup and therefore large quantities of contaminated groundwater can simultaneously be treated in the slurry bioreactors, if available. It is likely that groundwater extraction and treatment may continue after completion of soil treatment. Therefore provisions for continued groundwater treatment have been included in the conceptual design.

It is recommended that the groundwater study program proceed as quickly as possible to gather the needed data on quantities and contaminant concentrations.

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2.2.7 AQUEOUS BIOREACTOR UNIT

A provision for an aqueous bioreactor unit has been included in the conceptual design of the treatment system. There are several purposes for inclusion of this unit. First, the unit provides overflow capacity for storing water from the thickener unit. Overflow water from the thickener will have solubilized some PCP from the slurried soil and the bioreactor unit will provide capacity for treating this flow. Second, the unit provides additional bioreactor capacity for treating both overflow water and extracted groundwater. Groundwater would be pumped directly to this unit. Liquid bioreactors are capable of higher rates of degradation for PCP than are slurry- or solid-phase treatment operations. Third, the bioreactor unit will serve as a source of decontaminated recycle water and biomass for fresh slurry makeup when preparing another batch for the slurry bioreactor. Further, since the treatment of groundwater may need to continue after completion of the soil treatment phase, this bioreactor unit will provide the capacity.

The aqueous bioreactor will be constructed from the 38,000 gallon tank currently on site. Modifications necessary to convert the tank to this service include: 1) Thorough cleaning and patching as needed; 2) Equipping the tank for compressed air sparge; 3) Modifying the piping to allow connection to the rest of the treatment system and pumps; and 4) Flow and level control instrumentation. Overflow from this tank will be sent to the surge tank for temporary storage.

2.2.8 LIQUID SURGE TANK

Provision has been included for an additional surge tank which will primarily be used to temporarily contain excess water which may accumulate in the system, such as during the rainy season, when higher groundwater extraction rates are needed, or if there are restrictions on fresh makeup water availability during the summer dry season.

Currently we anticipate this tank to consist of one of the existing horizontal tanks located on site (formerly buried gasoline tanks). These tanks are the approximate capacity needed and appear to be in adequate shape. Capacity needed for the surge tank is expected to be between 5000 to 10,000 gallons. Modifications include flushing, leak repair, and piping connection. These horizontal tanks will have to be moved from their present location to allow construction of the treatment system. The tank selected for service as the surge tank will be relocated onto a gravel pad which will serve as a supporting foundation.

2.2.9 SOLID PHASE TREATMENT/LAND DISPOSAL UNIT

After each batch of soil has finished slurry treatment, the bioreactors will be emptied via pumping through a pipeline to the solid-phase treatment/land disposal unit that is located north of the treatment system. This unit will consist of an excavation of approximately 38,000 square feet of clean soil to a depth of 2.5 ft. As discussed previously, clean soil from this excavation will be used as borrow material for filling the contaminated excavation near the warehouse at the site.

This unit will not be lined with either a clay or membrane liner. By not using a lining, excess water from the treated slurry disposal will percolate into the groundwater up-gradient from the contaminated site carrying PCP-degrading microorganisms into the contaminated area. This also serves to eliminate excess decontaminated water from the system. However, decanted water forming on the surface of the impoundment may be pumped back into the surge or aqueous bioreactor tanks, if needed.

2.2.10 MISCELLANEOUS PUMPS, PIPING, ETC.

Other equipment will be needed to fill out the necessary equipment list for operation of the treatment system. Included on this list are:

- o Piping to connect the processing units and pumps to each other;
- o Slurry and liquid pumps needed to move the materials through the piping and treatment units;
- o Air compressor to provide for bioreactor air sparging;
- o Leased earthmoving equipment for excavation and reclaiming operations;
- o Office and Lab trailer;
- o Gravel as a base for under the processing units;
- o Plastic liner for the stockpile only (12 mil black polyethylene proposed)
- o Clean sand to protect the liner during stockpile construction;
- o Electrical materials needed to provide electrical service to the treatment units;
- o Small hand tools;
- o Personal protective equipment including coveralls, gloves, etc.

2.3 WORK PROGRAM

Following the development of the conceptual treatment system as previously discussed, a planned program for implementing the installation and operation of this system onsite was prepared and as discussed below as illustrated in Figure 2-1, work breakdown structure.

2.3.1 TASK ONE - TREATMENT SYSTEM DESIGN

Upon authorization to proceed, Ecova will refine the conceptual engineering design as discussed in Section 2.2. The site will be surveyed by an Oregon licensed surveyor to provide an accurate base map. The engineering effort will focus primarily upon the civil design and construction of the materials handling, treatment and disposal subsystems for the soil slurry system.

The excavation plan will be prepared in detail for:

1) Removal of the contaminated soil including special operating considerations for shoring around the warehouse foundations to prevent structural damage;
2) Materials handling including screening, blending, and transport operations;
3) Layout and design of the stockpile area including the runoff water sump, berms, and liner;
4) Removal and construction of the solid phase treatment/disposal area; and
5) Backfilling sequence for borrow material.

Design drawings will be prepared showing the equipment layout, cut and fill locations, and other information needed in the engineering effort.

2.3.2 TASK TWO - SECURING REGULATORY AUTHORIZATION

As the engineering design work progresses, it is assumed that Time Oil will conduct negotiations with ODEQ to secure approval of the treatment program. Ecova anticipates providing support to Time Oil in this effort in the form of professional consulting services, attending meetings with ODEQ, preparing and revising any needed submittal documents, etc. This support will be performed

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as directed by Time Oil on a time and material basis. It is impossible to adequately anticipate the necessary level of effort required in negotiating with ODEQ.

We propose that Ecova services for this activity be provided on a change order basis. As an activity is identified that needs services provided by Ecova, a short change order would be prepared by the Ecova Project Manager and sent by facsimile for review and approval by Time Oil. This change order would provide a short description of the specific service requested, the anticipated costs (not to exceed) to perform this activity, and the expected schedule. Change Orders such as these typically do not exceed one page in length and represent modifications to the contracted work. A copy of the change order would be signed by the Time Oil Project Manager and returned to Ecova which would authorize the work. A separate breakout of costs for this element would be provided on the invoice from Ecova. Using this system, Time Oil has full control of any time and material costs that are outside the contract scope.

Securing regulatory approval is a milestone in the remediation program since mobilization and construction of treatment equipment should not commence until all regulatory constraints have been identified.

2.3.3 TASK THREE - MOBILIZATION AND CONSTRUCTION

With a final engineering design, an approved work plan, and equipment procured, Ecova will mobilize its construction and installation team to the Portland site to build the treatment systems. The mobil office/lab trailer will be set up. The treatment units will be mobilized by truck to the site and assembled. Gravel pads will be laid for placement of the tanks and treatment units. Piping and electrical connections will be made. Modifications to the 38,000 gallon tank needed to convert it to aqueous bioreactor service will be made. Connection to utilities will be made.

Again, activities under this task would be sequenced to coincide with Task Four, Excavation of Contaminated Soil, so that the stockpile of contaminated soil is ready when the treatment system is ready to commence operations.

2.3.4 TASK FOUR - EXCAVATION OF CONTAMINATED SOIL

Task Four will consist of the activities previously described in the Excavation/Screening/Stockpiling Operation in the Conceptual Engineering Design.

2.3.5 TASK FIVE - STARTUP AND SHAKEDOWN

Upon completion of the installation of all processing equipment and construction of the disposal area, startup and shakedown of the treatment system will commence. Since the treatment operations are expected to be operated in batch mode, careful monitoring of several initial batches will be followed to insure that biological activity is progressing as expected and that optimum biodegradation rates are obtained. During the first batch, an acclimated culture is being built up from the Ecova proprietary strain which will provide the optimum PCP biodegradation. After initial culture development, subsequent batches will be inoculated with the initial culture during recharge of the bioreactors.

Startup and shakedown operations are expected to occur over approximately a one month period (two to four batches).

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2.3.6 TASK SIX - TREATMENT OPERATIONS

After establishment of an acclimated culture and verification of complete biodegradation, treatment operations can proceed on a routine basis. As each batch completes the treatment cycle, the slurry reactors will be emptied and recharged with a fresh soil slurry. Treated slurry will be pumped to the disposal landfill area. Sequential batches will be run until the stockpile has been completely treated.

The biotreatment system will operate in largely unattended operation mode during each batch. Ecova will rely upon Time Oil personnel onsite to periodically monitor the rotating and moving equipment in the process for normal operation. In this manner, the system will not have to be continuously manned, with subsequent cost savings to Time Oil. (In the event of equipment failure, an Ecova maintenance team would be mobilized to correct the problem.) The Ecova operations team will mobilize to Portland after completion of the biotreatment process for each batch. The operations team for routine batch reactor operation will consist of two Ecova technicians from the Redmond office.

After arriving at the site, the operations team will check out the operating equipment and commence pumping the treated slurry out of the bioreactors into the landfill disposal (solid phase treatment) area.

2.3.7 TASK SEVEN - DEMOBILIZATION

At the completion of all treatment activities, the treatment system will be decommissioned and the site cleaned of all trash. All decontaminated materials placed in the disposal area will be levelled and dewatered.

As part of this work plan, we propose that all equipment owned by Ecova be allowed to remain on site after completion of the treatment activities (without imposition of a storage charge by Time Oil) until such time as it becomes necessary to mobilize it to another project site. This period would not exceed one year. By allowing storage of our equipment, Ecova is able to pass along the savings in demobilization charges to Time Oil which would otherwise be incurred. Demobilization charges would be incurred by the next project for which the equipment is used.

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E C O V A

October 12, 1988

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

RE: Revised Scope of Work for ECOVA Proposal to Provide Remediation Services Dated September 12, 1988

Dear Fred:

Following up on our telephone conversation yesterday, I have recalculated the estimated costs for performing the work in the subject proposal. The revised costs for 3440 cubic yards are as follows:

Total Project Costs.....$428,900

Additional Treatment and
Excavation Costs per cubic yard.....$90

This cost estimate assumes that a new cleanup criteria of 0.5 ug/g (ppm) will be attained for the contaminated soil, on a dry basis. A cleanup criteria of 0.5 ug/L (ppm) will also be attained for any groundwater treated in the bioreactor. We propose to determine that the cleanup criteria have been reached for each batch based on a GC/FID analytical method.

Also, the incremental costs will apply for soil up to 5000 cubic yards. If additional soil above 5000 cubic yards must be treated, we propose to provide a revised cost estimate. Economies of scale will apply and, in Time Oil's best interests, ECOVA can quote a lower treatment cost per yard for unexpectedly high quantities of contaminated soil that might be encountered.

As we discussed, the current scope of work does not include any work for implementing a system for cleanup of the groundwater. We have assumed that groundwater would be available for slurry makeup only, without including any provision for recovery or reinjection of water. Currently we anticipate letting excess water seep back into the groundwater in the disposal area, recovering any decanted water needed for additional slurry makeup. ECOVA will work cooperatively with whomever is selected to implement the groundwater system.

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In order to achieve this level of cleanup, the batch time for the bioreactors must be increased to approximately 14.5 days. This results in a treatment period of 15 months, using the two ECOVA bioreactors originally included in our proposal. This is a significantly longer batch cycle since the cleanup criteria is two orders of magnitude lower than we originally estimated.

The method you have proposed for determining the volume of soil to be treated (calculating the average of the excavated hole volume and the volume of the stockpiled soil) is perfectly satisfactory. Also, the performance bond requirement that we discussed (bonding up to the contract amount) is acceptable.

We are prepared to commence work on this project immediately upon receiving authorization, and as I mentioned before, we are very excited about working with you. If you need any additional information, I will be happy to provide it.

Sincerely,

Mark W. Anderson

Mark W. Anderson
Project Manager

ECOVA

October 18, 1988

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 Commodore Way
Seattle, Washington 98199

Dear Fred:

SUBJECT: **PROPOSAL TO PROVIDE GROUNDWATER MONITORING SERVICES AT THE TIME OIL NORTHWEST TERMINAL, PORTLAND, OREGON**

Following up our meeting of this date, we are pleased to submit a revised Statement of Work to define the extent of pentachlorophenol (PCP) groundwater contamination at the site.

Background

A total of nine groundwater monitoring wells have been installed at the Northwest Terminal. Six of the wells are driven 1.5 and 2.0 inch diameter wells; three wells are 2.0 inch diameter drilled wells. The majority of the wells are 20 feet deep, have an average screen length of 6 feet and intercept the water table at approximately 15 feet below ground surface. The wells are located in the vicinity of and down gradient from the former PCP mixing operation.

Shallow groundwater beneath the site flows south towards the Willamette River. Site soils consist of find/medium sand containing some silt and clay. Groundwater flow can be expected to be fairly rapid (100-200 feet/year) in such materials. While installing the monitoring wells, an aquitard was found at around 20 feet depth suggesting the presence of multiple aquifers.

On August 20, 1987, and again on October 16, 1987, water levels and samples were obtained from the site wells. These measurements confirmed that groundwater was flowing south under an average gradient of 0.008 ft/ft. Water from well MW-B was analyzed on August 20, 1987, for PCP and contained 2300 ug/L. It is apparent that a PCP plume, originating from the mixing area, is migrating towards the river.

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Scope of Work

Immediate project objectives are to define the extent of the contaminant plume and to halt its movement. ECOVA proposes to execute this project in two phases. Phase I will consist of well installation, groundwater sampling, and pump testing. Phase II will consist of design and installation of a system to recover the contaminated groundwater plume. Phase II will be implemented after the results of Phase I have been assessed.

Phase I - Well Installation and Sampling

The Phase I investigation will characterize subsurface conditions beneath the site and define the vertical extent of site contamination. ECOVA will install a cluster of three monitoring wells between the former PCP mixing area and well MW-B. These wells will be referred to as J-1, J-2, and J-3, and are expected to be screened over discrete 5-foot intervals respectively as follows:

- Above the aquitard (nominally at 20' depth below land surface);
- Just below the aquitard (nominally at 25' depth); and
- At a greater depth below the aquitard (nominally at 40' depth).

A two well cluster will be installed to replace the single shallow well MW-B. These two wells will consist of a shallow (nominally at 20' depth) 4-inch diameter well to replace MW-B and a new deep (nominally at 40' depth) 4-inch diameter well. In addition, ECOVA will install a shallow (nominally at 20' depth) 2 inch diameter well to replace MW-G. Final depths and completion details of all wells will depend on subsurface conditions encountered at the site. However, to ensure that representative water samples are obtained from each well, the following construction techniques will be used:

- At the first two well locations, a soil boring will be advanced using a mud rotary or hollow stem auger drilling method. Soil samples will be obtained using a split spoon sampler. The strata will be logged and examined for visual contamination by the onsite ECOVA Geologist. The depth to the upper aquitard (approximately 20 feet below grade) will be confirmed.

- For the deeper wells, 10-inch surface casings will be installed to the top of the aquitard and grouted in place in 14-inch holes drilled using the mud rotary drilling method. After allowing the grout to set up, the borings will be advanced to final depth using an air rotary rig equipped with a casing advance system. The 4-inch wells will be installed to final depth as the temporary drive casing is withdrawn. This construction sequence will ensure that no contaminants from the shallow zone are carried down into the deeper layers.

- The shallow borings will be drilled by hollow stem auger. At the required completion depth (approximately 20 feet), PVC flush joint, threaded casing and screen will be installed through the auger stem. The screen will be machine-slotted and the annular space filled with a graded filter sand; the remaining annular space above the screen will be sealed with bentonite and grouted to surface. Shallow wells at the first two locations will be 4-inch diameter, and the third location will be 2-inch diameter.

- All wells will be developed using a surge block technique. Well casing elevations will be surveyed relative to MSL and water levels obtained. Three to five casing volumes of water will be evacuated from the well bore prior to sampling. The samples will be shipped to ECOVA's Analytical Laboratory in Redmond and analyzed for PCP.

- An aquifer testing program will be designed and implemented based on observations made during drilling, results of laboratory analyses of groundwater samples, and anticipated aquifer yields estimated during well development. The pump test(s) will provide sufficient information on aquifer characteristics to serve as a basis for design of the groundwater remediation system. At a minimum, one eight hour pump test will be conducted to define aquifer parameters beneath the site.

As we have previously discussed, additional deeper wells may be required if contamination is found in the deeper wells in the newly installed well clusters. A field decision should be made whether to install the wells while the drilling rig is on site.

Phase II - Plume Recovery

Following analysis of the analytical lab tests (3-week turnaround) and results of the test pumping, a recovery system may be installed. If contamination is confined to the upper zone, the system will consist of a recovery trench (French drain) laid across the plume path. Water from the drain would feed into a sump and be pumped directly (via existing piping) to Tank No. 5313 or other available tank.

If the contamination is found to extend a significant depth below the water table a drain may not be appropriate for contaminant recovery. In this situation, a simple recovery well system will be used for plume capture. The new monitoring wells have been designed to accommodate submersible pumps to function as part of the recovery well system.

Estimated Costs - Phase I

Total estimated costs for the Phase I program are detailed below. These costs assume installation and development of one well per day.

o Drilling Supervision and Sampling	$ 3,120
o Pump Testing and Analysis	$ 520
o Field Expenses and Equipment	$ 900
o Analytical (6 samples plus QA/QC sample)	$ 600
o Summary Report	$ 600
Subcontractor Costs:	
o Drilling, well installation, and well development (five 4-inch wells and one 2-inch well; three double cased)	$ 6,500
o Well materials	$ 3,900
TOTAL (Rounded)	$16,100

We have located a drilling firm able to perform the work required. Drilling equipment will be available in early November. Rapid approval of this work plan will allow us to confirm arrangements with the driller. If you have any questions concerning this work plan, please feel free to contact Eric Paukstaitis, ECOVA Senior Hydrogeologist at (206) 883-1900.

Sincerely,

Mark W. Anderson,
Project Manager

John V. Kinsella,
Vice President, Operations

cc: File

MWA/PROP-TOC.01

TOLS009203

BZTO104(e)046025

HAGEDORN, INC.

Registered Land Surveyors • Oregon Washington California

1924 Broadway, Suite B • Vancouver, WA 98663 • (206) 696-4428 • (503) 283-6778

November 3, 1989

Ecova Corporation
ATTN: Jim Borthen
3820 159th Avenue N.E.
Redmond, WA 98052

Dear Jim:

Attached are our computer computations of volumes for Time Oil, Portland terminal excavation pit and stockpile area. These volumes were produced on our computer from field data furnished by Ecova Corporation.

We look forward to working with you again on future projects.

Sincerely,

William F. Hagedorn, P.L.S.
President

WFH/ch

TOLS009204

BZTO104(e)046026

HAGEDORN, INC
1924 BROADWAY, STE. B
VANCOUVER, WA 98663
Fri Oct 27 12:10:11 1989

ECOVA VOLUMES

DTM TO DTM VOLUME

Cut and Fill Volumes

Original DTM Layer Name	# of Points	Final DTM Layer Name	# of Points
POINTS	229	FINAL	266

Cut Volume (yd3)	Cumulative Cut Volume	Fill Volume (yd3)	Cumulative Fill Volume
2909.19	2909.19	2697.58	2697.58

TOLS009205

ECOVA TO PICK UP

CHASE,JONES & ASSOCIATES
1500 S.W. 12th AVENUE
CHARLES TIMS
VOLUME MEASUREMENTS

1-205

E1

ate: 03-17-89
ime: 14:30:33
age: 1

oordinate File: 7432.CRD
ist of Coordinate Points
Denotes Contouring Mass point

oint ID	NORTH	EAST	ELEV	Descriptor
	-77.000	0.000	96.320	
	-277.000	0.000	0.000	
	-256.891	0.000	96.423	
	-0.597	-0.282	96.587	CENTERLINE A
	2.794	32.546	96.139	GROUND
	-5.725	76.451	95.854	GROUND
	-21.059	77.923	95.664	GROUND
	-22.636	45.089	96.310	GROUND
	-20.399	-0.546	96.628	CENTERLINE A
0	-40.305	-0.400	96.565	CENTERLINE A
1	-41.024	21.125	95.887	GROUND
2	-41.045	44.706	96.082	GROUND
3	-41.188	66.294	95.981	TOP CUT
4	-41.157	80.611	94.637	TOE CUT
5	-38.863	80.687	95.432	TOP CUT
6	-48.996	82.219	93.872	GROUND
7	-49.327	67.679	94.109	TOE CUT
8	-48.861	61.667	96.095	TOP CUT
9	-49.366	40.805	95.927	GROUND
0	-48.839	16.117	95.928	GROUND
1	-48.087	-0.391	96.518	CENTERLINE A
2	-56.220	-0.466	96.469	CENTERLINE A
3	-56.529	15.236	96.038	GROUND
4	-56.661	41.436	95.882	GROUND
5	-56.928	59.986	95.372	TOP CUT
6	-57.054	65.346	93.670	TOE CUT
7	-56.741	68.356	93.472	GROUND
8	-58.814	87.800	94.709	TOE MOUND
9	-57.694	97.271	95.005	TOE MOUND
0	-54.697	104.384	94.657	GR. ALONG BLDG
1	-51.993	120.358	95.559	GR. ALONG BLDG
2	-55.085	120.890	94.764	TOE
3	-53.045	134.371	94.819	TOE
4	-50.854	133.257	95.934	GR. ALONG BLDG
5	-48.228	148.321	95.604	GR. ALONG BLDG
6	-51.917	149.429	94.536	TOE
7	-53.058	156.145	94.959	TOE
8	-47.910	159.304	95.296	GR. ALONG BLDG
9	-67.639	163.445	96.139	GROUND
0	-67.084	148.900	94.447	GROUND
1	-67.306	120.731	94.781	GROUND
2	-67.545	108.890	94.996	TOE MOUND
3	-67.940	101.160	99.432	TOP MOUND
4	-67.552	93.099	98.884	TOP MOUND
5	-67.006	81.454	93.651	TOE MOUND

TOLS009206

BZTO104(e)046028

Point ID	NORTH	EAST	ELEV	Descriptor
5	-68.584	52.749	93.931	TOE CUT
6	-67.567	48.239	95.444	TOP CUT
7	-67.779	28.989	95.928	GROUND
8	-67.705	11.045	96.061	GROUND
9	-67.162	-0.359	96.404	CENTERLINE A
10	-77.639	17.365	96.075	GROUND
11	-77.158	47.991	95.495	TOP CUT
12	-76.803	60.740	93.521	TOE CUT
13	-76.680	81.277	93.980	TOE MOUND
14	-77.064	92.692	100.000	TOP MOUND
15	-76.852	101.018	98.908	TOP MOUND
16	-76.967	112.828	95.301	TOE MOUND
17	-76.844	142.460	94.500	GROUND
18	-77.840	164.887	95.138	GROUND
19	-87.288	165.256	95.708	GROUND
20	-86.533	138.230	95.273	GROUND
21	-87.411	123.128	95.422	TOE MOUND
22	-87.689	113.590	99.991	TOP MOUND
23	-87.620	93.239	100.045	TOP MOUND
24	-87.970	82.363	93.352	TOE MOUND
25	-87.323	56.657	93.517	TOE CUT
26	-87.367	43.398	95.565	TOP CUT
27	-88.445	22.432	95.948	GROUND
28	-87.034	-0.370	96.327	CENTERLINE A
29	-97.137	-0.483	96.360	CENTERLINE A
30	-96.936	20.215	96.063	GROUND
31	-97.582	34.596	95.692	TOE MOUND
32	-95.128	43.764	95.552	TOE MOUND
33	-102.555	49.023	95.407	TOE MOUND
34	-106.944	45.214	95.601	TOE MOUND
35	-119.557	47.637	95.800	TOE MOUND
36	-120.760	28.778	95.637	TOE MOUND
37	-111.849	25.376	95.924	TOE MOUND
38	-112.722	28.592	98.808	TOP MOUND
39	-100.223	37.204	98.711	TOP MOUND
40	-98.576	42.169	98.118	TOP MOUND
41	-102.101	45.809	98.213	TOP MOUND
42	-104.804	42.596	98.537	TOP MOUND
43	-117.714	45.037	98.385	TOP MOUND
44	-117.655	30.563	98.201	TOP MOUND
45	-97.121	48.151	95.219	TOP CUT
46	-96.793	58.825	93.239	TOE CUT
47	-96.133	85.079	93.585	TOE MOUND
48	-96.487	97.884	99.977	TOP MOUND
49	-96.440	113.084	99.742	TOP MOUND
50	-96.974	126.694	95.119	TOE MOUND
51	-96.764	147.225	95.762	GROUND
52	-96.441	167.790	97.011	GROUND
53	-105.679	164.408	97.728	GROUND
54	-105.689	154.585	96.851	GROUND
55	-106.147	139.613	95.958	TOP CUT
56	-105.215	139.326	95.112	TOE CUT
57	-106.959	118.335	95.392	TOE MOUND
58	-106.314	109.078	96.784	TOP MOUND
59	-106.373	97.990	98.441	TOP MOUND

TOLS009207

BZTO104(e)046029

Point ID	NORTH	EAST	ELEV	Descriptor
101	-106.172	86.963	93.737	TOE MOUND
102	-107.189	65.906	93.486	TOE CUT
103	-107.537	50.967	95.354	TOP CUT
104	-108.286	23.717	95.854	GROUND
105	-106.817	-0.296	96.350	CENTERLINE A
106	-112.996	-0.410	96.332	CENTERLINE A
107	-113.390	19.886	95.911	GROUND
108	-116.288	56.780	95.241	TOP CUT
109	-151.568	-39.077	99.994	CHECK ON BM EL 100
110	-113.237	72.587	94.924	TOP CUT
111	-114.846	90.179	94.115	TOP CUT
112	-113.729	91.536	94.599	TOE MOUND
113	-112.492	99.463	95.723	TOP MOUND
114	-112.575	101.758	95.402	TOP MOUND
115	-112.672	106.400	94.715	TOE MOUND
116	-113.266	111.075	95.790	GROUND
117	-114.173	127.765	96.126	GR. ALONG BLDG
118	-116.552	117.009	96.063	GR. ALONG BLDG
119	-116.794	103.143	95.902	GROUND
120	-116.579	100.314	94.974	TOE MOUND
121	-116.369	93.336	94.337	TOE MOUND
122	-116.859	83.106	94.588	GROUND
123	-117.058	66.683	94.866	GROUND
124	-117.991	19.390	95.888	GROUND
125	-116.983	-0.453	96.401	CENTERLINE A
126	-126.948	-0.372	96.490	CENTERLINE A
127	-128.311	19.540	95.993	GROUND
128	-126.257	49.627	95.785	GROUND
129	-126.553	68.626	95.505	GROUND
130	-126.944	83.149	95.384	GROUND
131	-120.538	96.292	95.440	GR. ALONG PIPES
132	-113.914	130.980	96.178	GR. ALONG PIPES
133	-110.730	147.589	96.091	GR. ALONG PIPES
134	-106.788	161.716	97.486	GR. ALONG PIPES
135	-133.177	84.715	95.294	OUTSIDE TOE BERM
136	-126.603	72.407	95.351	OUTSIDE TOE BERM
137	-129.162	54.052	95.650	OUTSIDE TOE BERM
138	-132.583	36.342	95.900	OUTSIDE TOE BERM
139	-135.927	18.419	95.931	OUTSIDE TOE BERM
140	-137.500	1.671	96.143	OUTSIDE TOE BERM
141	-143.561	5.355	96.091	INSIDE TOE BERM
142	-140.264	29.645	95.904	INSIDE TOE BERM
143	-136.838	52.910	95.596	INSIDE TOE BERM
144	-133.468	79.622	95.306	INSIDE TOE BERM
145	-140.220	87.259	95.179	INSIDE TOE BERM
146	-139.437	89.575	96.383	INSIDE TOE BERM
147	-135.671	81.142	96.643	INSIDE TOE BERM
148	-133.514	52.571	97.055	INSIDE TOE BERM
149	-137.417	29.048	97.108	INSIDE TOE BERM
150	-140.855	4.826	97.333	INSIDE TOE BERM
151	-156.855	-0.282	96.704	CENTERLINE A
152	-156.658	2.774	97.364	INSIDE TOE BERM
153	-157.037	5.086	96.269	INSIDE TOE BERM
154	-157.345	32.104	95.928	GROUND
155	-157.137	57.154	95.630	GROUND

TOLS009208

BZTO104(e)046030

Point ID	NORTH	EAST	ELEV	Descriptor
156	-156.613	82.997	95.435	GROUND
157	-155.623	89.963	95.490	INSIDE TOE BERM
158	-155.618	91.752	96.478	INSIDE TOE BERM
159	-175.482	94.207	96.720	INSIDE TOE BERM
160	-175.495	91.705	95.548	INSIDE TOE BERM
161	-175.985	85.022	95.647	GROUND
162	-176.525	58.286	95.672	GROUND
163	-177.913	31.263	95.749	GROUND
164	-177.464	6.095	96.249	INSIDE TOE BERM
165	-177.256	3.615	97.524	INSIDE TOE BERM
166	-176.884	-0.237	96.494	CENTERLINE A
167	-196.886	0.102	96.545	CENTERLINE A
168	-197.075	3.857	97.536	INSIDE TOE BERM
169	-197.279	5.826	96.247	INSIDE TOE BERM
170	-197.926	31.439	95.750	GROUND
171	-194.939	61.685	95.729	GROUND
172	-195.958	86.880	95.774	GROUND
173	-195.251	94.811	95.746	INSIDE TOE BERM
174	-195.169	97.339	96.662	INSIDE TOE BERM
175	-215.345	100.194	96.880	INSIDE TOE BERM
176	-215.215	97.920	95.889	INSIDE TOE BERM
177	-216.578	88.136	95.895	GROUND
178	-220.050	62.322	95.779	GROUND
179	-219.262	34.247	95.807	GROUND
180	-218.274	5.992	96.316	INSIDE TOE BERM
181	-218.171	4.300	97.297	INSIDE TOE BERM
182	-216.866	0.210	96.567	CENTERLINE A
183	-236.901	0.046	96.446	CENTERLINE A
184	-237.093	4.556	97.424	INSIDE TOE BERM
185	-236.775	6.105	96.408	INSIDE TOE BERM
186	-236.354	30.441	96.027	GROUND
187	-236.548	68.435	95.906	GROUND
188	-236.449	87.702	95.945	INSIDE TOE BERM
189	-237.574	90.358	97.362	INSIDE TOE BERM
190	-249.583	91.119	97.523	INSIDE TOE BERM
191	-249.358	88.203	96.018	INSIDE TOE BERM
192	-252.604	68.563	96.192	INSIDE TOE BERM
193	-255.158	66.102	97.708	INSIDE TOE BERM
194	-255.109	38.078	96.240	INSIDE TOE BERM
195	-258.131	38.140	97.877	INSIDE TOE BERM
196	-260.454	8.898	96.045	INSIDE TOE BERM
197	-257.553	9.079	96.527	INSIDE TOE BERM
198	-256.992	0.000	96.464	CENTERLINE A
199	92.646	18.519	97.469	WELL J-1
200	104.501	10.128	97.455	WELL J-2
201	112.901	18.684	97.401	WELL J-3
20	-46.088	161.314	95.364	BUILDING CORNER
203	-56.569	65.725	93.665	BUILDING CORNER
204	6.971	76.744	100.424	BLDG COR EL NO GOOD
205	-151.554	-39.100	100.005	CHECK ON BM EL 100
206	-156.804	-0.377	96.694	CENTERLINE A
207	-176.823	-0.142	96.553	CENTERLINE A
208	-196.806	0.162	96.541	CENTERLINE A
209	-216.806	0.100	96.643	CENTERLINE A
210	-236.651	0.056	96.428	CENTERLINE A

TOLS009209

BZTO104(e)046031

Point ID	NORTH	EAST	ELEV	Descriptor
211	-143.253	4.577	96.268	INSIDE TOE BERM
212	-141.074	19.310	96.310	INSIDE TOE BERM
213	-140.051	23.657	98.302	INSIDE TOE BERM
214	-139.588	32.291	98.115	INSIDE TOE BERM
215	-138.163	40.412	98.374	INSIDE TOE BERM
216	-137.796	45.572	95.918	INSIDE TOE BERM
217	-134.484	72.188	95.515	INSIDE TOE BERM
218	-138.289	79.772	95.385	INSIDE TOE BERM
219	-135.846	83.102	95.437	INSIDE TOE BERM
220	-136.331	87.231	95.576	INSIDE TOE BERM
221	-152.851	89.498	95.487	INSIDE TOE BERM
222	-174.888	91.750	95.911	INSIDE TOE BERM
223	-142.868	19.570	96.183	TOE OF SPOIL
224	-145.092	13.008	95.196	TOE OF SPOIL
225	-145.726	4.781	96.280	TOE OF SPOIL
226	-156.161	4.404	96.731	TOE OF SPOIL
227	-167.593	4.817	96.969	TOE OF SPOIL
228	-177.286	5.005	97.114	TOE OF SPOIL
229	-187.705	5.113	97.126	TOE OF SPOIL
230	-196.959	5.443	96.726	TOE OF SPOIL
231	-208.455	6.155	96.375	TOE OF SPOIL
232	-218.448	6.112	96.382	TOE OF SPOIL
233	-227.970	6.315	96.273	INSIDE TOE BERM
234	-238.348	6.554	96.360	INSIDE TOE BERM
235	-249.181	7.450	96.341	INSIDE TOE BERM
236	-257.294	8.393	96.674	INSIDE TOE BERM
237	-256.714	21.221	96.368	INSIDE TOE BERM
238	-252.933	21.424	96.252	TOE OF SPOIL
239	-252.307	16.725	96.308	TOE OF SPOIL
240	-249.781	12.640	96.301	TOE OF SPOIL
241	-243.480	10.210	96.291	TOE OF SPOIL
242	-236.319	9.155	96.272	TOE OF SPOIL
243	-226.652	7.326	96.316	TOE OF SPOIL
244	-247.849	21.384	99.167	SPOIL
245	-247.375	15.472	98.550	SPOIL
246	-241.973	11.940	97.582	SPOIL
247	-235.868	11.854	97.825	SPOIL
248	-225.052	10.088	98.396	SPOIL
249	-218.424	9.874	98.129	SPOIL
250	-208.674	7.961	97.773	SPOIL
251	-197.038	8.194	97.904	SPOIL
252	-187.878	6.965	97.790	SPOIL
253	-177.082	5.860	97.758	SPOIL
254	-167.838	6.428	97.582	SPOIL
255	-156.910	5.528	97.478	SPOIL
256	-149.364	6.251	97.006	SPOIL
257	-148.297	9.942	98.542	SPOIL
258	-148.575	18.529	98.246	SPOIL
259	-145.150	23.350	98.317	SPOIL
260	-140.069	28.660	98.309	SPOIL
261	-138.101	44.520	95.987	TOE OF SPOIL
262	-143.019	46.762	95.795	TOE OF SPOIL
263	-136.022	50.583	95.648	TOE OF SPOIL
264	-138.161	61.460	95.485	TOE OF SPOIL
265	-140.031	69.219	95.471	TOE OF SPOIL

TOLS009210

BZTO104(e)046032

Point ID	NORTH	EAST	ELEV	Descriptor
266	-144.455	75.758	95.468	TOE OF SPOIL
267	-151.995	82.317	95.507	TOE OF SPOIL
268	-163.658	85.984	95.538	TOE OF SPOIL
269	-168.109	83.339	95.744	TOE OF SPOIL
270	-173.643	83.205	95.656	TOE OF SPOIL
271	-168.228	78.058	96.595	TOE MOUND
272	-162.597	75.839	98.064	TOE MOUND
273	-157.834	74.370	98.301	TOE MOUND
274	-152.741	74.073	97.169	TOE MOUND
275	-147.954	75.348	96.286	TOE MOUND
276	-146.042	72.290	96.522	TOE MOUND
277	-144.996	66.604	96.618	TOE MOUND
278	-142.912	60.177	96.580	TOE MOUND
279	-143.246	52.852	96.705	TOE MOUND
280	-146.121	48.589	96.522	TOE MOUND
281	-151.868	46.931	97.616	TOE MOUND
282	-155.746	48.379	97.734	TOE MOUND
283	-160.747	52.936	97.680	TOE MOUND
284	-165.954	58.609	97.756	TOE MOUND
285	-171.777	63.951	99.595	TOE MOUND
286	-165.241	66.978	102.960	TOP MOUND
287	-163.476	68.763	102.938	TOP MOUND
288	-159.725	66.736	103.468	TOP MOUND
289	-160.405	65.057	103.700	TOP MOUND
290	-157.904	63.725	104.358	TOP MOUND
291	-156.392	64.556	103.730	TOP MOUND
292	-154.117	62.778	103.858	TOP MOUND
293	-154.605	60.319	103.681	TOP MOUND
294	-152.984	59.785	103.556	TOP MOUND
295	-152.783	55.396	102.669	TOP MOUND
296	-151.434	56.394	102.844	TOP MOUND
297	-152.920	64.915	102.578	ON MOUND
298	-148.856	69.237	98.556	ON MOUND
299	-156.533	77.062	100.202	TOP OF SMALL MOUND
300	-162.948	78.858	99.429	TOP OF SMALL MOUND
301	-138.056	40.425	98.413	SPOIL
302	-147.357	42.967	98.537	SPOIL
303	-150.921	98.085	98.231	SPOIL
304	-157.377	30.067	98.236	SPOIL
305	-159.007	15.022	98.740	SPOIL
306	-165.823	19.439	98.852	SPOIL
307	-168.603	14.401	98.584	SPOIL
308	-235.066	18.718	98.256	TOE OF CONE
309	-229.805	15.968	98.259	TOE OF CONE
310	-224.503	26.886	106.728	ON CONE
311	-229.353	30.286	106.951	ON CONE
312	-216.265	41.715	118.411	TOP OF CONE
313	-211.088	40.621	117.424	TOP OF CONE
314	-213.726	49.703	117.453	TOP OF CONE
315	-205.040	53.859	117.765	TOP OF CONE
316	-206.865	56.202	117.803	TOP OF CONE
317	-200.430	62.079	117.540	TOP OF CONE
318	-198.034	60.213	117.529	TOP OF CONE
319	-198.961	66.213	115.988	ON CONE
320	-207.536	60.054	116.742	ON CONE

TOLS009211

Point ID	NORTH	EAST	ELEV	Descriptor
321	-213.223	54.615	116.053	ON CONE
322	-217.498	50.940	115.794	ON CONE
323	-218.924	57.747	118.558	TOP OF CONE
324	-218.228	63.028	118.460	TOP OF CONE
325	-214.896	63.579	118.286	TOP OF CONE
326	-212.612	61.227	118.398	TOP OF CONE
327	-212.221	65.885	117.385	TOP OF CONE
328	-209.155	62.661	117.911	TOP OF CONE
329	-204.464	65.038	117.409	TOP OF CONE
330	-203.426	67.012	117.217	TOP OF CONE
331	-200.102	66.936	116.627	TOP OF CONE
332	-201.519	68.603	116.332	TOP OF CONE
333	-207.680	43.150	118.651	TOP OF CONE
334	-206.647	40.837	119.153	TOP OF CONE
335	-208.333	39.899	118.558	TOP OF CONE
336	-194.153	72.690	111.768	ON CONE
337	-189.717	68.025	111.242	ON CONE
338	-187.899	63.865	111.165	ON CONE
339	-189.929	54.587	112.155	ON CONE
340	-191.903	52.584	113.932	ON CONE
341	-194.264	49.704	112.195	ON CONE
342	-198.737	43.563	112.300	ON CONE
343	-198.179	37.898	111.844	ON CONE
344	-200.708	33.551	111.487	ON CONE
345	-204.508	31.165	112.173	ON CONE
346	-211.012	31.557	112.543	ON CONE
347	-197.126	25.617	106.148	ON CONE
348	-204.385	24.153	107.131	ON CONE
349	-194.556	22.780	103.810	ON CONE
350	-201.507	19.264	102.961	ON CONE
351	-225.280	12.856	97.856	TOE OF CONE
352	-217.207	11.187	98.334	TOE OF CONE
353	-201.499	11.620	97.857	TOE OF CONE
354	-188.391	14.843	97.847	TOE OF CONE
355	-183.473	19.228	97.827	TOE OF CONE
356	-173.079	37.279	97.975	TOE OF CONE
357	-170.454	45.656	97.916	TOE OF CONE
358	-168.895	56.494	97.583	TOE OF CONE
359	-169.874	61.293	98.157	TOE OF CONE
360	-171.362	64.963	100.087	TOE OF CONE
361	-171.496	72.345	98.158	TOE OF CONE
362	-217.112	22.664	105.311	ON CONE
363	-222.400	23.857	105.367	ON CONE
364	-151.591	-89.088	100.011	CHECK ON BM EL 100
365	-256.987	9.820	96.443	INSIDE TOE BERM
366	-256.589	24.204	96.299	INSIDE TOE BERM
367	-253.542	48.032	96.295	INSIDE TOE BERM
368	-252.307	69.880	96.275	INSIDE TOE BERM
369	-249.262	88.159	95.991	INSIDE TOE BERM
370	-242.328	87.637	95.977	TOE OF CONE
371	-247.049	81.718	95.906	TOE OF CONE
372	-250.169	74.622	96.120	TOE OF CONE
373	-251.416	65.360	96.275	TOE OF CONE
374	-251.403	56.168	96.281	TOE OF CONE
375	-251.089	46.565	96.103	TOE OF CONE

[redacted]

TOLS009212

BZTO104(e)046034

Point ID	NORTH	EAST	ELEV	Descriptor
376	-247.292	38.631	96.120	TOE OF CONE
377	-247.298	35.949	96.122	TOE OF CONE
378	-244.665	32.752	98.118	TOE OF CONE
379	-242.276	24.827	98.451	TOE OF CONE
380	-229.827	35.162	108.370	ON CONE
381	-230.976	41.221	108.294	ON CONE
382	-231.710	48.564	108.167	ON CONE
383	-233.239	54.805	108.998	ON CONE
384	-232.978	60.508	109.116	ON CONE
385	-231.275	68.776	109.366	ON CONE
386	-229.161	71.266	109.828	ON CONE
387	-226.387	73.000	109.847	ON CONE
388	-220.900	74.648	110.395	ON CONE
389	-151.589	-39.539	99.380	CHECK ON BM EL 100
390	-178.666	87.433	95.901	TOE OF CONE
391	-183.794	92.287	96.037	TOE OF CONE
392	-191.457	95.246	96.076	TOE OF CONE
393	-199.895	96.965	96.233	TOE OF CONE
394	-209.781	96.891	96.250	TOE OF CONE
395	-219.288	96.928	95.972	TOE OF CONE
396	-230.336	94.112	95.904	TOE OF CONE
397	-242.741	87.543	95.997	TOE OF CONE
398	-216.920	79.432	108.002	ON CONE
399	-212.453	79.875	108.034	ON CONE
400	-205.402	80.320	108.498	ON CONE
401	-198.537	79.672	108.718	ON CONE
402	-191.370	77.694	107.604	ON CONE
403	-186.412	72.641	107.107	ON CONE
404	-218.074	98.342	95.987	INSIDE TOE BERM
405	-231.407	99.586	95.933	INSIDE TOE BERM
406	-151.789	-39.322	100.016	CHECK ON BM EL 100
1000	-189.463	128.923	96.360	GINNY SET

TOLS009213

BZTO104(e)046035

TCR (OCT 16 '89) ; 2068672210

DATE	START TIME	REMOTE TERMINAL IDENTIFICATION	TX/RX MODE	TIME	TOTAL PAGES	RESULT
OCT 13	11:45	744 4357	G3R	00'47"	002	OK
	11:57	2022967358	G3R	04'21"	005	OK
	12:03	BECHTEL ENV. INC.	G3R	00'28"	001	OK
	12:05	315 437 0509	G3R	00'42"	002	OK
	12:31	12067780521	G3R	02'13"	004	OK
	13:14	12136222514	G3R	00'54"	002	OK
	13:42	206 448 7994	G3R	00'28"	001	OK
	13:46	4	G3R	02'00"	001	E
	14:00	2149021000	G3R	02'21"	005	OK
	14:09	G S R I	G3R	02'30"	004	OK
	14:17	206 443 6631	G3T	02'56"	004	OK
	14:22		G3T	13'09"	015	OK
	14:42	206 6468292	G3T	04'57"	006	OK
	14:49	29642	G3T	00'41"	002	OK
	16:11	C&H (206)646-3041	G3T	02'50"	006	OK
	16:22	LEASING ASSOCIATES	G3T	02'04"	005	OK
	16:25	G S R I	G3T	01'24"	002	OK
	16:28		G3T	01'24"	002	OK
	16:32	206 435 9436	G3T	01'48"	003	OK
	17:21		G3R	00'39"	001	OK
	19:04	G S R I	G3T	02'12"	005	OK
OCT 16	07:39	408 954 8568	G3R	02'33"	002	OK
	09:12	703 683 0378	G3R	01'25"	003	OK
	10:07	2065838575	G3T	00'59"	002	OK
	10:18		G3T	00'44"	001	OK
	10:35		G3T	01'29"	003	OK
	10:41		G3T	00'44"	001	OK
	10:49	1 815 493 2187	G3R	00'36"	001	OK
	11:12		G3T	01'25"	003	OK
	11:27	504 286 4419	G3T	02'13"	004	OK
	11:44	12136222514	G3R	00'47"	002	OK
	12:03	18815737	G3T	04'50"	010	OK
	12:12		G3R	06'36"	009	OK
	12:20	9402176	G3R	01'18"	002	OK
	12:24	9402176	G3R	00'38"	001	OK
				T:23695	R:26660	

TOLS009214

BZTO104(e)046036

E2 261

Drawing: ' ECOVA2' Tue Sep 26 07:03:53 1989

LISTING OF CURRENTLY SET SIDESHOT, TRAVERSE, AND COORDINATE POINTS

Point		Coordinates	Elevation	Desc / Type
3	N	98.8296	96.56	TP
	E	86.9970		CPNT
4	N	27.4149	95.57	TP
	E	336.2379		CPNT
200	N	120.7175	100.00	GND
	E	220.1602		SS
201	N	-19.9426	96.21	GND
	E	150.8327		SS
202	N	-13.1019	95.95	GND
	E	140.1015		SS
203	N	-1.7098	96.69	GND
	E	131.5284		SS
204	N	12.8329	96.45	GND
	E	127.9964		SS
205	N	34.7928	96.13	GND
	E	125.3236		SS
206	N	47.1504	97.82	GND
	E	136.3219		SS
207	N	41.8848	96.39	GND
	E	132.2403		SS
208	N	44.3196	96.83	GND
	E	138.7870		SS
209	N	47.0509	96.92	GND
	E	138.1286		SS
210	N	46.6881	97.49	GND
	E	130.8020		SS
211	N	54.8191	96.47	GND
	E	129.7967		SS
212	N	51.4098	98.41	GND
	E	132.5430		SS
213	N	58.4783	97.55	GND
	E	131.0769		SS
214	N	63.3749	96.47	GND
	E	136.8933		SS
215	N	67.9249	96.46	GND
	E	151.4064		SS

TOLS009215

BZTO104(e)046037

216	N	70.8129	96.77	GND
	E	175.5298		SS
217	N	74.0388	96.67	GND
	E	203.0282		SS
218	N	76.7638	96.45	GND
	E	225.6320		SS
219	N	70.1370	96.19	GND
	E	234.6959		SS
220	N	69.8510	98.04	GND
	E	227.2138		SS
221	N	59.9643	104.42	GND
	E	219.4841		SS
222	N	51.7322	107.82	GND
	E	204.4566		SS
223	N	50.3017	109.16	GND
	E	180.8875		SS
224	N	47.8445	108.75	GND
	E	152.4661		SS
225	N	41.4467	107.70	GND
	E	149.8534		SS
226	N	33.5639	108.84	GND
	E	144.4033		SS
227	N	22.0987	109.58	GND
	E	145.7643		SS
228	N	13.7008	108.36	GND
	E	146.5821		SS
229	N	-0.6404	108.21	GND
	E	156.1041		SS
230	N	8.2627	108.98	GND
	E	146.3270		SS
231	N	-1.0479	108.92	GND
	E	165.3603		SS
232	N	1.1449	110.28	GND
	E	170.5449		SS
233	N	2.3786	110.61	GND
	E	184.2774		SS
234	N	6.2569	109.79	GND
	E	192.2088		SS
235	N	7.6153	108.43	GND
	E	199.8419		SS
236	N	30.2778	108.91	GND
	E	160.2552		SS
237	N	36.6768	109.32	GND
	E	172.9745		SS

TOLS009216

238	N	31.9383	109.01	GND
	E	181.2413		SS
239	N	19.3681	109.34	GND
	E	174.6505		SS
240	N	13.6691	110.45	GND
	E	173.5588		SS
241	N	9.4035	109.51	GND
	E	167.4798		SS
242	N	18.7756	108.50	GND
	E	166.5504		SS
243	N	19.3246	109.33	GND
	E	183.4282		SS
244	N	31.7910	109.39	GND
	E	189.0353		SS
245	N	39.4312	108.87	GND
	E	186.9614		SS
246	N	43.9351	110.24	GND
	E	186.7845		SS
247	N	45.5875	108.88	GND
	E	202.4631		SS
248	N	36.2603	106.96	GND
	E	201.5762		SS
249	N	27.2490	107.50	GND
	E	207.6631		SS
250	N	26.1694	108.97	GND
	E	197.0793		SS
251	N	18.9239	108.13	GND
	E	197.1833		SS
252	N	17.4923	109.19	GND
	E	188.8694		SS
253	N	26.5176	109.03	GND
	E	182.5366		SS
254	N	51.6152	103.89	GND
	E	144.7806		SS
255	N	60.5188	97.44	GND
	E	139.6430		SS
256	N	60.3464	96.99	GND
	E	236.1678		SS
257	N	52.8541	98.85	GND
	E	229.5727		SS
258	N	48.0320	101.57	GND
	E	227.1251		SS
259	N	52.4848	101.95	GND
	E	219.6457		SS

260	N	45.6536	108.14	GND
	E	206.1427		SS
261	N	40.5635	105.67	GND
	E	207.4068		SS
262	N	32.9712	106.72	GND
	E	205.5411		SS
263	N	30.4341	105.10	GND
	E	211.5034		SS
264	N	34.8059	106.15	GND
	E	213.5715		SS
265	N	37.8578	102.65	GND
	E	223.5222		SS
266	N	42.5379	97.36	GND
	E	240.2416		SS
267	N	37.1458	95.57	GND
	E	241.7938		SS
268	N	33.0763	97.54	GND
	E	229.8872		SS
269	N	28.5812	99.43	GND
	E	224.2222		SS
270	N	23.7786	98.91	GND
	E	221.3069		SS
271	N	13.7692	102.72	GND
	E	217.4117		SS
272	N	5.5473	97.83	GND
	E	221.5986		SS
273	N	9.6152	96.44	GND
	E	230.8504		SS
274	N	14.8322	95.75	GND
	E	238.0628		SS
275	N	27.0713	95.79	GND
	E	238.5785		SS
276	N	24.9198	102.66	GND
	E	227.8971		SS
277	N	16.9490	103.84	GND
	E	223.2330		SS
278	N	0.9218	97.19	GND
	E	217.8359		SS
279	N	-4.2565	95.37	GND
	E	222.4980		SS
280	N	0.6380	95.19	GND
	E	235.2643		SS
281	N	4.1655	99.35	GND
	E	225.1639		SS

282	N	2.0077	98.80	GND
	E	220.3928		SS
283	N	-6.4403	95.54	GND
	E	212.4688		SS
284	N	-16.1271	96.61	GND
	E	203.0394		SS
285	N	-21.4737	96.67	GND
	E	180.4431		SS
286	N	-22.1392	95.85	GND
	E	165.4224		SS
287	N	-20.7128	95.89	GND
	E	155.6765		SS
288	N	8.8871	106.04	GND
	E	204.5634		SS
289	N	12.1347	107.17	GND
	E	208.0931		SS
290	N	22.0727	107.01	GND
	E	209.3364		SS
291	N	24.1034	106.70	GND
	E	205.1775		SS
292	N	21.3112	107.40	GND
	E	201.0258		SS
293	N	13.7753	106.29	GND
	E	201.1258		SS
294	N	18.0928	107.76	GND
	E	197.6120		SS
295	N	21.3801	108.69	GND
	E	190.3686		SS
296	N	12.8453	108.30	GND
	E	194.3153		SS
297	N	14.1097	109.16	GND
	E	183.8938		SS
298	N	28.8664	108.15	GND
	E	195.5635		SS
299	N	56.4484	104.07	GND
	E	215.7585		SS
300	N	54.4368	101.63	GND
	E	219.4355		SS
301	N	39.2874	101.72	GND
	E	222.5144		SS
302	N	43.6650	97.66	GND
	E	238.7091		SS
303	N	45.6974	100.15	GND
	E	234.7297		SS

304	N	47.1585	94.21	GND
	E	242.7678		SS
305	N	5.2904	94.63	GND
	E	326.6410		SS
306	N	14.2286	95.63	GND
	E	364.3923		SS
1	N	89.4675	96.36	PK
	E	274.3245		CPNT
2	N	89.4675	96.30	PK
	E	325.9645		CPNT
10	N	57.4156	95.59	TOP
	E	262.7729		SS
11	N	50.8677	95.59	TOP
	E	258.9205		SS
12	N	42.0608	95.57	TOP
	E	258.1193		SS
13	N	29.5948	95.50	TOP
	E	256.6747		SS
14	N	17.9934	95.23	TOP
	E	258.3846		SS
15	N	11.0529	95.02	TOP
	E	258.4264		SS
16	N	3.0186	95.37	TOP
	E	260.9330		SS
17	N	-0.7455	95.30	WALL
	E	262.9280		SS
18	N	-5.3573	94.78	TOP
	E	263.0734		SS
19	N	-17.2841	95.89	TOP
	E	266.2042		SS
20	N	-30.3473	95.81	TOP
	E	269.3029		SS
21	N	-39.3652	95.91	TOP
	E	272.2133		SS
22	N	-68.6378	96.59	TOP
	E	281.3198		SS
23	N	-81.4153	97.44	WALL
	E	284.2359		SS
24	N	-78.5889	96.15	WALL
	E	299.8241		SS
25	N	-75.5780	95.45	WALL
	E	313.7540		SS
26	N	-72.1687	95.36	WALL
	E	328.2680		SS

27	N	-68.1795	95.18	BLDG-COR
	E	342.6081		SS
28	N	-65.3749	94.75	TOP
	E	334.9288		SS
29	N	-49.1337	95.44	TOP/BLDG
	E	338.1718		SS
30	N	-49.5150	94.36	TOP
	E	334.3478		SS
31	N	-48.3506	90.07	G.B.
	E	331.0354		SS
32	N	-38.0842	90.44	G.B.
	E	329.3891		SS
33	N	-36.7443	94.61	TOP
	E	332.8953		SS
34	N	-35.9421	95.60	TOP/BLDG
	E	335.8074		SS
35	N	-20.6491	94.69	TOP
	E	332.4371		SS
36	N	-21.5241	93.88	TOP
	E	329.2537		SS
37	N	-6.8919	94.61	TOP/BLDG
	E	329.4233		SS
38	N	-7.2838	94.32	TOP
	E	326.6197		SS
39	N	4.9666	93.97	TOP
	E	323.9395		SS
40	N	5.2904	94.14	BLDG
	E	326.6410		SS
41	N	6.9582	93.24	TOP
	E	326.4400		SS
42	N	7.5764	95.48	TOP/BLDG
	E	335.1177		SS
43	N	9.1962	93.17	TOP
	E	334.6793		SS
44	N	9.5656	95.73	TOP/BLDG
	E	342.8626		SS
45	N	11.7375	94.20	TOP
	E	342.1328		SS
46	N	11.6301	95.58	TOP/BLDG
	E	353.4174		SS
47	N	17.3935	95.48	TOP
	E	351.9005		SS
48	N	26.0006	95.57	TOP
	E	350.2002		SS

TOLS009221

49	N	34.2434	95.76	TOP
	E	348.2562		SS
50	N	38.5342	95.82	TOP
	E	345.6939		SS
51	N	44.1674	96.01	TOP
	E	338.0550		SS
52	N	44.5685	95.23	TOP
	E	332.9204		SS
53	N	51.1424	95.49	TOP
	E	327.7251		SS
54	N	58.1301	95.69	TOP
	E	322.7135		SS
55	N	61.9752	95.43	TOP
	E	314.9094		SS
56	N	63.1951	95.74	TOP
	E	307.4127		SS
57	N	66.0270	95.79	TOP
	E	300.0052		SS
58	N	68.6534	95.93	TOP
	E	299.0762		SS
59	N	68.1753	96.09	TOP
	E	288.7345		SS
60	N	65.1073	95.76	TOP
	E	281.6227		SS
61	N	58.9709	95.52	TOP
	E	274.7770		SS
62	N	48.4602	91.16	G.B.
	E	279.1479		SS
63	N	43.9418	93.12	G.B.
	E	267.5297		SS
64	N	28.9819	93.33	G.B.
	E	258.7445		SS
65	N	26.7032	87.91	G.B.
	E	268.7659		SS
66	N	17.1781	87.34	G.B.
	E	268.0636		SS
67	N	17.6916	90.96	G.B.
	E	260.7408		SS
68	N	11.2202	90.04	G.B.
	E	260.8441		SS
69	N	3.2091	91.39	G.B.
	E	262.9131		SS
70	N	4.0760	86.85	G.B.
	E	269.4591		SS

71	N	-0.4102	90.23	G.B.
	E	265.0983		SS
72	N	-5.1684	90.43	G.B.
	E	265.9017		SS
73	N	-14.9473	91.46	G.B.
	E	267.7757		SS
74	N	0.7749	85.40	G.B.
	E	272.5700		SS
75	N	10.6956	85.58	G.B.
	E	277.3507		SS
76	N	7.2404	86.90	G.B.
	E	269.6474		SS
77	N	12.5386	88.04	G.B.
	E	267.5115		SS
78	N	13.8849	86.99	G.B.
	E	275.9445		SS
79	N	16.7957	86.36	G.B.
	E	284.2758		SS
80	N	20.6651	86.88	G.B.
	E	296.9272		SS
81	N	17.7853	86.73	G.B.
	E	306.5190		SS
82	N	7.3718	87.74	G.B.
	E	318.5286		SS
83	N	14.6979	88.07	G.B.
	E	330.2650		SS
84	N	16.5721	88.30	G.B.
	E	334.7600		SS
85	N	20.0578	87.41	G.B.
	E	331.3327		SS
86	N	25.7485	88.96	G.B.
	E	339.2789		SS
87	N	28.7716	88.85	G.B.
	E	337.4337		SS
88	N	26.6960	87.94	G.B.
	E	334.5203		SS
89	N	31.4664	88.29	G.B.
	E	327.7841		SS
90	N	36.7986	90.79	G.B.
	E	330.3841		SS
91	N	34.0987	88.54	G.B.
	E	326.3851		SS
92	N	42.2306	89.33	G.B.
	E	321.7267		SS

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93	N	39.5775	87.60	G.B.
	E	318.8357		SS
94	N	50.3990	89.92	G.B.
	E	313.8848		SS
95	N	45.2954	87.91	G.B.
	E	309.2479		SS
96	N	51.9033	89.32	G.B.
	E	305.5849		SS
97	N	49.8502	88.62	G.B.
	E	299.7422		SS
98	N	53.3914	89.12	G.B.
	E	294.2853		SS
99	N	62.8887	92.38	G.B.
	E	296.4300		SS
100	N	59.2314	92.17	G.B.
	E	284.3665		SS
101	N	48.6218	88.82	G.B.
	E	291.8076		SS
102	N	41.4627	88.22	G.B.
	E	291.8681		SS
103	N	39.6253	87.71	G.B.
	E	285.4098		SS
104	N	31.4408	87.07	G.B.
	E	287.0236		SS
105	N	24.3489	86.76	G.B.
	E	288.4830		SS
106	N	21.4277	86.77	G.B.
	E	274.1530		SS
107	N	29.6484	87.53	G.B.
	E	272.7436		SS
108	N	30.8684	87.07	G.B.
	E	298.6304		SS
109	N	25.3623	87.02	G.B.
	E	308.1671		SS
110	N	24.7035	87.47	G.B.
	E	326.4738		SS
111	N	33.8770	87.34	G.B.
	E	315.4010		SS
112	N	36.6842	87.52	G.B.
	E	301.8734		SS
113	N	14.8625	83.96	WATER-BOT
	E	293.0948		SS
114	N	12.6909	83.05	WATER-BOT
	E	292.0224		SS

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115	N	15.3359	84.16	WATER-BOT
	E	297.1973		SS
116	N	12.2668	83.10	WATER-BOT
	E	297.7963		SS
117	N	12.2500	84.19	WATER-BOT
	E	286.5546		SS
118	N	7.7296	83.63	WATER-BOT
	E	288.3942		SS
119	N	2.9288	83.30	WATER-BOT
	E	291.7215		SS
120	N	-4.9613	82.76	WATER-BOT
	E	286.7284		SS
121	N	-5.6949	83.24	WATER-BOT
	E	280.9095		SS
122	N	-6.0175	84.29	WATER-BOT
	E	275.2968		SS
123	N	-10.1172	82.50	WATER-BOT
	E	288.0053		SS
124	N	-16.7227	82.43	WATER-BOT
	E	282.3091		SS
125	N	-19.0958	83.56	WATER-BOT
	E	279.1384		SS
126	N	-27.3091	82.53	WATER-BOT
	E	295.9386		SS
127	N	-33.4375	82.54	WATER-BOT
	E	286.1229		SS
128	N	-37.4378	83.34	WATER-BOT
	E	283.1245		SS
129	N	-49.8655	82.60	WATER-BOT
	E	298.5307		SS
130	N	-53.0303	83.18	WATER-BOT
	E	289.8398		SS
131	N	-55.0401	83.96	WATER-BOT
	E	286.1418		SS
132	N	-58.2321	85.60	G.B.
	E	283.0996		SS
133	N	-46.1316	85.20	G.B.
	E	279.8103		SS
134	N	-59.6993	81.86	WATER-BOT
	E	295.5542		SS
135	N	-54.1169	82.32	WATER-BOT
	E	296.1252		SS
136	N	-59.0509	82.24	WATER-BOT
	E	293.8774		SS

137	N	-65.4256	83.16	WATER-BOT
	E	292.2768		SS
138	N	-64.8038	85.51	G.B.
	E	285.8341		SS
139	N	-70.0123	85.51	G.B.
	E	290.3209		SS
140	N	-67.1386	83.67	WATER-BOT
	E	292.4369		SS
141	N	-71.7179	86.18	WATER-BOT
	E	301.4987		SS
142	N	-67.3277	83.62	G.B.
	E	300.4694		SS
143	N	-68.7002	85.80	G.B.
	E	316.4837		SS
144	N	-65.4686	83.57	WATER-BOT
	E	315.8718		SS
145	N	-65.8699	86.19	G.B.
	E	326.9202		SS
146	N	-62.1046	83.34	WATER-BOT
	E	324.6236		SS
147	N	-54.6239	86.38	G.B.
	E	332.1192		SS
148	N	-60.0804	83.04	WATER-BOT
	E	316.6424		SS
149	N	-57.7231	82.18	WATER-BOT
	E	314.8216		SS
150	N	-50.0470	82.41	WATER-BOT
	E	321.1409		SS
151	N	-47.4799	81.87	WATER-BOT
	E	315.4181		SS
152	N	-41.3666	82.72	WATER-BOT
	E	311.5251		SS
153	N	-36.0653	82.53	WATER-BOT
	E	319.1620		SS
154	N	-39.7875	82.07	WATER-BOT
	E	297.4648		SS
155	N	-26.7703	82.28	WATER-BOT
	E	300.7332		SS
156	N	-26.6434	82.84	WATER-BOT
	E	307.5093		SS
157	N	-26.7042	82.54	WATER-BOT
	E	315.3111		SS
158	N	-23.3252	83.43	WATER-BOT
	E	319.1406		SS

159	N	-16.8517	82.38	WATER-BOT
	E	300.8987		SS
160	N	-11.9239	82.24	WATER-BOT
	E	309.5006		SS
161	N	-13.5766	83.63	WATER-BOT
	E	318.2353		SS
162	N	-1.9354	83.32	WATER-BOT
	E	314.9879		SS
163	N	8.1054	82.75	WATER-BOT
	E	310.3227		SS
164	N	2.3638	82.86	WATER-BOT
	E	304.0619		SS

Re: NW Penta

CORROON & BLACK, INC.

November 6, 1989

Time Oil Company
2737 W. Commodore Way
Seattle WA 98199
Attn: Fred Proby

Re: Ecova Corporation

Gentlemen:

We are pleased to enclose documents indicated below:

X	Certificate of Insurance
	Memorandum of Insurance
	Original Policy (As Captioned)
	Copy of Policy (As Captioned)
	Loss Payable and/or Mortgage Clause
	Contract of Sale Clause
	Cover Note and/or Binder
	Other

The enclosed is issued in connection with:

Evidence of Insurance

We trust you will find the enclosure(s) to be entirely satisfactory.

Very truly yours,

By Jennie Flath
Jennie Flath
(206) 443-6629

JF:mj/Enclosure

cc: Ecova Corporation
National Union Fire Insurance Co.
First National Insurance Co. of America

P.O. Box C-34201 Zip 98124
2911 Second Avenue Seattle, WA 98121 (206) 443-2300
Telex: 160565 FAX: (206) 443-6631
Insurance • Bonds • Benefits • Risk Management

TOLS009228

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)
11/06/89

PRODUCER

CORROON & BLACK, INC.
P.O. Box C-34201
Seattle, WA 98124
(206) 443-2300

CODE SUB-CODE

INSURED

ECOVA CORPORATION
3820 - 159th Ave. NE
Redmond, WA 98052

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A — National Union Fire Insurance Co.

COMPANY LETTER B — First National Insurance Co. of America

COMPANY LETTER C

COMPANY LETTER D

COMPANY LETTER E

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$ 5,000
A	x COMMERCIAL GENERAL LIABILITY	GLCM 8019940	10/30/89	10/30/90	PRODUCTS-COMP/OPS AGGREGATE	$ 5,000
	CLAIMS MADE x OCCUR.				PERSONAL & ADVERTISING INJURY	$ 5,000
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$ 5,000
	x WA Stop Gap				FIRE DAMAGE (Any one fire)	$ 50
					MEDICAL EXPENSE (Any one person)	$ 5
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$ 1,000
B	x ANY AUTO	BA 2184357A	10/30/89	10/30/90		
	ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	SCHEDULED AUTOS					
	x HIRED AUTOS				BODILY INJURY (Per accident)	$
	x NON-OWNED AUTOS					
	GARAGE LIABILITY				PROPERTY DAMAGE	$
	EXCESS LIABILITY				EACH OCCURRENCE $	AGGREGATE $
	OTHER THAN UMBRELLA FORM					
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY	
					$	(EACH ACCIDENT)
					$	(DISEASE—POLICY LIMIT)
					$	(DISEASE—EACH EMPLOYEE)
	OTHER					
A	CONTRACTOR'S POLLUTION LIABILITY	CPL 5649353	10/30/89	10/30/90	$1,000, Each Loss $2,000, Total for All Losses	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

Re: Job #821401 - Pentachlorophenol Remediation
The certificate holder is added as an additional insured as respects their interest in the insured's operation.

CERTIFICATE HOLDER

Time Oil Company
2737 W. Commodore Way
Seattle WA 98199
Attn: Fred Proby

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

DUNCAN BRONSON Duncan Bronson (45)

ACORD 25-S (3/88)

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TOLS009229

BZTO104(e)046051

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

SEATTLE
TACOMA
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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

November 10, 1989

Ecova Corporation
Attn: Mr. Bill Mahaffey
3820 159th Avenue NE
Redmond, WA 98052

Dear Bill:

On my routine inspections of Ecova's pentachlorophenol cleanup operation at our Northwest Terminal, including our visit together on November 2, I have made the following observations that I would like to document for your attention. Most of these points have been discussed with Jim Borthen, Dave Edwards and yourself, but corrective action has, in some cases, been rather slow.

It has become apparent that a "Procedures Manual" needs to be developed that clearly documents all aspects of your operation. This manual should describe how routine tasks are to be performed and should establish methods for handling unexpected events. It need not be a lengthy manual; much can be accomplished with simple forms and checklists that include step-by-step procedures and explanations.

There are three compelling reasons for having a Procedures Manual. First is the need to demonstrate that the cleanup is being performed according to procedures acceptable to the DEQ. This means, to me, a totally professional and well documented operation. Second, given this project's record of staff turnover, clear instructions will ensure consistent operation of the plant. Finally, the Work Plan includes a provision for Time Oil personnel to perform some routine monitoring of the plant as a means of reducing project costs (page 2-12). This cannot occur without an acceptable Procedures Manual.

Jim has made progress on a manual and we have discussed several ideas that could be incorporated. These include a form to document routine daily operations (a fill-in-the-blanks checklist), better records of interim analytical results and a "batch summary" form that lists all pertinent data for a particular batch. Attached to the batch summary form should be all field notes, chain of custody documents and lab results for that batch. These packets would then comprise your permanent treatment records. The one-page batch summary form, accompanied by lab results documenting attainment of the cleanup level, should also be made part of the monthly reports to Time Oil.

I would also like you to consider establishing some type of wall chart that plots each batch against time, so that one may see at a glance which batches are current and note any trends in batch processing time. This would help to eliminate the type of confusion that was caused by not assigning a number to the first small batch that was processed (which we agreed would be designated as batch 0.)

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Considering the treatment process itself, my independent samples indicate that the last load (batches 1, 2 and 3, I believe) that was discharged to the disposal pond during the week of September 25-29 did not meet the treatment standard. There was a "scum" that settled out on the surface of the pond that had 150 ppm pentachlorophenol. In addition, samples that I collected from coarse material beneath the discharge pipe in the disposal pond indicate that the sand from the bottom of the reactor also did not receive sufficient treatment (preliminary results show 10 ppm penta). I understand that your data confirms these findings.

This situation points out two problems: first, it was our agreement that this group of batches was to be an "experiment" to determine if all of the soil, including the sand, could be treated without the initial soil-washing step proposed in the Work Plan (Figure 2-3). How then could the load have been discharged without thorough verification of cleanup? It appears that this experiment was not very well designed, executed or supervised. It seems to me that there is a basic communication problem here that must be resolved. Among other things, a firm rule should be established that no material will be discharged without lab results present on site confirming that every phase of material (scum, water, suspended sediment and settled sand) meets the cleanup standard.

The second problem is the soil that was improperly discharged. Any soil in the disposal pond that exceeds 0.5 ppm total chlorinated phenols must be removed immediately. It is my understanding from our discussions over the last week that Ecova intends to re-excavate and treat this soil at it's own expense. Please confirm, in writing, when this will occur. Needless to say, I cannot recommend payment on any invoice for treatment until this soil has been removed from the disposal pond. (However, an invoice reflecting the latest Change Orders can be submitted for payment.)

Apart from these difficulties, I am encouraged by the sincere effort that I see being put forth on this project and I remain confident that we will soon leave this "shakedown" stage and get on to some serious cleanup.

Sincerely,

Fred Proby
Environmental Specialist

TOLS009231

BZTO104(e)046053

Prezant

503 286-8620

Ecova - Neil Penta

Call from Neil 10/19/89 4:30pm

Dan (Ecova field helper) told Neil that the last batches they discharged were not clean. Jim only collected samples of suspended material, not what was sitting on the bottom. So Dan took it upon himself to collect some of the bottom material as they were pumping it out. He told Neil today that it has high penta levels and they are proceeding on the assumption that the batch is not clean

I followed up with a call to Dave Edwards at the Ecova field trailer (503) 286-8620 - left message for him to call

10/20/89 Dave Edwards said he didn't have any test results from last treatment batch. I asked him if he knew of any new problems & he said he didn't. Told me to check w/ Bill Mahaffey about lab results.

10/23/89

Bill Mahaffey - has results but there are some QA/QC questions. 245 trichlorophenol was >1 ppm & Penta 3.4 ppm. Samples represent sediment from the bottom of the tanks - "dead zone" material. Had Jim take samples from sediment piles in tanks after tanks were pumped out. Material subsequently pumped to the pit. If reanalysis

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still shows problem, (he said) they'll have to take material back out of the pit. Should have verbal results Thursday Dan.

Bill will be taking over as project manager - Dave will oversee engineering

10/27/89 Meeting w/ Rob Carr & Bill Mahaffey

Bill & I will visit the site together next Thursday.

TB sediment results were 120 ppm Dieldrin.

Formulating a plan to clean out the disposal pond

Having trouble w/ survey data to calculate soil volumes. Should know next week.

Change order for extra work items is ready (was waiting for soil volume) I said process w/o soil volume

certainly on up
front report.
~~[illegible]~~ I still believe
it appropriate to
inquire of status of
washing method and

when they are going
to get moving, it
has been a month.

TOLS009234

BZTO104(e)046056

E C O V A

November 30, 1989

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

P.N. 821401

RE: Status Report of Remediation project at Time Oil Northwest Terminal, Portland, Oregon

Dear Fred:

At the end of September the first batch of slurries (e.g. batch 1, 2, 3) were sampled and analyzed. The analyses indicated that the slurry concentrations were below the cleanup level of 0.5 ppm. One of my concerns at that time was that not all the soil was staying in suspension as evident by the solids content of the slurry samples. I authorized disposal of the slurry with the caveat that soil which had settled in the dead zones of the tanks be retained for further treatment.

Evidently there was miscommunication with Jim Borthen, because he and Dan discharged this material as well. In addition the material in T3 was never to have been discharged as there was a great deal of residual waxy type material coating the walls of the tank. Unfortunately this material was also washed from the tanks and discharged. As you are well aware our analyses of the material disposed of to the pit confirms your independent verification that the soil was not clean. The results for the four samples taken are as follows:

FIELD ID	[PCP]
DP-1103-1	3.9 ppm
DP-1103-2	100 ppm
DP-1103-3	11 ppm
DP-1103-4	56 ppm

Corporate Office
3820 159th Avenue N
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

I have attached the analytical report which was generated at level IV QA/QC by PNEL (Appendix A). As of November 21, 1989 this soil has been excavated from the disposal pit and placed back on the stock pile. Our accounting department has been notified to stop billing on Invoice Number 102154.

During the first week of October, 66 yards of soil was loaded into tanks T1, T2, and T3 for slurry phase processing. This material is still under treatment. Again the problem we have realized in this treatment scenario is that the coarser sand grains settle very rapidly into reactor dead zones and thus there is reduced contact efficiency which is manifest in longer treatment time. On 11/03/89 samples were taken of the soil collecting in the dead zones of each of the reactors in order to ascertain the level of clean up being achieved. The results of these analyses are presented in Appendix B and represent data generated by our project support chemistry laboratory. Since you have expressed a great deal of concern about the reliability of data

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generated at level II QA/QC, I submitted split samples for analysis by PNEL. The results from PNEL are provided in the data pack designated as Appendix C. I think you will see that the results are comparable. We will be having sample splits run as needed to verify our site support chemistry and use the PNEL data as our QA/QC check on each batch of soil treated.

During the week of November 13, 1989 we rented a cement mixer to test the original design configuration for this project. We performed three batch washes and were able to show that the wash efficiency was identical to that obtained in the laboratory. From initial starting concentrations of 440 ppm PCP we effectively reduced the concentration to 58 ppm with the first wash and to less than 0.5 ppm with the second wash. In one of the batches we were only able to reduce the concentration to 17 ppm after 5 successive washes.

Some important observations were made during these runs. First, in each of the batches a solvent film developed at the air water interface after the agitation was stopped. Second, the one batch where the PCP was reduced only to 17 ppm was also the same batch which exhibited the greatest solvent film after agitation ceased. The soil in this batch had a distinctive solvent odor after 5 successive washes. Third, in all batches there was always a significant silt fraction residual even after successive washings. When this silt fraction was washed from one of the set of duplicate samples then the PCP levels were significantly reduced versus the sample containing the silt (e.g. 17 ppm versus 140 ppm and <0.5 ppm versus 32 ppm).

These results emphasize that the silt fraction must be removed to achieve the cleanup criteria and that the **presence of the solvents may present a barrier to cleanup by the soil washing process as designed.** This later point requires some further verification.

We are currently exploring the use of a sand screw/auger system with counter current soil washing for the Portland Site soil. Jim Borthen will be in Redmond through the first week of December to perform the necessary bench scale testing. I will keep you informed as to our progress.

Please find enclosed as Appendix D a copy of the Hagedorn, Inc. computations on the stockpile soil volume. They have calculated the pit volume at 2909.2 cubic yards and the pile volume at 2697.6 cubic yards. Correcting the pile volume measurement for the 65 yards of soil which was incompletely processed and disposed of yields a pile volume estimate of 2762.6 cubic yards. The difference between the cut and fill (-146.6 cubic yards) is inconsistent with what would be expected. Generally the fill would be 10% to 20% larger than the cut. There are several possible explanations for these results.

1. Three different groups were involved in the surveying and volume calculations. One group surveyed the original site, another group surveyed the pit and pile on two separate days and a third group performed the volume calculations. If one group used an incorrect bench mark reference elevation, this might account for the discrepancies. From our examination of the data and conversations with survey company we are confident that both survey crews used the same bench mark elevation.

2. The survey of the excavation pit was performed, in part, from a row boat due to water accumulation. There may be some errors due to the inaccuracies encountered in handling the staff from a boat. Since they were unable to survey the bottom of pit they may have obtained an inaccurate cross section.

3. We have had discussions with Eugene Diloretto of Diloretto and Associates. He is a civil engineer with 40 years of experience, and has worked extensively in the Rivergate area of Portland. He claims that he has experienced subsidence in this area, and that the subsidence factor is 10%. This means that if one were to make a pile of dirt 1 foot high the ground beneath would sink 0.1 foot. If we accept this

theory, then we would expect the bermed area to have subsided from 0 feet at the berm to as much as 2 feet at the center of the original pile. Later a bulldozer was used to reshape the pile, which could only have confounded the problem by contributing to subsidence and compaction of the pile. For a correction calculation, we have assumed that the average subsidence over the entire bermed area is 1 foot.

Area of 30 yds X 40 yds	1200 sq. yds.
Volume of subsidence 1200 X 0.33	400 cu. yds.
Original pile volume	2762.6 cu. yds.
New pile volume est.(2762.6 + 400)	3162.6 cu. yds.
Pit volume	2909.2 cu. yds.
Fluff factor based on new estimate	8.7%

There is a way subsidence can be checked. After the pile has been processed, a surveyor can perform a spot check on the impermeable membrane which is beneath the pile and the degree of subsidence estimated. The volume of pile material treated can then be recalculated at that time. In the interim you may wish to consider using the average of the new pile volume estimate (3162.6 cu. yds.) and the pit volume estimate (2909.2 cu. yds.) for purposes of estimating the volume of soil to be treated (3035.9 cu. yds.).

In addition I would also like to remind you of the additional contaminated soil which was identified outside the original excavation area, as was brought to your attention in Mark Andersons' letter of March 14, 1989. It is my understanding that PCP contaminated soil, with up to 6000 ppm PCP, was identified in the tank farm area adjacent to the excavation. In addition there is more soil in the area of the stockpile sump which contains PCP as well as unidentified solvents.

We propose to add the soil from the tank farm area to the total volume of soil to be treated, working toward the 3,440 yard estimated to be originally treated. However, since we did not anticipate a second excavation activity in our pricing of the job, we suggest that the cost of the excavation of the additional soil required to reach 3,440 yd^3 in the tank farm area be shared equally between ECOVA and Time Oil, and are prepared to submit a change order for 1/2 the cost of the excavation.

This project is certainly a challenge for me, and I am looking forward to moving this project forward in a careful, thorough manner to ensure the highest quality end product. I want to thank you for your support and valuable input. It is a pleasure to work with you.

Sincerely,

Bill Mahaffey

William R. Mahaffey
Senior Microbiologist/Project Manager

cc: J. Kinsella
Files

TOLS009237

BZTO104(e)046059

APPENDIX A

PACIFIC NORTHWEST ENVIRONMENTAL LABORATORY

November 28, 1989

Bill Mahaffey
ECOVA
3820 159th Ave NE
Redmond, WA 98052

NARRATIVE FOR PNEL 2121
Submission from Pacific Northwest Environmental Laboratory

Enclosed are data summary sheets and supporting documentation for the four samples received on November 8, 1989 of the Time Oil/Portland project. The field identification numbers, corresponding lab identification numbers, and dates collected are listed below.

FIELD ID	LAB ID	DATE COLLECTED
DP-1103-1	2121-01	11-03-89
DP-1103-2	2121-02	11-03-89
DP-1103-3	2121-03	11-03-89
DP-1103-4	2121-04	11-03-89

Listed below are anomalies and narratives associated with the receipt and/or analysis of these samples.

Due to a high concentration of pentachlorophenol, some of the samples had to be diluted before analysis. 2121-02 was analyzed at a 20x dilution, 2121-03 was diluted 2x, and a 15x dilution was necessary for 2121-04.

Pentachlorophenol exceeded the calibration range in 2121-01MS and 2121-01MSD. However, dilutions were not made because, according to the CLP SOW, the matrix spike and matrix spike duplicate must be analyzed at the same dilution as the original unspiked sample.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Karen J. Kotz

76\NAR-1005.121
Enclosures

3820 159th Avenue NE Redmond, WA 98052 (206) 885-0083 FAX (206) 867-2210

TOLS009239

BZTO104(e)046061

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g Percent Moisture: 6
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-01
Customer Sample: DP-1103-1
Sample Description: Surface of Disp. Pit Taken in Sandy Ar
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	350	U
120-83-2	2,4-Dichlorophenol	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1800	U
87-86-5	Pentachlorophenol	3900	

000001

Form I

TOLS009240

BZTO104(e)046062

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 20
Sample wt/vol: 30 g Percent Moisture: 31
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-02
Customer Sample: DP-1103-2
Sample Description: Surface of Disp. Pit Taken in Clay Are
Date Collected: 11/03/89
Time Collected: 11:30 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	9700	U
120-83-2	2,4-Dichlorophenol	9700	U
59-50-7	4-Chloro-3-methylphenol	9700	U
88-06-2	2,4,6-Trichlorophenol	9700	U
95-95-4	2,4,5-Trichlorophenol	48000	U
87-86-5	Pentachlorophenol	100000	

000008

Form 1

TOLS009241

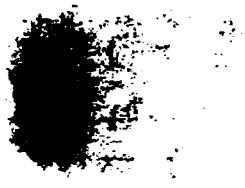
BZTO104(e)046063

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PMEL
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 2
Sample wt/vol: 30 g Percent Moisture: 9
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-03
Customer Sample: DP-1103-2
Sample Description: Comp. 0 - 1' Deep Sand Includes Clay La
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	730	U
120-83-2	2,4-Dichlorophenol	730	U
59-50-7	4-Chloro-3-methylphenol	730	U
88-06-2	2,4,6-Trichlorophenol	730	U
95-95-4	2,4,5-Trichlorophenol	3700	U
87-86-5	Pentachlorophenol	11000	



000015

Form I

TOLS009242

BZTO104(e)046064

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 15
Sample wt/vol: 30 g Percent Moisture: 11
Date Extracted: 11/09/89
Date Analyzed: 11/20/89

Lab Sample: 2121-04
Customer Sample: DP-1103-4
Sample Description: Comp. 1 - 2' Deep Sand
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	5600	U
120-83-2	2,4-Dichlorophenol	5600	U
59-50-7	4-Chloro-3-methylphenol	5600	U
88-06-2	2,4,6-Trichlorophenol	5600	U
95-95-4	2,4,5-Trichlorophenol	28000	U
87-86-5	Pentachlorophenol	56000	

000022

TOLS009243

BZTO104(e)046065

SEMIVOLATILE DATA PACKAGE

QC SUMMARY

1) Surrogate Percent Recovery (Form II-SV)
2) MS/MSD Summary (Form III-SV)
3) Method Blank Summary (Form IV-SV)
4) GC/MS Tuning and Mass Calibration (Form V-SV)
5) Calibration Report (Form VI-SV)
6) Calibration Check Report (Form VII-SV) Quant and RIC
7) Internal Standard Area Summary (Form VIII-SV)
8) Blank (Form I-SV) Quant, RIC, and TCL Spectra
9) Matrix Spike (Form I-SV) Quant and RIC
10) Matrix Spike Duplicate (Form I-SV) Quant and RIC

TOLS009244

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PNELI

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	2121-00MB	77	84	98	70	70	79		0
02	2121-01	76	86	103	68	64	75		0
03	2121-01MS	81	90	107	67	69	87		0
04	2121-01MSD	78	87	107	67	69	76		0
05	2121-02	94	82	90	75	75	80		0
06	2121-03	70	88	95	69	71	101		0
07	2121-04	65	94	112	82	75	74		0
08									
09									
10									
11									
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28									
29									
30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(23-120)
S2 (FBP) = 2-Fluorobiphenyl	(30-115)
S3 (TPH) = Terphenyl-d14	(18-137)
S4 (PHL) = Phenol-d5	(24-113)
S5 (2FP) = 2-Fluorophenol	(25-121)
S6 (TBP) = 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

FORM II SV-2 1/87 Rev.

TOLS009245

BZTO104(e)046067

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PNELI_____ Contract: _____ _____

Lab Code: PNELI__ Case No.: 2121__ SAS No.: _____ SDG No.: _____

Matrix Spike - Client Sample No: DP1103-1 Level: (low/med) LOW___

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	7100	0	4600	65	26- 90
2-Chlorophenol	7100	0	4300	60	25-102
1,4-Dichlorobenzene	3500	0	2300	66	28 104
N-Nitroso-di-n-prop.(1)	3500	0	2300	66	41 126
1,2,4-Trichlorobenzene	3500	0	2500	71	38 107
4-Chloro-3-methylphenol	7100	0	5100	72	26 103
Acenaphthene	3500	0	2400	68	31-137
4-Nitrophenol	7100	0	6300	89	11-114
2,4-Dinitrotoluene	3500	0	3100	89	28- 89
Pentachlorophenol	7100	3900	9800	83	17-109
Pyrene	3500	82	3000	83	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	7100	4500	63	3	35	26- 90
2-Chlorophenol	7100	4200	59	2	50	25-102
1,4-Dichlorobenzene	3500	2400	68	-3	27	28 104
N-Nitroso-di-n-prop.(1)	3500	2400	68	-3	38	41 126
1,2,4-Trichlorobenzene	3500	2600	74	-4	23	38 107
4-Chloro-3-methylphenol	7100	5200	73	-1	33	26 103
Acenaphthene	3500	2400	68	0	19	31-137
4-Nitrophenol	7100	5900	83	7	50	11-114
2,4-Dinitrotoluene	3500	3100	88	1	47	28- 89
Pentachlorophenol	7100	8200	60	32	47	17-109
Pyrene	3500	3000	83	0	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: __0 out of _11 outside limits
Spike Recovery: __0 out of _22 outside limits

COMMENTS:

TOLS009246

BZTO104(e)046068

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-00MB
Customer Sample: NA
Sample Description: Method Blank
Date Collected: NA
Time Collected: NA
Date Received: NA
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	330	U
120-83-2	2,4-Dichlorophenol	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1700	U
87-86-5	Pentachlorophenol	1700	U

000060

FORM I

TOLS009247

BZTO104(e)046069

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g Percent Moisture: 6
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-01MS
Customer Sample: DP-1103-1MS
Sample Description: Surface of Disp. Pit Taken in Sandy Ar
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	4300	*
120-83-2	2,4-Dichlorophenol	350	U
59-50-7	4-Chloro-3-methylphenol	5100	*
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1800	U
87-86-5	Pentachlorophenol	9800	*E

990000

TOLS009248

BZTO104(e)046070

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g Percent Moisture: 6
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-01MSD
Customer Sample: DP-1103-1MSD
Sample Description: Surface of Disp. Pit Taken in Sandy Ar
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	4200	*
120-83-2	2,4-Dichlorophenol	350	U
59-50-7	4-Chloro-3-methylphenol	5200	*
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1800	U
87-86-5	Pentachlorophenol	8200	*E

000022

Form I

TOLS009249

BZTO104(e)046071

APPENDIX B

ECOVA

ECOVA Corporation
SITE SUPPORT CHEMISTRY
TEST RESULTS

	Sample Number	Test Performed	Results
1.	T1-4-1103-1L	HPLC/PCP	N.D. <1.8ppm
2.	T1-4-1103-2S		6.7 ppm
3.	T1-4-1103-3S		2.6 ppm
4.	T2-5-1103-~~2S~~ 1L		N.D. <1.8 ppm
5.	T2-5-1103-2S		7.2 ppm
6.	T2-5-1103-3S		21 ppm
7.	T3-6-1103-1L		N.D. <1.8 ppm
8.	T3-6-1103-2S		N.D. <1.8 ppm
9.	T3-6-1103-3S		N.D. <1.8 ppm
10.	T1-4-1103-2S		8.2 ppm

REMARKS:

Raw Data Attached Jessie MacMurchie 11/15/89

Received By [signature]

Date 12/7/89

© 1988 ECOVA Corporation

699999-A-005.1

TOLS009251

BZTO104(e)046073

APPENDIX C

PACIFIC NORTHWEST ENVIRONMENTAL LABORATORY

November 13, 1989

Bill Mahaffey
ECOVA

NARRATIVE FOR PNEL 2116
Submission from Pacific Northwest Environmental Laboratory

Enclosed are data summary sheets and supporting documentation for the three samples received on November 7, 1989. The field identification numbers, corresponding lab identification numbers, and dates received are listed below.

FIELD ID	LAB ID	DATE COLLECTED
T1-4-1103-25	2116-01	11-03-89
T2-5-1103-35	2116-02	11-03-89
T3-6-1103-35	2116-03	11-03-89

Listed below are anomalies associated with the receipt and/or analysis of these samples.

Pentachlorophenol exceeded the instrument calibration range in the matrix spike and matrix spike duplicate. The spikes were not diluted because they must be analyzed at the same dilution as the original unspiked sample.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Sincerely,

75\NAR-1005.116
Enclosures

3820 159th Avenue NE Redmond, WA 98052 (206) 885-0083 FAX (206) 867-2210

TOLS009253

BZTO104(e)046075

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005-28
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g % Moisture: 24
Date Extracted: 11/08/89
Date Analyzed: 11/09/89

Lab Sample: 2116-01
Customer Sample: T1-4-1103-25
Sample Description: Sand
Date Collected: 11/03/89
Time Collected: 8:42
Date Received: 11/07/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	440	U
120-83-2	2,4-Dichlorophenol	440	U
59-50-7	4-Chloro-3-methylphenol	440	U
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	2200	U
87-86-5	Pentachlorophenol	4300	

001001

TOLS009254

BZTO104(e)046076

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005-28
Sample Matrix: Sand
Concentration: Low Dilution Factor: 5
Sample wt/vol: 30 g % Moisture: 24
Date Extracted: 11/08/89
Date Analyzed: 11/09/89

Lab Sample: 2116-02
Customer Sample: T2-5-1103-35
Sample Description: Sand
Date Collected: 11/03/89
Time Collected: 8:59
Date Received: 11/07/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	2200	U
120-83-2	2,4-Dichlorophenol	2200	U
59-50-7	4-Chloro-3-methylphenol	2200	U
88-06-2	2,4,6-Trichlorophenol	2200	U
95-95-4	2,4,5-Trichlorophenol	11000	U
87-86-5	Pentachlorophenol	20000	

001008

TOLS009255

BZTO104(e)046077

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005-28
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g % Moisture: 25
Date Extracted: 11/08/89
Date Analyzed: 11/09/89

Lab Sample: 2116-03
Customer Sample: T3-6-1103-35
Sample Description: Sand
Date Collected: 11/03/89
Time Collected: 9:11
Date Received: 11/07/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	440	U
120-83-2	2,4-Dichlorophenol	440	U
59-50-7	4-Chloro-3-methylphenol	440	U
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	2200	U
87-86-5	Pentachlorophenol	3900	

001015

TOLS009256

BZTO104(e)046078

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PNELI

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	2116-00MB	53	71	90	53	58	82		0
02	2116-02	61	93	87	45	42	28		0
03	2116-01	38	77	84	51	43	86		0
04	2116-01MS	64	84	83	62	77	87		0
05	2116-01MSD	62	85	88	60	75	87		0
06	2116-03	64	88	91	66	76	90		0
07									
08									
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30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(23-120)
S2 (FBP) = 2-Fluorobiphenyl	(30-115)
S3 (TPH) = Terphenyl-d14	(18-137)
S4 (PHL) = Phenol-d5	(24-113)
S5 (2FP) = 2-Fluorophenol	(25-121)
S6 (TBP) = 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

001022

FORM II SV-2 1/87 Rev.

TOLS009257

BZTO104(e)046079

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PNELI_____ Contract: _____ _____

Lab Code: PNELI__ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - Lab Sample No.: 2116-01_____ Level: (low/med) LOW___

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	8800	0	4800	54	26- 90
2-Chlorophenol	8800	0	5300	60	25-102
1,4-Dichlorobenzene	4400	0	2500	57	28 104
N-Nitroso-di-n-prop.(1)	4400	0	2000	47	41 126
1,2,4-Trichlorobenzene	4400	0	3000	68	38 107
4-Chloro-3-methylphenol	8800	0	5500	62	26 103
Acenaphthene	4400	0	2700	61	31-137
4-Nitrophenol	8800	0	6300	72	11-114
2,4-Dinitrotoluene	4400	0	3100	70	28- 89
Pentachlorophenol	8800	4300	9400	58	17-109
Pyrene	4400	62	2600	58	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	8800	4700	53	2	35	26- 90
2-Chlorophenol	8800	5300	60	0	50	25-102
1,4-Dichlorobenzene	4400	2400	54	5	27	28 104
N-Nitroso-di-n-prop.(1)	4400	1900	43	9	38	41 126
1,2,4-Trichlorobenzene	4400	3000	68	0	23	38 107
4-Chloro-3-methylphenol	8800	5600	67	-8	33	26 103
Acenaphthene	4400	2800	64	-5	19	31-137
4-Nitrophenol	8800	6600	75	-4	50	11-114
2,4-Dinitrotoluene	4400	3000	68	3	47	28- 89
Pentachlorophenol	8800	10000	65	-11	47	17-109
Pyrene	4400	2900	64	-10	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: __0 out of _11 outside limits _ --
Spike Recovery: __0 out of _22 outside limits _ --

COMMENTS:

INST. ID: BNA #2

001023

TOLS009258

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005-28
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g
Date Extracted: 11/08/89
Date Analyzed: 11/09/89

Lab Sample: 2116-00MB
Customer Sample: NA
Sample Description: Method Blank
Date Collected: NA
Time Collected: NA
Date Received: NA
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	330	U
120-83-2	2,4-Dichlorophenol	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1700	U
87-86-5	Pentachlorophenol	1700	U

001041

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005-28
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g % Moisture: 24
Date Extracted: 11/08/89
Date Analyzed: 11/09/89

Lab Sample: 2116-01MS
Customer Sample: T1-4-1103-25MS
Sample Description: Sand
Date Collected: 11/03/89
Time Collected: 8:42
Date Received: 11/07/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	5300	*
120-83-2	2,4-Dichlorophenol	440	U
59-50-7	4-Chloro-3-methylphenol	5500	*
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	2200	U
87-86-5	Pentachlorophenol	9400	*E

* This compound is a matrix spike compound.

001047

TOLS009260

BZTO104(e)046082

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005-28
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g % Moisture: 24
Date Extracted: 11/08/89
Date Analyzed: 11/09/89

Lab Sample: 2116-01MSD
Customer Sample: T1-4-1103-25MSD
Sample Description: Sand
Date Collected: 11/03/89
Time Collected: 8:42
Date Received: 11/07/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	5300	*
120-83-2	2,4-Dichlorophenol	440	U
59-50-7	4-Chloro-3-methylphenol	5600	*
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	2200	U
87-86-5	Pentachlorophenol	10000	*E

* This compound is a matrix spike compound.

001053

TOLS009261

BZTO104(e)046083

PIVEL Traveler

Client Name: ECOVA - Time Oil

Address:

Contact: Bill Mahaffey 821401

Phone Number: (206) 883-1900 X260

Batch No. 2116

Client No. 31-891005-28

Sample Loc: Wilk dr

Date Collected: 11/03/89

Date Rec'd: 11/07/89

No. of Samples: 3

Quality Control 2116-01 is client's request for the QA/QC

- X Level IV - Custom — MS: 01
- X Level III - Project Specific — MSD: 01
- ___ Level II - Standard — DUP: ___
- ___ Level I - Screening — Other: ___

Holding Time/Scheduling

Extr. By: ___ Days W Extr. By: RUSH Days

VOA By: ___ Days

SC By: 11/13/89

Dash	Field ID	Description	Matrix	Analysis Required	Date to S
01	T1-4-1103-25	Sand	Sand	PCPs & other chlorinated phenols	by 11
02	T2-5-1103-35	↓	↓	↓	
03	T3-6-1103-35	↓	↓	↓	
		See Attached		RFA Form for	
		the CLP	Report	Format.	

Relinquish In/Date ___/___ ___/___ ___/___ ___/___ ___/___ ___/___ ___/___ ___/___

Received In/Date ___/___ ___/___ ___/___ ___/___ ___/___ ___/___ ___/___ ___/___

TOLS009262

HAGEDORN, INC.

Registered Land Surveyors • Oregon Washington California

1924 Broadway, Suite B • Vancouver, WA 98663 • (206) 696-4428 • (503) 283-6778

November 3, 1989

Ecova Corporation
ATTN: Jim Borthen
3820 159th Avenue N.E.
Redmond, WA 98052

Dear Jim:

Attached are our computer computations of volumes for Time Oil, Portland terminal excavation pit and stockpile area. These volumes were produced on our computer from field data furnished by Ecova Corporation.

We look forward to working with you again on future projects.

Sincerely,

William F. Hagedorn, P.L.S.
President

WFH/ch

TOLS009263

BZTO104(e)046085

HAGEDORN, INC
1924 BROADWAY, STE. B
VANCOUVER, WA 98663
Fri Oct 27 12:10:11 1989

ECOVA VOLUMES

DTM TO DTM VOLUME

Cut and Fill Volumes

Original DTM Layer Name	# of Points	Final DTM Layer Name	# of Points
POINTS	229	FINAL	266

Cut Volume (yd3)	Cumulative Cut Volume	Fill Volume (yd3)	Cumulative Fill Volume
2909.19	2909.19	2697.58	2697.58

APPENDIX D

ECOVA

March 23, 1990

Mr. Joe Sanzo
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Dear Mr. Sanzo:

Pursuant to our meeting of March 9, 1990, ECOVA has prepared a detailed presentation of project communications and project accounting data for your review. We have divided the project into two (2) phases, the first of which covers November 9, 1988 to March 1, 1989 during which the project was within the work scope; and a second phase from March 1, 1989 to present during which both Time and ECOVA realized that we were beyond the original scope of services.

Costs for labor during Phase II are presented by Activity in Attachment B. Detailed accounting for Other Direct Charges (ODC's) by month incurred is included in Attachment C.

ECOVA is prepared to attend a Management Level meeting for discussion of this presentation upon completion of Time Oil's review. Please contact John Kinsella to arrange this meeting.

Please call if we can answer any questions or provide other assistance during your review.

Sincerely yours,

Encl. (2)

John V. Kinsella
Vice President, Operations

Roderick A. Carr
Contract Administrator

cc. Fred Proby, Time Oil

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

TOLS009266

BZTO104(e)046088

TIME OIL NORTHWEST TERMINAL REMEDIATION:

COST OF R&D PHASE

Prepared for:

Mr. Joe Sanzo
Time Oil Company
Seattle, Washington

John V. Kinsella, P.G.
Vice President, Operations

Roderick A. Carr
Contract Administrator

Prepared by:

ECOVA Corporation
3820 - 159th Ave. NE
Redmond, WA 98052
(206) 883-1900

Project Number: 821401
March 20, 1990

TOLS009267

BZTO104(e)046089

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Attachment C - Phase II "Other Direct Charge" Cost Detail.... C-1

TOLS009268

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EXECUTIVE SUMMARY

In November 1988 it was agreed that ECOVA would attempt a biodegradation of the solvent and PCP contaminated soil at the Time Oil Northwest Terminal in Portland, Oregon. Application of ECOVA's bioslurry technology appeared to offer a means of remediating the contaminated soil at the site, based on the treatability study completed on samples of the soil provided.

Upon mobilizing to the site, ECOVA became very concerned in January and February of 1989 as excavation activities revealed the existence of previously unanticipated solvents and other organic compounds which gave cause for health and safety of site personnel. The existence of these compounds also brought the applicability of the original treatment technology into doubt.

ECOVA provided detailed notification of these issues in March and April 1989, leading to the conclusion in May correspondence with Time that the original November 9, 1988 contract's scope of work was no longer adequate to address the activities which were required on site. The subsequent provision of MSDSs for additional compounds used at the site shows that Time Oil had previous knowledge of the potential existence of this additional contamination. That additional information was not provided to ECOVA during the preparation and negotiation of the November 9, 1988 contract. A defective specification therefore existed in the contract as originally structured. Agree

At the direction of Time Oil, ECOVA continued site operations in search of what had become a very complex problem. Health and Safety procedures were upgraded to require Level B protection for on site personnel. Additional efforts such as more excavation and more analytical chemistry were undertaken, ECOVA repeatedly requested modifications to the contract so that the contract would remain whole and properly reflect the roles and responsibilities of both parties as work continued on the site. To this date, three small changes have been made to the contract. Number 1 on October 30, 1989 for $6,027; Number 2 on October 31, 1989 for $700 and Number 3 on October 31, 1989 for a no cost schedule extension. None of the changes have addressed the major issues of additional contaminants and continuing out-of-scope site operations which have been the concern of the parties during Phase II.

As recently as November 1989, the Time Oil project manager has referred to the ECOVA efforts in the following words: "....I am encouraged by the sincere effort that I see being put forth on this project and I remain confident that we will soon leave this shakedown stage and get on to some serious cleanup." Such documentation can leave little doubt that ECOVA's efforts have proceeded under the direction and approval of Time Oil.

ECOVA has determined that March 1, 1989 is a justifiable date for

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NO - proposed by Ecova w/o reference to cost

separating the job into two phases. The Phase I is shown to have dealt with activities within the originally established scope of work and incurred a total of $130,779 in costs. Phase II, from March 1, 1989 to date is shown to have concerned itself with research and development requested by Time Oil as the complexities of the site were uncovered by ECOVA. The second phase has incurred costs totaling $316,556 for which ECOVA requests payment.

Status of the dollars involved may be presented as follows:

Phase I - Job Cost - - - - - - - - - -	$ 130,779
Phase II - Job Cost - - - - - - - - - -	315,946
Less Groundwater Study Adjustment (Attach. B)	<5,898>
Net Job Cost to Date - - - - - - - - - -	$440,827
Less Payment for Mobilization/Construction -	<160,000>
Net Balance Due for Job Cost to Date - - - Requires Contract Mod for Amount	$280,437

With a contract modification to cover the unpaid costs of Phase II activities as presented above, the Contract Status would then be as follows:

Contract Value (incl. Mods 1,2,3) - - - - -	$451,727
Contract Mod 4 for Phase II activities - - -	280,437
Total Contract Value (Incl. Mods, 1,2,3,4) - -	$733,164
Payment for Mobilization/Construction - - -	<160,000>
Payment for Phase II - - - - - - - - - - -	<281,437>
Net Remaining Contract Value for Remediation -	$291,727
Additional Contract Mod Required for T&M Support in Oregon DEQ Negotiation -	T&M

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Never authorized

INTRODUCTION

The goal of this document is to:

a) Establish the basis, time period and cost of out of scope R&D activities carried out by ECOVA at the Time Oil Northwest Terminal in pursuit of remediation methodologies and site assessment data as initiated by the contract of November 9, 1988 between ECOVA and Time Oil.

b) Separate out any costs which are not directly attributable to support of R&D activities and which may be assigned to ECOVA either because they represent costs for activities which are within the scope of the original contract, or because they were executed by ECOVA without the assent of Time Oil. cost was never brought up by Ecova

c) From b) above, list the costs for the R&D activities incurred by ECOVA and Time Oil, and suggest an appropriate partitioning of that cost between the parties.

The assumptions upon which the analysis was based are:

1) That the project has taken place in two distinct phases, the dividing line between the phases marked by the date of mutual recognition that the site contained contaminants, solvents and volumes of contamination which were not as originally contemplated. In effect, Phase II commences upon the conclusion that Defective Specifications have been encountered and that a practical impossibility of performance may exist. This date is established as March 1, 1989 based on the existing project documentation.

At this point I said "tell me what the impact on the contract will be" – Ecova never did.

2) Phase I covers the period between November 9, 1988 and February 28, 1989. During the first phase, activities on the site consisted of mobilization and excavation.

3) The second phase covers the period from March 1, 1989 until the present, and is variously referred to as Phase II or the R&D Phase.

4) The second phase occurred due to the discovery of differing site conditions, unanticipated contaminants and the resulting change of scope that these conditions caused. Upon discovery of the differing conditions, there arose a practical impossibility of performance since the contract was based upon treatment of PCP as had been determined in the preliminary treatability study. Time Oil knew or suspected the presence of additional contaminants and withheld the information from ECOVA. We are faced with the issue of a contract with a defective specification. The additional contaminants have made it a practical impossibility for ECOVA to perform under the original contractual conditions, and it is this

Never so stated before the march 90 Progress meeting

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recognition that has occupied the parties in the Phase II efforts.

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PROJECT CHRONOLOGICAL DOCUMENTATION OF SITE CONDITIONS/WORK SCOPE

The following key documents are part of the project record. Excerpts are provided herein for reference, but all documents have been provided and are held by both ECOVA and Time Oil.

****

A) Letter, M.Anderson (ECOVA) to F.Proby (Time) - March 14, 1988/1989

"In February, additional equipment was delivered to the site. Excavation of the contaminated area continued at the beginning of the month, but was halted when unexpectedly large quantities of unknown organic solvent material were encountered at depth in the excavation. Laboratory analysis was conducted to identify these unknown materials."

"To date in March, excavation has commenced again after discussions with you, and assembly of the treatment system was initiated."

"Unknown Solvents in Excavation - The problem with unknown solvents first became suspected when our operators complained of headaches in January. We tested the air and soil at that time, but could not find any compounds that were of concern. Our operators have not complained of symptoms since. At that time both you and Neil Wallis provided us with formulae and MSDSs for the materials originally used in the PCP mixing process at the site. When we encountered free liquid product at depths of 7 to 9 feet along with strong solvent odors and stained soil, we halted excavation. ECOVA Analytical Services, (per your request) engaged upon a series of analyses to identify these compounds. These analyses, copies of which were given to you on Thursday, March 9, 1989, indicate that, in addition to "mineral spirits" which were originally believed to be present, a number of heavier aliphatic, ketone and ester/olefin/alcohol type compounds (such as would be expected to be found in the Kodak proprietary compound KB-3) were present. In our meeting of March 9, we stated that:

1) These new compounds were largely insufficiently volatile for removal with vacuum vapor extraction technologies;

2) These new compounds seem to occur both with and without the presence of PCP;

3) Free product may be present on the surface of the groundwater table; and

4) It appears to our microbiologists that most, if not all of these additional compounds appear to us to be potentially biodegradable.

ie, "no problem" with contract scope

7

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The following actions were agreed to in that meeting:

1) Continue excavation for all solvent and PCP contaminated soils;

2) Attempt biodegradation of the solvent and the PCP contaminated soil in a bioslurry reactor at the earliest convenience; and

3) Notify you as soon as possible if it appears that significant additional quantities of soil will need to be excavated."

COMMENT - Here is clear evidence that as of the March 9, 1990 meeting both parties realized that they had proceeded beyond the original scope of services. ECOVA was told to continue excavation, hence all excavation work after March 1, 1989 is eligible for inclusion in the cost of the Phase II R&D effort. (Note: Since no excavation work took place between March 1 and 9, a proper accounting is given by using the figures available in monthly summaries of cost.)

In a like manner, biodegradation of solvent and soil was now to be carried out in the bioslurry reactor, making site operations activities eligible for inclusion in the cost of the Phase II R&D effort also. This direction from Time Oil places a proper perspective on the use or non-use of the soil washing technology that had been variously discussed as having been part of the requirements of the contract. What ever the contract said, Time was placing priority on bioslurry work from the March 9, 1989 meeting on.

No written response from Time Oil to this letter exists in the ECOVA Project File.

****

B) Letter - M.Anderson (ECOVA) to F.Proby (Time) - April 24, 1989

"Enclosed for your information are plots showing location and analyses of samples taken during excavation operations. All analyses were performed by the onsite laboratory. We believe that the main part of the excavation has now been completed down to the groundwater on the north and east sides of the pit. Although we have confirmed that contaminated soils exist below groundwater, this contamination will be left in place for treatment by in situ methods. We will be taking additional samples along the walls on those sides to verify that all PCP contaminated soils have been removed."

COMMENT - The likelihood of additional excavation and additional contaminated soil is here raised, indicating a continuing

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expansion of the scope of work further impacted by the existence of additional contaminants as discussed previously.

"In our March 14 (1989) letter, we indicated that, per your consent, we would attempt a biodegradation of the solvent and PCP contaminated soil in a bioslurry reactor at the earliest convenience. We still intend to proceed with this course of action when the treatment equipment can be made available."

COMMENT - This excerpt provides evidence that ECOVA was willing to perform services outside the original scope of work, and was willing to do so under verbal notices to proceed and based on mutual agreements documented by the project correspondence. It may also be interpreted as acceptance of the work by Time Oil due to its failure to reject it.

(10)

N/O discussion of cost

The work wasn't done at this time.

No written response from Time Oil to this letter exists in the ECOVA Project File

****

C) Letter from M.Anderson (ECOVA) to F.Proby (Time) - May 2, 1989

"The presence of large quantities of unknown solvents and other organic compounds--more than just "mineral spirits"--that we have encountered in the excavation at the site has us very concerned. From our letters dated March 14 and April 24, 1989, and from our meetings on March 9 and April 24, 1989, you know that we have been evaluating what these compounds may be and the effects they may have upon our remediation program. Three specific areas of concern are raised by these unknown compounds which need to be addressed quickly:

1) Scope of Work
2) Health and Safety
3) Extent of Contamination

Each of these concerns is discussed below.

Scope of Work - The treatability study and subsequent contract that we negotiated with Time Oil to provide remediation services was based upon bioremediating soil and groundwater contaminated with PCP. "Mineral spirits" was mentioned as possibly being present, and this material (in small amounts) does not normally pose a problem to biotreatment.

The unknown organic compounds that we have encountered were not reported in the previous sampling data (your letter of July 21, 1988) and were not present in the original samples from the site that we obtained in August 1988 for the treatability tests. They have only shown up at depth in the excavation, although the odor

that seems to be characteristic of Kodak "Solvent KB-3" was detectable prior to excavation. The mixing formulas and MSDS's for the compounds used in the original PCP mixing facility (including Solvent KB-3) which you provided us in February 1989, confirmed the historical use of a number of compounds in addition to mineral spirits."

COMMENT - Time Oil apparently had technical information about the historical use of the site and what compounds might have been present but did not make that information available to ECOVA. During the treatability study and during the preparation of the proposal therefore, ECOVA was entitled to rely on the information presented and further to rely that the information was as complete as possible. However, since Time had this information, then ECOVA is not bound to accept the additional risk of performance which appears because of Time's failure to provide all relevant information.

No dispute that solvents are out of scope.

(14)

"The most immediate problem stems from the way we have constructed our treatment system. Our treatment system is engineered to effectively treat PCP; we do not presently know whether or not the unknown organic compounds can be effectively washed from the soil and completely biodegraded, either exclusively or in conjunction with PCP. Additional testing is required to determine if our equipment is suitable."

Our "experiment"

COMMENT - ECOVA provides notice here that its treatment system and therefore its price for doing the job is based on treating PCP (with the possible addition of mineral spirits) in the soils and groundwater of the site. The treatment system was not designed to remediate additional compounds, nor was the price for doing the job expected to cover treatment of additional compounds. This paragraph is a red flag that the work content is clearly outside the scope that was mutually contemplated by the parties at the time they entered into the contract.

(12)

Never raised by Ecova

"The presence of the unknown compounds has also delayed us in completing the excavation and backfilling tasks of the project. As we encountered soil contaminated with the unknown organic compounds, we excavated the material above the water table, and some below the water table."

Not supported in 2/10/89 meeting discussions

COMMENT - The discovery of the additional contaminants led to increased costs for excavation, increased costs for manning the site, and increased costs for analytical testing above and beyond what had been planned for the effort. This and the previous letters refer to substantial amounts of contaminated soil which are now known by both parties to have been left in place pending resolution of approaches for clean-up and establishment

(13)

How? never identified Paid

TOLS009276

BZTO104(e)046098

of clean-up criteria which will be acceptable to the Oregon Department of Environmental Quality, a party who has not been a part of the effort to date. There can be little doubt that the continuing uncertainty as to how to proceed contributed significantly to the costs incurred on the site and project after March 9, 1989. At the direction of Time Oil, ECOVA maintained personnel on site and continued on-site efforts in support of the search for a solution to the increasingly complex problem.

NO
Ecova was still trying to set up their contracted system

"The presence of unknown compounds, especially volatile ones, directly impacts the Health and Safety program at the site. In order to continue working at the site, several actions must be implemented:

(14)

Paid

1) The Health and Safety Plan must be updated to include operating procedures for handling material contaminated with the unknown organic compounds.

Not Claimed

2) The stockpile must be covered to reduce volatilization.

Not done?

3) Health and Safety procedures in the Exclusion Zone must be upgraded to Level B. This calls for supplied air respirators to be used by all employees entering the area, Saranex coveralls, gloves and rubber boots.

not claimed

4) The ECOVA employees must be given another physical examination to cover their potential exposure to volatile organic compounds.

Not Claimed

5) Additional air sampling must be performed in the work area to assess airborne contamination. 3M badges will be used for this assessment.

ECOVA is implementing these changes to the Health and Safety Plan."

COMMENT - The changed site conditions placed a responsibility on ECOVA to make substantial changes to its Health and Safety approach to the site. By directing the continuation of work at the site, Time Oil tacitly agreed to the incurrence of additional costs related to such Health and Safety changes. The movement into Level B protection by itself would have reduced on-site efficiency severely, requiring more man hours of effort to accomplish any defined work task. Additional costs for health monitoring and site monitoring were accepted by the parties as the price of continuing to work on the site, precluding exposure to unknown contaminants.

Paid BZ60

Money now discussed

"While our contract includes the necessary cleanup level for PCP (0.5 ppm in both water and soil) no limits have been (or can yet

TOLS009277

BZTO104(e)046099

be) set for the unknown organic contaminants. Without better data on the nature of the contaminants, it is impossible to set cleanup limits and determine if they are being met. It is not advisable to discharge any material to an uncontaminated area without determining these parameters."

COMMENT - As of the date of this letter, Oregon DEQ was still not involved in the decisions which are ultimately to guide the cleanup of the site. ECOVA was in the position of responding only to Time Oil, with no overriding guidance from regulatory officials. Oregon DEQ was not involved in the process of setting clean up criteria, nor were they involved in assenting to the criteria established by Time Oil. (15)

what does this mean?

"Proposed Program - From our discussion above, we believe it is necessary to immediately make some major changes to the project scope of work and schedule. Following is our proposal for revising the project: (16)

1) Stop work on construction of the treatment system pending the gathering of additional information about the nature of the contamination needing treatment.

2) Backfill the present excavation with clean soil from the disposal site to minimize the hazards, both chemical and physical. Organic contamination present will be below the groundwater table and is expected to be handled by in situ methods.

3) Immediately undertake a sampling and chemical characterization task aimed at determining and quantifying all contaminants present at the site. Attached is our proposed scope of work for this task.

4) Immediately undertake an additional soil washing and biotreatability assessment in the laboratory to verify the treatability of the unknown organic compounds.

5) Implement changes to the Health and Safety Plan discussed above. Once chemical characterization has been completed, modify the Plan accordingly.

6) Once chemical characterization has been completed, plan and undertake a soil and groundwater sampling program aimed at defining the extent of contamination present at the site.

7) Once the additional data has been gathered, revise the engineering design of the treatment plant, if necessary, to allow for the successful completion of remediation of the soil and groundwater.

We are recommending that our contract be amended to allow these changes to the work scope to be included. Additionally, we are requesting payment for work performed on the project to date and for progress billing based on costs incurred in the immediate future until treatment operations commence."

COMMENT - Here ECOVA has laid out a plan for modifying the contract so as to recognize the "differing site conditions" that have been encountered. ECOVA also requests progress payments as recognition of the out-of-scope and exploratory nature of the work upon which it is going to be asked to embark. Time Oil responses to these requests were verbal and did not address the substantive issues, nor were modifications to the contract forthcoming. ECOVA received continuing verbal directions from Time Oil.

No written response from Time Oil to this letter or to the proposed characterization and treatability efforts that were attached exists in the ECOVA Project File.

****

D) Letter - M.Anderson (ECOVA) to F.Proby (Time) - June 16, 1989

"Out of Scope Items - Additional significant items that will need to be addressed by a Change Order over and above the Change Orders previously discussed include:

1) Treatment of the 100,000 gallons of diesel and gasoline contaminated water from the slop tank. As we discussed, we don't see any problem with being able to biodegrade the contaminants in the water, however, it will add additional organic carbon load to the bioreactors. The PCP microorganisms should be able to degrade these compounds, but they do this preferentially to degrading the PCP, thus slowing down the whole treatment process somewhat. This is the same effect that we expect to see with the solvents. Obviously, from our perspective it causes less operational problems to use clean water in mixing the slurry. But from your perspective, it is convenient to use the aqueous bioreactor to handle this water to allow discharge to the POTW.

2) Treatment of the volume of solvent-contaminated groundwater that is being removed from the pit. Similar concerns to those expressed in 1).

3) I have discussed the in situ system groundwater treatment system requirements with John Kinsella, ECOVA Operations VP. We are preparing a proposed approach for your review and discussion."

Not Provided

TOLS009279

BZTO104(e)046101

My consistent response was "give me a cost for out-of-scope items and we'll discuss them"

COMMENT - ECOVA again requests authorization to do work that is outside the scope of services. There is a continuing pattern of written ECOVA requests for Change Orders and recognition of the out of scope nature of the effort. Time Oil did not provide written responses, but by continuing verbal direction of work efforts it must be concluded that Time was actively continuing the project even though both parties had recognized that they were outside the scope of the services originally contemplated. Verbal direction by the Time Oil project manager, acting as an agent of Time Oil, absent written direction which had been repeatedly requested, is binding on ECOVA and ECOVA is entitled to rely on that direction as evidence of authorization to proceed outside the original scope of services.

No written response to this letter by Time Oil exists in the ECOVA Project Files.

****

This was Ecova's response

E) Letter - M.Anderson (ECOVA) to F.Proby (Time) - July 14, 1989

"Out of Scope Items - A number of work items not covered by our contract have been discussed in previous letters to you. The following is ECOVA's current list of significant work items that need to be addressed by a Change Order:

1) Items included on the original Change Order that you have been holding, including the PGE power drop.

Later

2) Excavation and backfill of PCP-contaminated soil under the septic tank in the stockpile area. It is not possible to estimate these costs at this time, and we propose to conduct this excavation on a time and materials basis.

3) Excavation and backfill of PCP-contaminated soil next to the 38K bioreactor tank. It is not possible to estimate the costs at this time and we propose to conduct this excavation on a time and materials basis.

4) Quantity measurement (surveying) and biological treatment of contaminated soil from Items 2 & 3. Costs for this measurement and treatment would be determined at the time the soil is excavated and stockpiled.

5) Additional laboratory analyses for the unknown solvents in the soil. Costs were $2,050 (fast turnaround on five GC/MS runs.)

6) Additional laboratory analysis for the unknown solvents in the groundwater sample to be taken. Costs incurred were $712.

7) Costs incurred in modifying the site Health & Safety Plan to take into consideration the unknown solvents encountered.

8) Additional ECOVA labor incurred in pumping contaminated water from the leaking Crosby & Overton tanks into another Time Oil Tank.

9) Time and expenses incurred for regulatory preparation. To date approximately $360 have been incurred in procuring and reviewing Oregon DEQ regulations. Additional preparation is anticipated for the upcoming meeting with ODEQ in Portland.

10) Treatment of 100,000 gallons of diesel and gasoline contaminated water from slop tank at the site. Also, one GC analysis of the slop tank water for petroleum hydrocarbons was performed at a cost of $110.

11) Groundwater modelling of the site. Based on the results of the aquifer testing being conducted at the site and a review of the available data, ECOVA will construct a groundwater model of the Time Oil property potentially impacted by PCP. The total estimated costs are $10,140.

12) Excavation and biological treatment of mineral spirits contaminated soil from the disposal pit area. A separate letter proposal has been prepared that addresses this work item."

COMMENT - This listing includes items which were first brought to the attention of Time Oil over 5 months previously and had not yet been addressed in a Change Order. Work continued at the site verbal instruction continued to be issued by the Time Oil project manager.

No written response from Time Oil to this letter exists in the ECOVA project File.

****

F) Letter - R.Carr (ECOVA) to F.Proby (Time) - September 12, 1989

"This letter with attachments should bring us up to date as far as submittals you have requested from ECOVA, and outstanding Change Orders that cover the work to date at the Portland Northwest Terminal Remediation Site.

The contents of the attachments have been pulled from a variety of sources within ECOVA and are provided in regular type. Explanatory comments are given in boldfaced type to set them aside from the original documentation which has been provided to me.

Please provide written direction to ECOVA for the placement of

treated soil from the bioreactors as indicated in your recent telephone conversation with Dr. Dave Edwards."

COMMENT - ECOVA continues requests for project documentation in writing as specified by the contract.

****

G) Letter - F.Proby (Time) to W.Mahaffey (ECOVA) - October 31, 1989

"Should work outside of the scope of the contract be necessary in the future, written Change Orders will be issued by Time only after approval of a cost estimate. Verbal authorization to incur expenses will not be granted and expenses incurred without written authorization by Time will not be reimbursed. Accordingly, we both must be more diligent in anticipating out-of-scope work well in advance of the need so that proper approval may be obtained."

COMMENT - This disclaimer was issued 11 months after the establishment of the contract, and 8 months after the project effort had clearly expanded beyond the original scope of services. Repeated attempts by ECOVA to obtain Change Orders are well documented in the above cited excerpts from the project documentation. The contract does not contain a clause requiring that ECOVA give notice to Time Oil when ECOVA believes that direction from Time Oil constitutes a constructive change to the contract. Neither does the contract require ECOVA to provide notice of defective specifications. However, ECOVA has been diligent in its reporting of such encounters, and has repeatedly requested the Change Orders which were necessary to allow the work to continue. There is no doubt that Mr. Proby is empowered by Time Oil to order changes. ECOVA has repeatedly sought written Change Orders from Time, and has not been successful, though ECOVA's duty to perform has been stated explicitly by Time's representative as shown below.

****

H) Letter - F.Proby (Time) to W.Mahaffey (ECOVA) - Nov. 10, 1989

"Apart from these difficulties, I am encouraged by the sincere effort that I see being put forth on this project and I remain confident that we will soon leave this "shakedown" stage and get on to some serious cleanup."

COMMENT - This statement seems to strongly indicate that the activities up to this time are: 1) Acceptable to Time Oil as part of the project; and 2) Identified as part of a segment of the project which is preliminary or not the

same as the straightforward remediation of PCP contaminated soil that was called for in the contract. Time's statement accepts responsibility for the actions undertaken up to this point. Given the breadth of the documentation pointing to out-of-scope activities provided by ECOVA, it seem logical to conclude that Time has assumed responsibility for these activities by omission of Change Orders or written denial to the contrary. The project record to this date clearly demonstrates that both parties are cooperating in trying to find solutions to the problems discovered on site, problems beyond the scope of the original contract.

****

I) Letter - W.Mahaffey (ECOVA) to F.Proby (Time) - Nov. 30, 1989

"During the week of November 13, 1989 we rented a cement mixer to test the original design configuration for this project. We performed three batch washes and were able to show that the wash efficiency was identical to that obtained in the laboratory. From initial starting concentrations of 440 ppm PCP we effectively reduced the concentration to 58 ppm with the first wash to less than 0.5 ppm with the second wash. In one of the batches, we were only able to reduce the concentration to 17 ppm after 5 successive washes.

Some important observations were made during these runs. First, in each of the batches a solvent film developed at the air water interface after the agitation was stopped. Second, the one batch where the PCP was reduced only to 17 ppm was also the same batch which exhibited the greatest solvent film after agitation ceased. The soil in this batch had a distinctive solvent odor after 5 successive washes. Third, in all batches there was always a significant silt fraction residual even after successive washings. When this silt fraction was washed from one of the set of duplicate samples then the PCP levels were significantly reduced versus the sample containing the silt (e.g. 17 ppm versus 140 ppm and <0.5 ppm versus 32 ppm).

These results emphasize that the silt fraction must be removed to achieve the cleanup criteria and that the presence of the solvents may present a barrier to cleanup by the soil washing process as designed. This later point requires some verification."

COMMENT - So not only do the solvents potentially interfere with the bioremediation, they interfere with the soil washing procedure also. It would also appear that the soil supplied for ECOVA to test in its treatability was unfortunately less contaminated with solvents, and contained less silt fraction than other soils which are encountered at the site. Both ECOVA and Time were

operating with less than the amount of site data that in hindsight was required to establish the actual contamination conditions, the methodology for cleanup and the cleanup criteria that should have formed the basis of the contract.

****

J) Meeting Notes - March 9, 1990 (ECOVA 3/9/90, Time 3/14/90)

On March 9, 1990, a meeting was held at Time Oil, Seattle with Joe Sanzo and Fred Proby from Time, and John Kinsella, Dr. Bill Mahaffey and Rod Carr from ECOVA. At this meeting allpresent agreed to produce this document, describing the important aspects of the Northwest Terminal project to date, reviewing the costs incurred to date and suggesting a means of partitioning those costs. Memorandums of the meeting, attached as Item J, were separately generated by ECOVA and by Time Oil.

CONCLUSIONS -

The written project record is clear. ECOVA gave notice to Time Oil that it was embarking on out-of-scope work at least on March 14, 1989, with verbal notice given even earlier. ECOVA repeatedly called Time's attention to the out-of-scope nature of the effort, and requested change orders to address the issue.

In November of 1989, Mr. Proby's letter of the 10th marks the one-year anniversary of the establishment of the contract, and agrees that the work that has been proceeding is preparatory to the real essence of the contract, which was to have been "serious cleanup."

It must be concluded that ECOVA has proceeded in good faith, has honored its duty to perform, has properly documented the activities occurring on site, and has repeatedly requested appropriate change orders from Time Oil. ECOVA has done this without the support of progress payments or the comfort of Change Orders and/or modifications to the contract. A fair and reasonable conclusion is that the cost of efforts undertaken is due ECOVA, given the assent provided by Time Oil.

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COSTS FOR PHASE I AND PHASE II

The following charges were made against the project tasks during Phase I, the period from contract start to February 28, 1989. These charges are not eligible for inclusion as part of the cost of the R&D phase since they represent costs cumulative until 2/28/89, which was the period when the job was proceeding within scope. The "budget" column is the task cost originally budgeted for the task at contract start.

TABLE 1 - PHASE 1 COSTS BY TASK

Title	Budget	Actual
Activity 200 - Engineering & Design	$22,533	$18,921
Activity 300 - Groundwater Investigation	14,871	$ 6,360
Activity 510 - Mobilization/Construction	96,895	$77,156
Activity 520 - Excavation	34,070	$25,965
Activity 600 - Site Operations	245,501	$ 2,376
Activity 650 - Demobilization	5,479	$ 0
Total Phase I Cost		$ 130,779

The following charges are those accumulated between March 1, 1989 and the present during Phase II.

TABLE 2 - PHASE II COSTS BY TASK

Title	Actual
Activity 200 - Engineering & Design	$11,473
Activity 300 - Groundwater Investigation (Net)	8,511
Activity 510 - Mobilization/Construction	99,642
Activity 520 - Excavation	48,683
Activity 600 - Site Operations	127,494
Activity 650 - Demobilization	0
Activity 615 - Experimental Site Ops	13,975 *
Total Net Phase II Cost	$ 310,048

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* - Activity 615 was established by Dr. Mahaffey to accept charges specific to experimental activities directed by Time Oil.

The following Table 3 provides total job cost for both phases from project inception to the present time versus original budget by task.

TABLE 3 - TOTAL JOB COSTS

	Title	Original Budget	Job Actual
I	Activity 200 - Engineering & Design	$22,533	$ 30,394
I	Activity 300 - Groundwater Investigation (Net cost to Time)	14,871	$ 14,871
I	Activity 510 - Mobilization/Construction	96,895	$176,768
I	Activity 520 - Excavation	34,070	$ 74,648
II	Activity 600 - Site Operations	245,501	$130,869
II	Activity 650 - Demobilization	5,479	$ 0
II	Activity 615 - Experimental Site Ops	N/A	$ 13,975
	Net Total Job Cost		$440,827

COMMENT -

Phase I activities took place under the original project plan and were carried out within the original scope of services. For the initial four month period, all tasks were well within budget and the job can be characterized as being in control.

Upon the unfolding of Phase II costs continued to accumulate in the various Activities originally budgeted. The allocation of these costs is reflective of both the amount and relative proportion of work undertaken in Phase II at Time's direction.

The period of performance for the activity has been drastically extended by the efforts of Phase II. We are now 15 months into an effort originally planned for 19 months. The amount of costs incurred, given the time span, should not be unexpected.

ECOVA has eliminated from Activity 300 - Groundwater Investigation, costs of $5,898 for services which ECOVA agreed to perform at no charge to Time Oil.

CONCLUSION -

Based on the project record, ECOVA and Time Oil have by mutual

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agreement expanded the scope of services at the Northwest Terminal Remediation Site. Strong evidence exists to show that both parties were aware of the out-of-scope nature of the efforts which have involved the parties since March 1, 1989. Time Oil provided continuing direction of the work in progress without issuing a contract change or modification though that was repeatedly requested in writing by ECOVA. ECOVA is due full payment for the efforts expended at the direction of Time Oil.

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3/16/90

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ATTACHMENT A - FULL COPIES OF CITED DOCUMENTS

TOLS009288

BZTO104(e)046110

ATTACHMENT B - PHASE II COST BY TASK/ACTIVITY

TOLS009289

BZTO104(e)046111

ATTACHMENT C - PHASE II "OTHER DIRECT CHARGE" COST DETAIL

TOLS009290

BZTO104(e)046112

ATTACHMENT A - FULL COPIES OF CITED DOCUMENTS

TOLS009291

BZTO104(e)046113

M. ANDERSON

ECOVA

March 14, 1989 P.N. 821401

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Fred:

Subject: Status of Remediation Project at Time Oil Northwest Terminal, Portland, Oregon

This letter will apprise you of the current status of the ECOVA project to remediate pentachlorophenol (PCP) soil at the subject site.

Work Completed To Date

Work commenced on the project immediately after the contract start date of November 9, 1988. During the initial engineering and process optimization phase, a decision was made to modify the treatment process to allow for enhanced soil washing. This modification should allow for an expedited remediation program, reducing the overall time from 19 months to approximately 12 months or less.

Work onsite commenced in December with establishment of an office and initial excavation of the disposal pit areas. In January 1989, work continued with drilling of the additional wells, construction of the soil stockpile and treatment areas, establishment of the onsite laboratory, and commencement of excavation, screening and stockpiling of contaminated soil. Modification of the 38,000 gallon tank commenced with installation of a new tank lining. PGE initiated construction of the power transmission line. Treatment equipment was mobilized to the site.

In February, additional equipment was delivered to the site. Excavation of the contaminated area continued at the beginning of the month, but was halted when unexpectedly large quantities of unknown organic solvent

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material were encountered at depth in the excavation. Laboratory analysis was conducted to identify these unknown materials.

To date in March, excavation has commenced again after discussions with you, and assembly of the treatment system was initiated.

Problems Encountered

Initial problems were encountered in obtaining power to the site. According to the original schedule, power was needed about the third week in January. Power was not available at this time. However, because of severe weather and equipment problems encountered by ECOVA at a site elsewhere (equipment slated for use at the Portland site), delivery of some treatment equipment to the Portland site was delayed well into February. In any event, the severe weather would have delayed startup of the bioreactor systems, even if the systems had been available for treatment. The severe weather and lack of tankage has delayed the pump testing of the wells, as well. These are the kinds of problems encountered when starting up a project in the wintertime.

Excavation of Warehouse Foundation

Extensive study has been made of the problem facing us with the excavation of contaminated soil around and under the foundation of the former PCP warehouse building. Applied Geotechnology Inc., Bellevue, WA, was retained as a geotechnical subcontractor to assist us in arriving at a satisfactory and safe solution. The foundation of the warehouse is in very poor condition, with extensive pre-existing cracking. Excavation around this foundation is likely to cause additional cracking. We understand from both you and Neil Wallis that Time Oil is not concerned over the potential damage, however, we wish to minimize it to the extent possible and ensure a safe excavation.

We have decided to abandon excavation under the foundation in favor of an in situ approach involving installation of an injection system next to the foundation to wash the contaminants into the groundwater where they can be recovered by the groundwater wells. Excavation of the contaminated soil next to the foundation (but not under) will take place in a series

of narrow sections at a time with combined use of trench boxes (closed end) to provide stability to the adjacent soil. Clean soil will be backfilled while removing the trench box.

We have scheduled this excavation to take place after excavation and backfilling of the remainder of the contaminated area. If you have any concerns over this excavation approach, please let me know soon, or we will proceed with this plan. It is important to point out that, while we will be working very carefully around the foundation, some additional damage to the foundation of the warehouse may still occur.

Additional PCP Contaminated Soil

Additional soil contaminated with PCP has been identified that is outside the original excavation area. First, soil with up to 6000 ppm PCP was detected in the soil in front of the manhole cover at the 38,000 gallon tank in the tank farm area adjacent to the excavation. This contamination appears to be localized and, per our discussion with you, we will excavate and treat this additional soil.

Second, soil samples obtained from about a depth of 5' in the excavation for the stockpile area sump showed PCP and the presence of unknown organic solvents. Since this contaminated soil is in the middle of the stockpile facility, it will not be possible to excavate the soil during the main excavation effort. This will need to be excavated at a later date when the stockpile has been largely treated. Other soil samples taken at the surface in the stockpile and treatment areas (under the liners) did not detect any PCP present.

Unknown Solvents in Excavation

The problem with the unknown solvents first became suspected when our operators complained of headaches in January. We tested the air and soil at that time, but could not find any compounds that were of concern. Our operators have not complained of any symptoms since. At that time both you and Neil Wallis provided us with formulae and MSDSs for the materials originally used in

the PCP mixing process at the site. When we encountered free liquid product at depths of 7 to 9 feet along with strong solvent odors and stained soil, we halted excavation. ECOVA Analytical Services, per your request, engaged upon a series of analyses to identify these compounds. These analyses, copies of which were given to you on Thursday, March 9, 1989, indicate that, in addition to "mineral spirits" which were originally believed to be present, a number of heavier aliphatic, ketone and ester/olefin/alcohol type compounds (such as would be expected to be found in the Kodak proprietary compound KB-3) were present. In our meeting of March 9, we stated that:

1) These new compounds were largely insufficiently volatile for removal with vacuum vapor extraction technologies;

2) These new compounds seem to occur both with and without the presence of PCP;

3) Free product may be present on the surface of the groundwater table; and

4) It appears to our microbiologists that most, if not all, of these additional compounds appear to us to be potentially biodegradable.

The following actions were agreed to in that meeting:

1) Continue excavation for all solvent and PCP contaminated soils;

2) Attempt a biodegredation of the solvent and PCP contaminated soil in a bioslurry reactor at the earliest convenience; and
3) Notify you as soon as possible if it appears that significant additional quantities of soil will need to be excavated.

As we discussed today, we encountered free solvent product floating on the groundwater surface while continuing the excavation in the southeast corner of the pit. We agreed to obtain the hydrocarbon-absorbing pads to attempt to absorb this free product. The contaminated pads will be placed in barrels for later treatment (hopefully in a bioreactor).

Also, a water sample from the closest well to the excavation will be obtained and analyzed for the solvents by GC-MS method.

Revised Schedule

The revised schedule anticipated for the project is as follows:

Completion of Initial Excavation and Backfill.....April 14
Startup/Shakedown of Treatment Operations.....March 27 - May 1
Treatment Operations.....May 1 - December 15
Second Excavation and Backfill.....October 1 - 30
Demobilization.....January 2 - 14

This schedule obviously anticipates that the overall quantity of soil needing remediation does not increase significantly from the 3440 cubic yards originally anticipated.

Out of Scope Items

Additional significant items that will need to be addressed by a Change Order over and above the Change Order that you are currently holding include:

1) Excavation and backfill of soil under the septic tank in the stockpile area. It is not possible to estimate these costs at this time. This item can wait until later in the project.

2) Additional laboratory analyses for the unknown solvents in soil. Costs currently estimated at $2050 (fast turnaround on five GC-MS runs).

3) Additional laboratory analysis for the unknown solvents in the groundwater sample to be taken. Cost estimated to be $712.

This project has certainly been a challenge, and it has certainly been a pleasure working with you. If you have any questions over any of this information, please do not hesitate to give me a call.

Sincerely,

Mark W. Anderson

Mark W. Anderson
Senior Project Manager

cc: J. Bolton
J. Kinsella
Files

ECOVA

TOLS009297

BZTO104(e)046119

Mult Copy

ECOVA

April 24, 1989 P.N. 821401

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Fred:

Subject: Status of Remediation Project at Time Oil Northwest Terminal, Portland, Oregon

This letter will serve to update you of work performed by ECOVA on our project to remediate pentachlorophenol (PCP) soil at the subject site since our last report dated March 14, 1989. It will also present our plans for work in the immediate future at the site.

Work Completed Since Last Report

Work completed on the project has primarily focused on treatment system equipment installation, location and procurement of suitable batch mixing and screening units, excavation of additional soil in the disposal areas, and a review of the situation in the excavation area that has resulted from the unexpected large quantities of solvents encountered.

Soil washing

No cost claim

Problems Encountered in March & April

Schedule Delay

Two primary factors have contributed to a delayed startup schedule: power and equipment.

Power availability continues to be the major source of delay to treatment system startup. While PGE has provided a power drop, delays associated with connecting this to ECOVA equipment have prevented equipment startup. In part, this is due to the electrical code for the City of Portland which is more restrictive than other sites at which we have worked. Equipment modifications have been necessary. We have been working steadily at making these modifications and expect that power will be available to the treatment system by May 1, 1989.

Delayed delivery of two major units of treatment equipment to the site has delayed completion of the treatment system installation. This is an internal ECOVA problem which we are working to resolve. These units are expected to be available by May 10, 1989.

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Well Testing Program

Lack of tankage has delayed the pump testing of the wells. The well tests are expected to produce about 25,000 gallons of contaminated water. Our intention has been to pump this to either our treatment unit tanks or the 38,000 gallon tank. Since we have not yet completed the installation of the treatment system, our treatment tanks have not yet been available. Also, since the excavation has been delayed by the solvents encountered, backfilling of the hole has been delayed. For safety reasons, we have not wanted to fill the 38,000 gallon tank until the backfilling has been performed next to the tank.

Two major sources of water need to be considered, the well test water and the contaminated water in the bottom of the excavation. Before the excavation can be backfilled, we intend to quickly pump the contaminated water out of the pit. Since the 38,000 gallon tank cannot be used, this water must be pumped to the treatment system tanks, as yet not available. Once in the tanks, the floating solvent can either be biodegraded or absorbed onto absorbent pads.

Excavation Activities

Per our letter of March 14, we intended to continue excavation for all solvent and PCP contaminated soils; shortly after this date, however, we halted excavation of the main body of contamination. This was done for several reasons. First, this allowed us to review the situation with the solvents encountered and the information obtained in the onsite analytical program. Second, the solvents encountered could have represented an explosion hazard and we pulled all excavation equipment out of the hole while we checked this with a combustible gas test instrument. The solvents have formed a layer on the surface of the water present in the excavation. The water present in the hole has changed to a dark blackish color suggesting that oxidation of some contaminants is occurring.

Enclosed for your information are plots showing location and analyses of samples taken during the excavation operation. All analyses were performed by the onsite laboratory. We believe that the main part of the excavation has now been completed down to groundwater on the north and east sides of the pit. Although we have confirmed that contaminated soils exist below groundwater, this contamination will be left in place for treatment by in situ methods. We will be taking additional samples along the walls on those sides to verify that all PCP contaminated soils have been removed. This sampling and analysis will be performed on April 24-25, 1989.

Assuming that these samples confirm that PCP contaminated soils have been removed, we will commence backfilling the pit with clean soil from the disposal pit area after surveying the pit limits. Backfilling will move from north to south until the pit area next to the 38,000 gallon tank has been filled. Since we have encountered solvents in the south area of the pit towards the groundwater monitoring wells, this area will be left open for near future. Excavation of the contaminated material next to the warehouse foundation will commence after backfilling has been completed.

The majority of solvent contaminated soil that we have encountered appears to be located in the south end of the pit. We recommend that several soil borings be made in the area south of the existing pit to better quantify the extent of solvent contaminated soil that will need to be excavated and treated.

Also, we have been in contact with Kodak, manufacturer of the KB-3 solvent that was used at the PCP mixing facility. Kodak has recently provided us with a sample of the KB-3. We have wanted to test this sample in our lab to compare with the previous compounds that showed up in the solvent samples taken at the site.

In our March 14 letter, we indicated that, per your consent, we would attempt a biodegredation of the solvent and PCP contaminated soil in a bioslurry reactor at the earliest convenience. We still intend to proceed with this course of action when the treatment equipment can be made available.

ie, it had not been done yet.

As discussed in our March 14 letter, excavation of the contaminated soil next to the foundation (but not under) will take place in a series of narrow sections with combined use of trench boxes. We have scheduled this excavation to take place after excavation and backfilling of the remainder of the contaminated area. Since you have not informed me of any Time Oil concerns over this excavation approach, we will proceed with this plan. As I pointed out in the March 14 letter, while we will be working very carefully around the foundation, some additional damage to the foundation of the warehouse may still occur.

Revised Schedule

The revised schedule anticipated for the project is as follows:

Completion of Initial Excavation and Backfill...May 12
Startup/Shakedown of Treatment Operations.....May 1 - May 31
Treatment Operations.....June 1 - January 31, 1990
Second Excavation and Backfill.....November 1 - 30
Demobilization.....February 1 - 14, 1990

This schedule obviously anticipates that the overall quantity of soil needing remediation does not increase significantly from the 3440 cubic yards originally anticipated.

Out of Scope Items

Additional significant items that will need to be addressed by a Change Order over and above the Change Order that you are currently holding and those Change Orders mentioned in the March 14 letter include:

Paid 1) Additional laboratory analyses of the KB-3 sample and comparison with the site samples. Costs currently estimated at $820 (fast turnaround on 2 GC-MS runs).

Requested a Proposal 2) Any additional soil borings, sampling, and analysis for assessing extent of solvent contamination above the groundwater in the area south of the existing excavation.

This project continues to be a challenge. We are all anxious to get into the treatment phase of the work. If you have any questions over any of this information, please do not hesitate to give me a call.

Sincerely,

Mark W. Anderson
Senior Project Manager

cc: J. Bolton
J. Kinsella
Files

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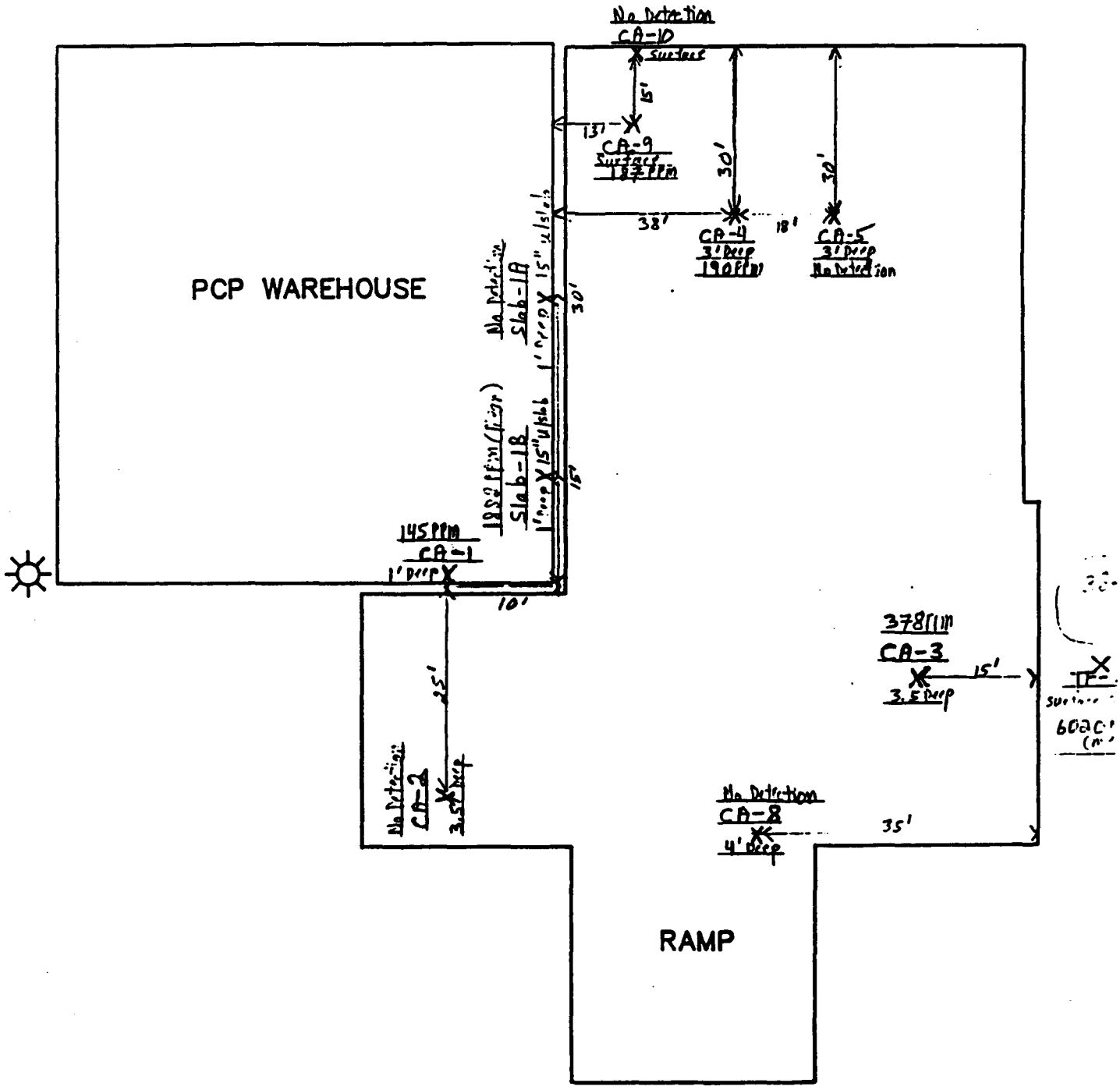
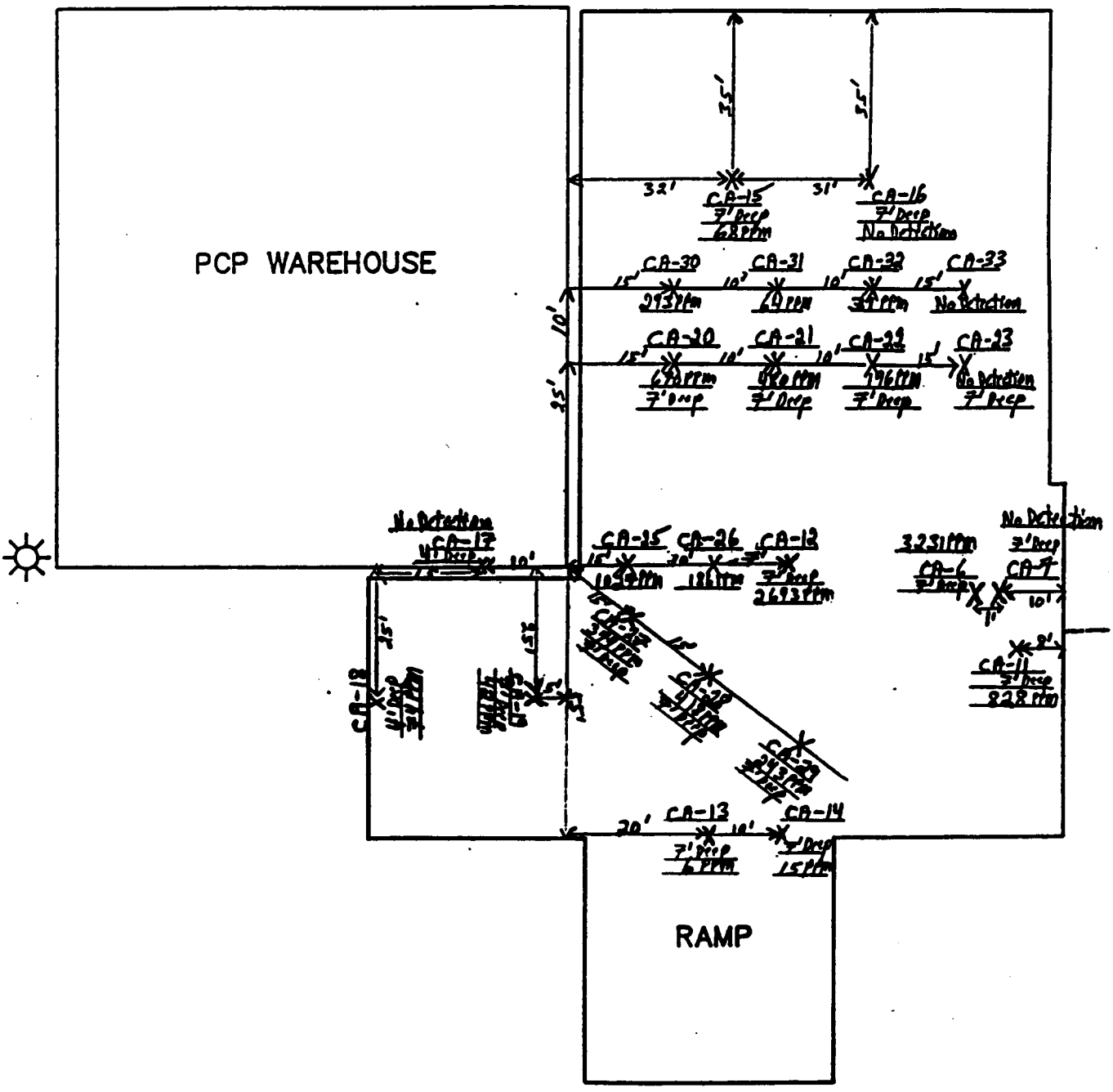


Surface - 4.0' ... SAmples - Surface Grade & 4' Grade

TOLS009302



7' Grade samples (Note: some 4' Grade samples included)

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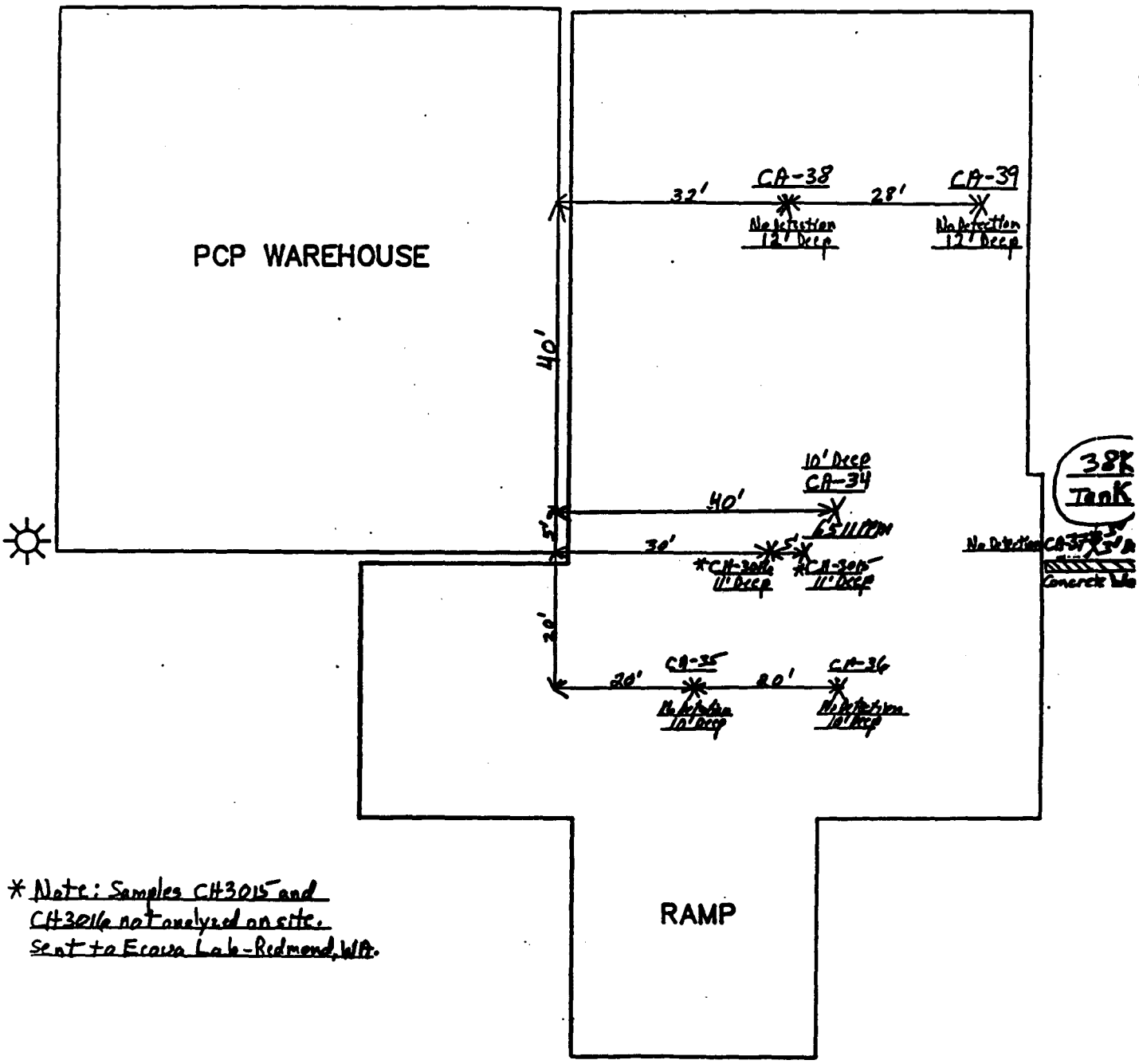

* Note: Samples CH3015 and CH3016 not analyzed on site. Sent to Ecova Lab - Redmond, WA.

12' Grade Samples (Note: some 10'-11' Grade samples included.

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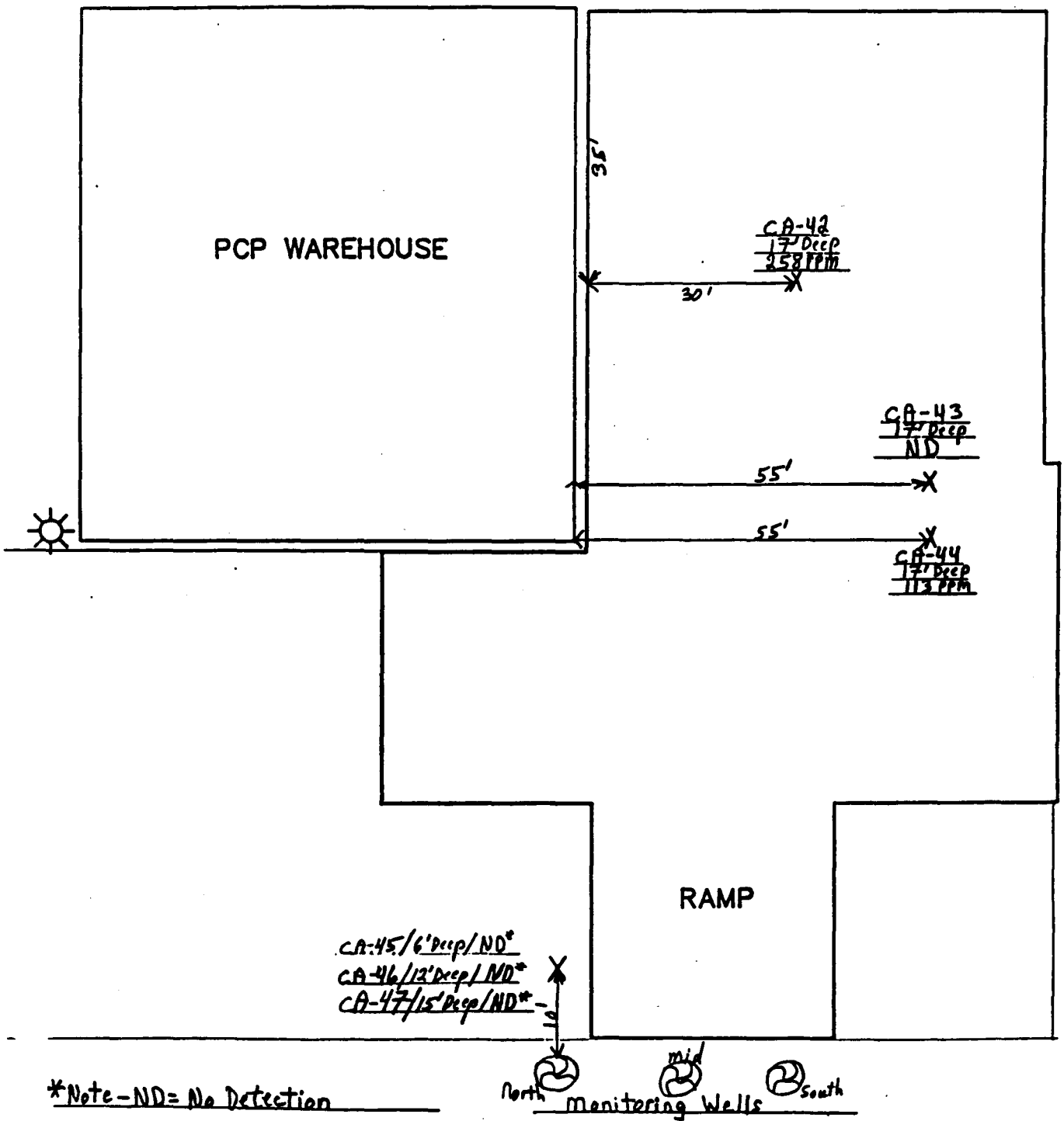

*Note - ND = No Detection

17' Depth Samples + 6', 12', 15' Depth Samples - North Monitor Well

TOLS009305

E C O V A

May 2, 1989 P.N. 821401

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Fred:

Subject: Remediation Project at Time Oil Northwest Terminal, Portland, Oregon

The presence of large quantities of unknown solvents and other organic compounds—more than just "mineral spirits"—that we have encountered in the excavation at the site has us very concerned. From our letters dated March 14 and April 24, 1989, and from our meetings on March 9 and April 24, 1989, you know that we have been evaluating what these compounds may be and the effects they may have upon our remediation program. Three specific areas of concern are raised by these unknown compounds which need to be addressed quickly:

1) Scope of Work
2) Health & Safety
3) Extent of Contamination

Each of these concerns is discussed below.

Scope of Work

The treatability study and the subsequent contract that we negotiated with Time Oil to provide remediation services was based upon bioremediating soil and groundwater contaminated with PCP. "Mineral spirits" was mentioned as possibly being present, and this material does not normally pose a problem to biotreatment.

The unknown organic compounds that we have encountered were not reported in the previous sampling data (your letter of July 21, 1988) and were not present in the original samples from the site that we obtained in August 1988 for the treatability tests. They have only shown up at depth in the excavation, although the odor that seems to be characteristic of Kodak "Solvent KB-3" was detectable prior to excavation. The mixing formulae and the

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MSDS's for the compounds used in the original PCP mixing facility (including Solvent KB-3) which you provided us in February 1989, confirmed the historical use of a number of compounds in addition to mineral spirits.

To date, the following tasks have been performed to attempt to identify the unknown compounds:

- ECOVA Analytical Services performed GC/FID analyses on the free product and soil samples from the area in which the organics were observed. Large numbers and significant concentrations of unknown organic comounds with higher range boiling points (than PCP) were observed. One sample showed 185 separate chromatogram "peaks", or separate compounds;

- EAS performed GC/MS analysis on the organic fraction for both volatiles and semi-volatiles. From the resulting data, we performed a library search for the 40 highest peaks observed in the semi-volatile analysis;

- We contacted Kodak and obtained new MSDS's and samples of their compounds "Solvent KB-3" and "Solvent B-11" both used in the Time Oil PCP mixing facility. EAS then performed GC/FID analyses on these compounds to assess their makeup.

- EAS performed a GC/FID analysis on a sample of mineral spirits for comparison with the other analyses.

The most immediate problem stems from the way we have constructed our treatment system. Our treatment system is engineered to effectively treat PCP; we do not presently know whether or not the unknown organic compounds can be effectively washed from the soil and completely biodegraded, either exclusively or in conjunction with PCP. Additional testing is required to determine if our equipment is suitable.

After review of the GC/MS data mentioned above, we tentatively concluded that "most, if not all, of these compounds appear to be potentially biodegradable." This still appears to be the case. Based on this judgment, we originally concluded that we could attempt a biodegradation test in a bioslurry reactor at the site. However, upon additional reflection, we now conclude that a field test of this nature would be inappropriate because of the large quantities of contaminated material involved. Should the test not be successful, we would be faced with a large quantity of hazardous material needing disposal.

:: the test was not done up to this time

But it was done later. Who authorized?

The presence of the unknown compounds has also delayed us in completing the excavation and backfilling tasks of the project. As we encountered soil contaminated with the unknown organic compounds, we excavated the material above the water table, and some below the water table. We have left the excavation open while we have attempted to resolve the unknown solvent situation. On April 24-25, we tested the side walls of the excavation for PCP only and have determined that, except for the soil on the west (toward the Willamette River) side of the 38,000 gallon tank, the soil on the east and south walls of the pit are free of significant PCP contamination. Additional testing for the organic contaminants is necessary. Paid

Health & Safety

During the initial excavation work in December 1988, our field technicians complained of headaches and dizziness after working in the contaminated area. These symptoms were not consistent with PCP exposure, but of some volatile organic compound exposure. Although followup medical exams did not indicate any medical problems, use of respirators in the excavation area was added to the work procedures. On April 27, 1989, ECOVA was informed by Chase, Jones & Associates, the surveying firm that we used at the site, that one of their employees is experiencing difficulty in breathing (65% lung capacity was reported), and has attempted to obtain a copy of the Health & Safety Plan for the site from the Oregon Department of Environmental Quality. ODEQ does not have a copy on file, and Chase, Jones then called ECOVA at our Portland site office. We are following up with this complaint.

The presence of the unknown compounds, especially volatile ones, directly impacts the Health & Safety program at the site. In order to continue working at the site, several actions must be implemented:

1) The Health & Safety Plan must be updated to include operating procedures for handling material contaminated with the unknown organic compounds. Paid

2) The stockpile must be covered to reduce voltilization. No claim for $ made

3) Health & Safety procedures in the Exclusion Zone must be upgraded to Level B. This calls for supplied air respirators to be used by all employees entering the area, Saranex coveralls, gloves and rubber boots. Not done

4) The ECOVA employees must be given another physical examination to cover their potential exposure to volatile organic compounds. No claim for $ made

5) Additional air sampling must be performed in the work area to assess airborne contamination. 3M badges will be used for this assessment.

ECOVA is implementing these changes to the Health & Safety Plan.

Extent of Contamination

Additional investigation work needs to be performed to complete the characterization and distribution of contamination at the site that was initiated by Time Oil. Insufficient data exists to determine the extent of contamination at the site. For example, we have observed contamination present in the following site locations:

- Under the stockpile sump outside the excavation area (both PCP and solvents)
- In the J-1 well during well development
- In the new Well G during well installation (observed to be petroleum-type contamination)

Also, from the Time Oil data, it is clear that the extent of contamination on the west side of the excavation (toward the Willamette River) has not been delineated. It is not possible to accurately predict the quantity of soil that will ultimately need remediation.

While our contract includes the necessary cleanup level for PCP (0.5 ppm in both water and soil) no limits have been (or can yet be) set for the unknown organic contaminants. Without better data on the nature of the contaminants, it is impossible to set cleanup limits and determine if they are being met. It is not advisable to discharge any material to an uncontaminated area without determining these parameters.

Proposed Program

From our discussion above, we believe it is necessary to immediately make some major changes to the project scope of work and schedule. Following is our proposal for revising the project:

1) Stop work on construction of the treatment system pending the gathering of additional information about the nature of the contamination needing treatment.

2) Backfill the present excavation with clean soil from the disposal site to minimize the hazards, both chemical and physical. Organic contamination present will be below the groundwater table and is expected to be handled by in situ methods.

3) Immediately undertake a sampling and chemical characterization task aimed at determining and quantifying all contaminants present at the site. Attached is our proposed scope of work for this task. NO cost Proposal

4) Immediately undertake an additional soil washing and biotreatability assessment in the laboratory to verify the treatability of the unknown organic compounds. No cost Proposal

5) Implement the changes to the Health & Safety Plan discussed above. Once chemical characterization has been completed, modify the Plan accordingly. Paid

6) Once chemical characterization has been completed, plan and undertake a soil and groundwater sampling program aimed at defining the extent of contamination present at the site. No cost Proposal

7) Once the additional data has been gathered, revise the engineering design of the treatment plant, if necessary, to allow for the successful completion of remediation of the soil and groundwater. We never got that far

We are recommending that our contract be amended to allow these changes to the work scope to be included. Additionally, we are requesting payment for work performed on the project to date and for progress billing based on costs incurred in the immediate future until treatment operations commence.

Fred, we are at a significant point in the project; once identification and degradability of the unknown compounds is achieved, we can implement an effective and more comprehensive treatment program. We are committed to working with Time Oil to achieve timely and cost-effective site remediation.

Sincerely,

Mark W. Anderson

Mark W. Anderson, P.E.
Senior Project Manager

cc: J. Bolton
J. Kinsella
[redacted]
J. Hancock
Files

TOLS009310

BZTO104(e)046132

CHEMICAL CHARACTERIZATION
OF UNKNOWN ORGANIC COMPOUNDS
AT THE TIME OIL NORTHWEST TERMINAL SITE
PORTLAND, OREGON

The following plan is proposed for qualitatively and quantitatively identifying the unknown organic compounds that have been observed at the site during the excavation task. This program is intended to provide a complete list of contaminants present so that an appropriate sampling and analysis plan can be prepared for additional investigations of extent of contamination (ie., investigations to identify a potential groundwater plume and additional contaminated soil in the vadose zone.)

SOIL SAMPLING

Some variation of contamination was visually observed by ECOVA personnel during excavation activities. In order to assess the variation in the contaminants that may be present at the site, a representative number of soil samples must be obtained. All samples will be gathered following EPA approved methods following all chain of custody, preservation, and QA procedures.

Limits of Contamination in Pit - In order to check for presence of organic compounds in the south and east walls of the excavation, 12 samples from each wall (3 elevations at 4 distances along the wall face) will be sampled.

Stockpiled Soil - To assess the organic contamination in the soil already excavated, 8 samples will be obtained by hand auger from the stockpile of excavated soil. Each core will be sectioned into 3 discrete samples, making a total of 24 samples. This will allow quantification of the volatilization of compounds since stockpiling.

Sediment - Two samples of sediment will be collected from the pit.

WATER SAMPLING

All samples will be gathered following EPA approved methods following all chain of custody, preservation, and QA procedures.

Water in Pit - Two samples of water from the pit will be obtained for analysis. One sample will be from the top layer of water to catch any floating organic materials. The second sample will be obtained from several inches beneath the surface of the water and will test for any dissolved organic materials.

Wells - One water sample each will be gathered from wells J-1, J-2, and J-3 on the western edge of the pit.

ANALYSIS OF SAMPLES

Each of the samples (both water and soil) will be analyzed by gas chromatograph (GC) for initial screening (total of 42 samples). This can be done quickly in the field using the GC at the site.

Those samples showing the greatest spectrum of contaminants will be shipped to ECOVA Analytical Services laboratory in Redmond, WA. Each will be analyzed for ultimate fingerprint identification of the individual components by GC/MS. It is expected that two samples will undergo this sampling, one water sample and one soil sample.

In addition, the samples of Solvent KB-3 and Solvent B-11 received from Kodak will be analyzed by GC/MS. This will assist in the fingerprinting of the field samples.

One sample of known high concentration of PCP will be sent to a laboratory specializing in dioxin analysis for this determination.

PROPOSAL OUTLINE FOR TREATABILITY TESTING

Recent analytical results for soil samples at the Time Oil facility in Portland indicate a significant amount of undefined petroleum hydrocarbon type contamination which may also contain the solvents KB-3 and B-11. The following treatability testing is being proposed to ascertain the impact of this material on the present treatment process and determine what specific modifications may be required to achieve remediation of the contaminated soils.

I. Soil washing and oil/water separation

A. water
B. alkaline water
C. Analytical
   1. GC analysis of soil and pregnant wash
   2. GCMS on soils (contingency)

Rationale: A significant volume of the hydrocarbon material may be separated from the soil by washing the soil with water and decanting the liquid phase to an oil water separator. If analysis of the washed soil indicates residual PCP contamination then a subsequent wash with alkaline water can be implemented and the soils treated according to the initial process design.

II. Slurry-phase biotreatability of contaminated soils and or liquids (4 weeks, 2 replicates, 5 time points)

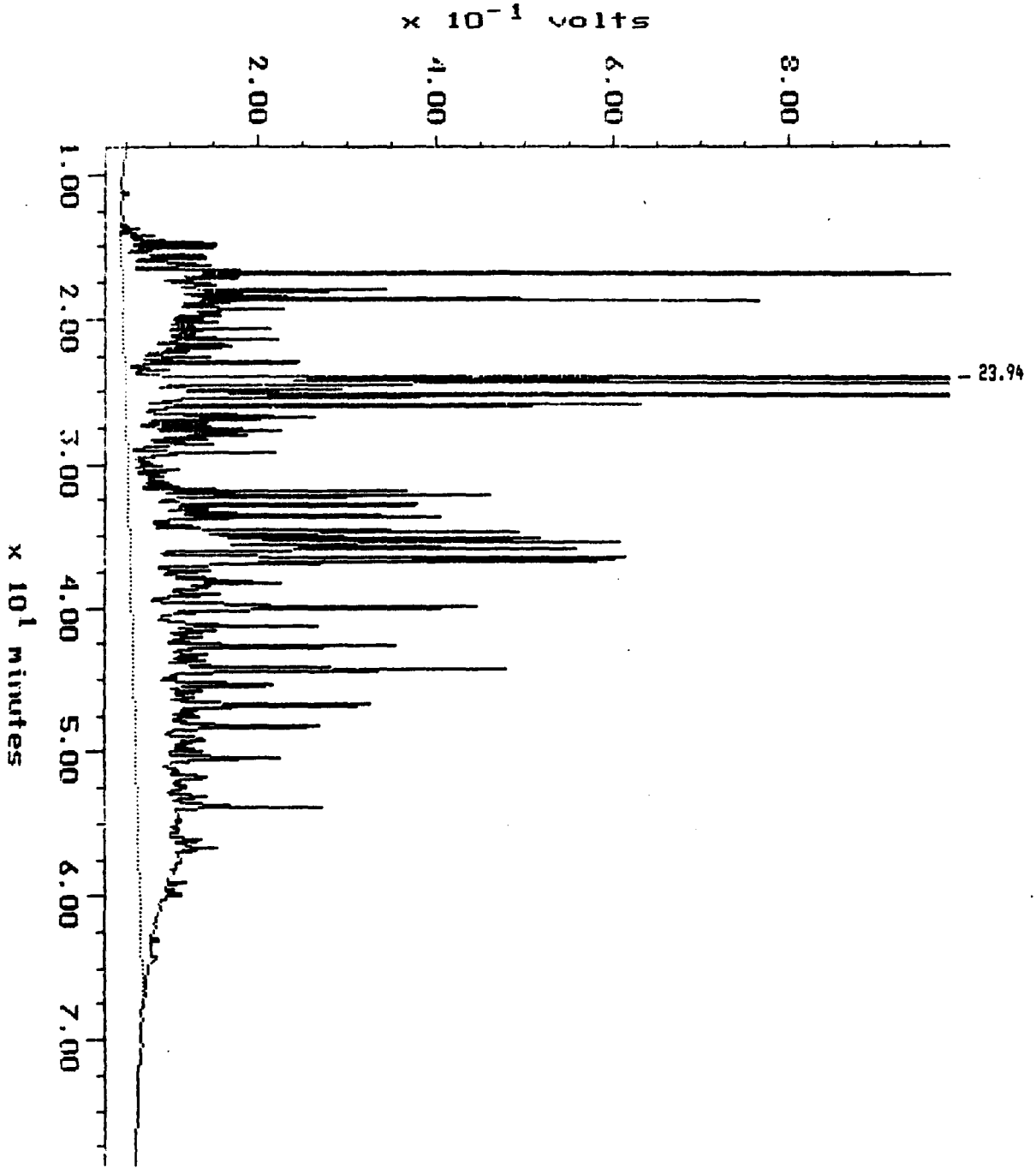
A. Treatments
   1. Unamended
   2. Nutrient amended
   3. Nutrient plus inoculum (PCP degraders)

B. Analytical methods
   1. GC/MS Initial and final time points
   2. TPH/IR all time points (0, 1, 2, 3, 4 weeks)

Rationale: Soil washing with oil/water separation will yield aqueous liquids which will require treatment. The treatability study will determine the efficacy of biological treatment of these materials by indigenous microorganisms and determine the effects of the petroleum contaminants on the PCP degrading inoculum.

TOLS009313

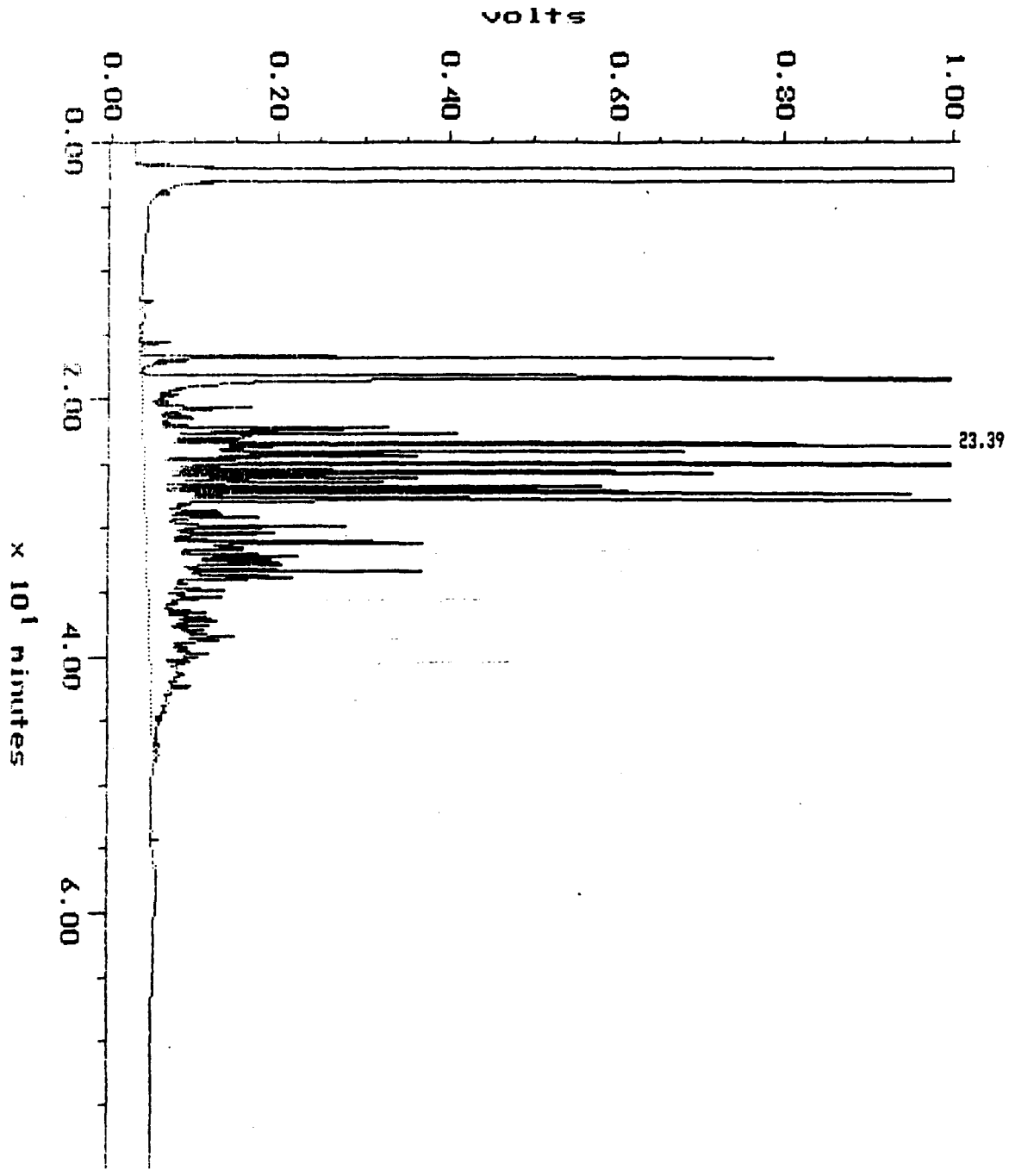
Sample: SITE SAM CA-77 Channel: TPH I.D. Filename: CA-77
Acquired: 29-APR-89 13:15 Method: C:\MAX\DATA2\TPH-ID Operator: MLA
Comments: SITE SAMPLE CA-77 FIRST RUN. 4-29-89



Soil from Site

TOLS009314

Sample: 5000 PPM B-11 Channel: TPH I.D. Filename: TPH429C
Acquired: 29-APR-89 18:59 Method: C:\MAX\DATA2\TPH-ID Operator: MLA
Inj Vol: 5.00



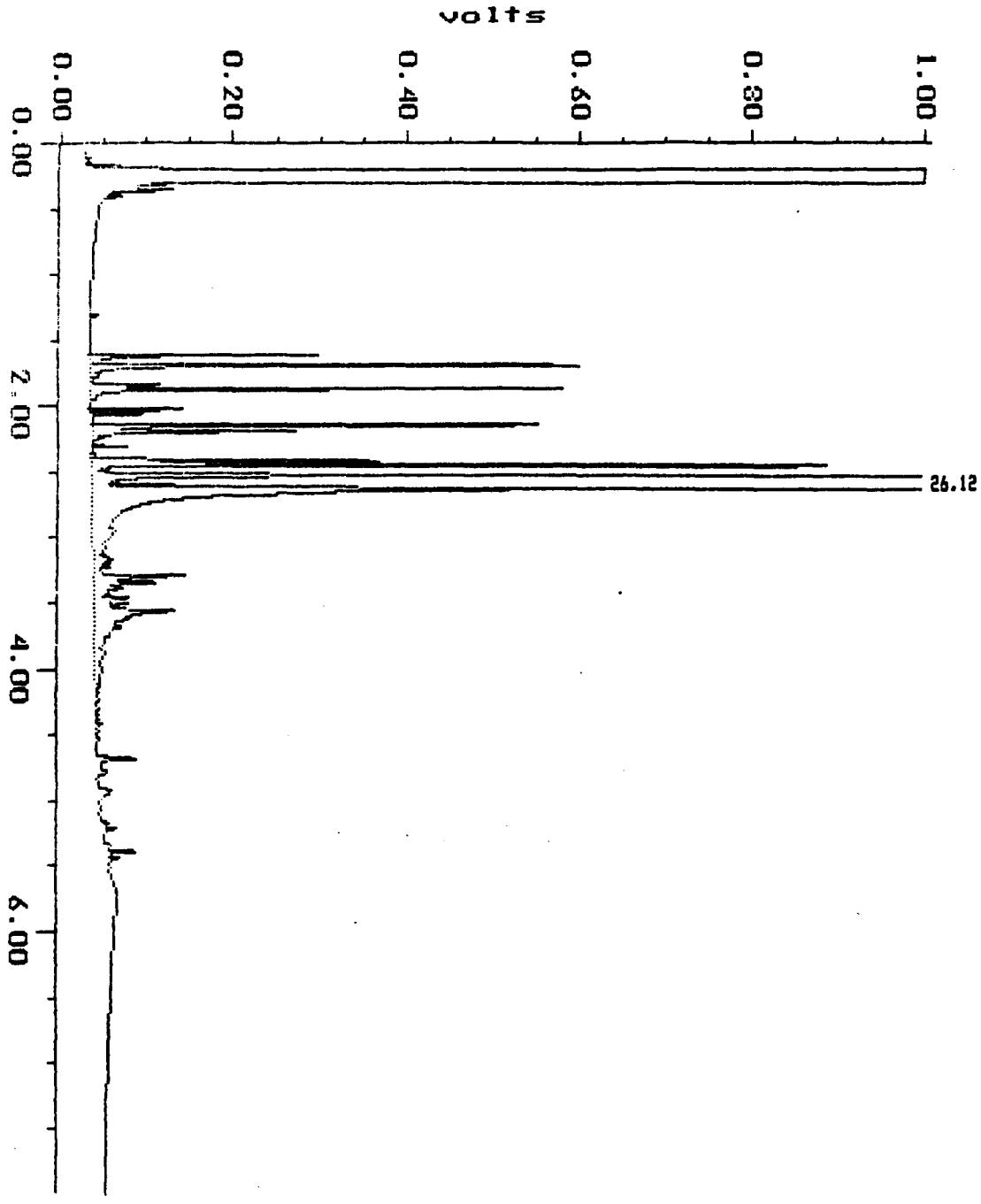
SOLVENT B-11

TOLS009315

Sample: 2000 PPM KB-3
Acquired: 29-APR-89 16:01
Inj Vol: 5.00

Channel: TPH I.D.
Method: C:\MAX\DATA2\TPH-ID

Filename: TPM429A
Operator: MLA



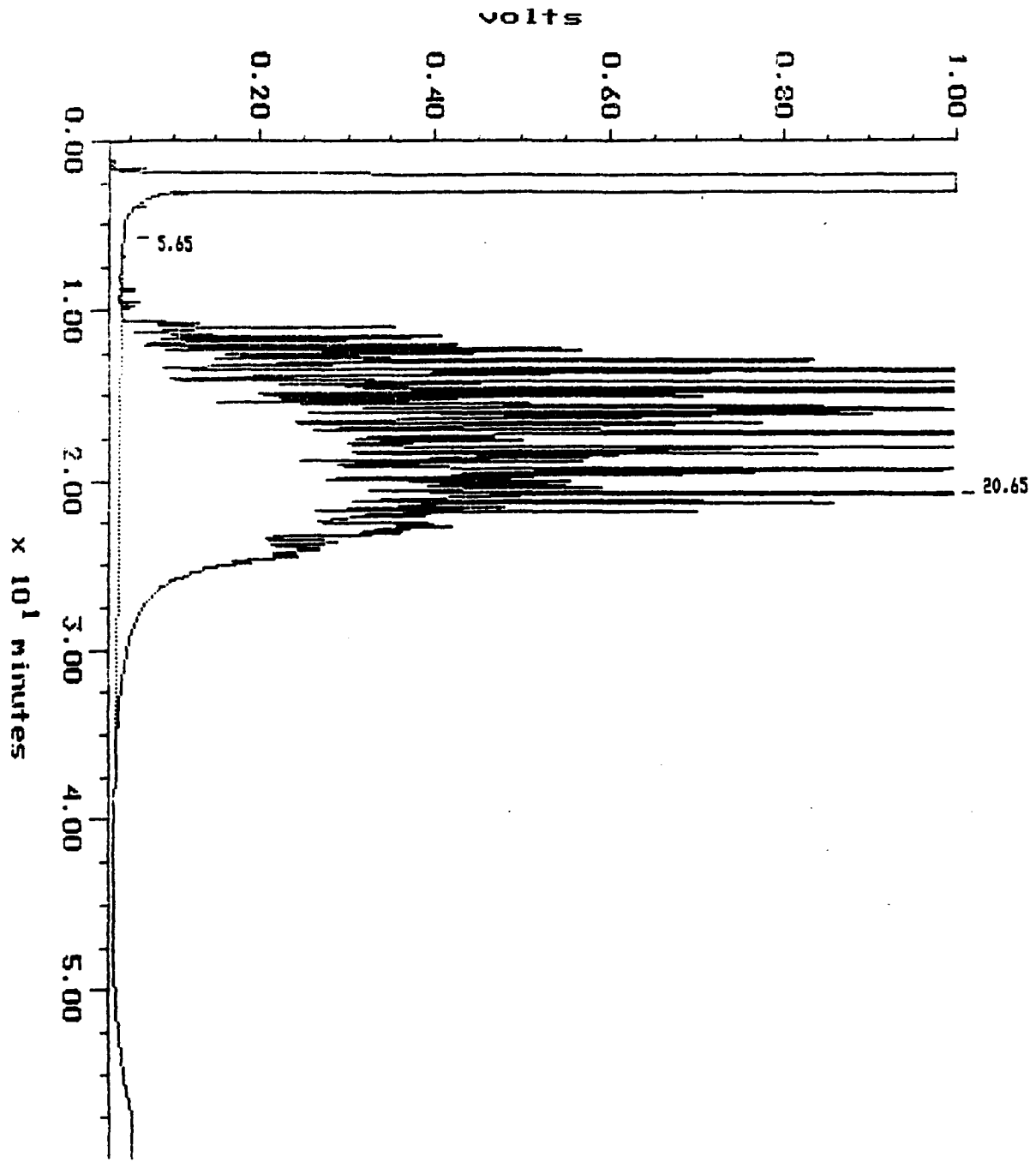
Solvent KB-3

TOLS009316

Sample: 5000 PPM MS
Acquired: 29-APR-89 17:23

Channel: TPH I.D.
Method: C:\MAX\DATA2\TPH-ID

Filename: TPM429B
Operator: MLA



MINERAL SPIRITS

TOLS009317

E C O V A

June 16, 1989 P.N. 821401

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Fred:

Subject: Sampling and Analysis of Excavation Pit at Time Oil Northwest Terminal, Portland, Oregon

Per our discussion, this letter provides you with the results of the confirmation sampling at the Portland site.

Sampling Program

On April 24-25, 1989, ECOVA mobilized a sampling team to the site for the purpose of sampling the soil on the side walls of the excavation pit. It was desired to demonstrate that all soils contaminated with high levels of pentachlorophenol (PCP) on the northeast (along the concrete wall towards the railcar loading facility) and southeast walls (along the pipeline and tank farm) of the rectangular pit had been removed. (For the purpose of excavation, soil over 100-500 ppm was removed.)

Soils on the northwest wall (next to the warehouse foundation) and the southwest wall (towards the monitoring wells) were not sampled because of additional excavation that will be performed in those areas after the main pit is backfilled. However, check samples were gathered at two stations near the ramp that leads down into the pit on the southwest wall.

Access to the sampling points on the pit walls was attained by use of an aluminum boat in the pond of groundwater that has formed in the bottom of the pit. Samples were obtained at each of three vertical locations on the pit wall (nominally every 2-3 feet above groundwater level) at each station along the two

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(212) 840-1663 FAX

walls of the pit. Samples were obtained above groundwater only since soil below groundwater will be left in place for in situ treatment. The attached diagram shows the location of the sampling stations along the pit walls.

Analytical Program

All soil samples were analyzed for PCP at the on-site laboratory using an analytical procedure developed by ECOVA. Each soil sample was treated with sodium sulfate and subjected to an extraction for PCP using a mixture of acetone and methylene chloride. The extractant was analyzed for PCP using standard gas chromatograph (GC) methods on a Hewlett Packard GC equipped with a Flame Ionization Detector (FID). Quality control was maintained by:

1) GC calibration before and during the analyses with a 500 ppm standard prepared at the ECOVA Analytical Services Laboratory in Redmond, Washington. A minimum of six calibration runs were made;
2) A method blank was analyzed which showed no detectable PCP.
3) A Matrix Spike was prepared and analyzed for percent recovery. A value of 66% was obtained, which was deemed low but within the acceptable range.

Results

The results of the confirmation sampling and analysis are presented in Table 1.

No contamination was found on the two stations sampled on the southwest wall. This is encouraging for moving in clean fill through this area of the ramp during backfilling operations.

Residual PCP contamination was observed at stations 3 and 4 along the southeast wall near the 38K tank. This area will need additional excavation. See the discussion below for proposed backfilling approach.

Residual solvent contamination above groundwater was observed at station 9 on the northeast wall, the station nearest the warehouse. A positive value at the 7' depth

is suspect since there were numerous peaks associated with the solvent contamination. This appears to be a localized hot spot that will be checked again during backfilling operations. If confirmed, this point can be removed while excavating the soil next to the warehouse foundation after backfilling the main pit.

The remaining areas of the two pit walls appear to be very clean and no additional excavation is needed.

Proposed Backfilling Program

In ECOVA's opinion, the main pit area can now be backfilled with clean soil obtained on site. Upon receipt of approval from Time Oil, the backfilling operation will proceed as follows:

1. Clean soil from the stockpile made while constructing the disposal area east of the excavation will be trucked over to the edge of the excavation.

2. Two remaining piles of contaminated soil located on the southwest bench of the excavation will be moved up the ramp into the lined contaminated soil stockpile area.

3. Remaining groundwater in the pit area will be rapidly pumped out to the Time Oil tank provided.

4. As soon as the water is completely removed, clean soil will be backfilled from the southwest wall into the pit to a level several feet above groundwater.

5. Backfilling of the first layer of clean soil will proceed easterly toward the opposite (northeast) wall.

6. Backfilling will proceed in layers of approximately one foot until grade is reached.

7. An open pit will be maintained from sampling station 4 towards the southwest corner of the current excavation and along the southwest wall of the excavation. This will allow excavation of the contaminated soil located between

sampling stations 3 & 4 and the southwest side of the 38K Tank. From previous sampling, this soil was observed to be highly contaminated.

8. The "dog-leg" portion of the pit on the southwest side of the warehouse will be filled to grade.

Final Excavation

After backfilling of the main portion of the pit has been completed, the second stage of excavation will commence. Soil remaining to be excavated includes the strip approximately 6' wide next to the warehouse foundation and the portion next to the 38K Tank described above. This excavation can proceed as soon as the main pit has been backfilled. The portion next to the 38K Tank will be excavated and immediately backfilled with clean soil first to allow use of the tank in the treatment operations.

The third and final stage of excavation will remove the soil under the stockpiled contaminated soil. This, of course will be excavated at a later date after the treatment opertions have treated most of the stockpile. However, backfilling of clean soil along the southwest wall and south corner of the pit will leave a trench along the area remaining to be excavated.

Revised Schedule

A revised schedule anticipated for the project is as follows:

Pumping of Ponded Groundwater.....June 10 - June 20
Stockpiling of Clean Backfill.....June 19 - June 21
Approval from Time Oil to Proceed
with Backfill.....June 16
Initiation of Backfilling Operations..June 22
Completion of Backfill.....June 27
Second Stage of Excavation.....June 27 - July 3
Startup of Initial Batch Treatment
Operations.....June 14 - July 7
Startup of Full Scale Soil
Treatment Operations.....July 21
Soil Treatment Operations.....July - March 15
Third Excavation and Backfill.....November 1 - 30
Demobilization.....March 15 - April 1

TOLS009321

BZTO104(e)046143

This schedule obviously anticipates that the overall quantity of soil needing remediation does not increase significantly from the 3440 cubic yards originally anticipated and excludes water and in situ treatment.

Out of Scope Items

Additional significant items that will need to be addressed by a Change Order over and above the Change Orders previously discussed include:

1) Treatment of the 100,000 gallons of diesel and gasoline contaminated water from the slop tank. As we discussed, we don't see any problem with being able to biodegrade the contaminants in this water, however, it will add additional organic carbon load to the bioreactors. The PCP microorganisms should be able to degrade these compounds, but they do this preferentially to degrading the PCP, thus slowing down the whole treatment process somewhat. This is the same effect that we expect to see with the solvents. Obviously, from our perspective it causes less operational problems to use clean water in mixing the slurry. But from your perspective, it is convenient to use the aqueous bioreactor to handle this water to allow discharge to the POTW.

Not done

2) Treatment of the volume of solvent-contaminated groundwater that is being removed from the pit. Similar concerns to those expressed in 1).

not done

3) I have discussed the in situ groundwater treatment system requirements with John Kinsella, ECOVA Operations VP. We are preparing a ~~proposed approach~~ for your review and discussion.

Not done

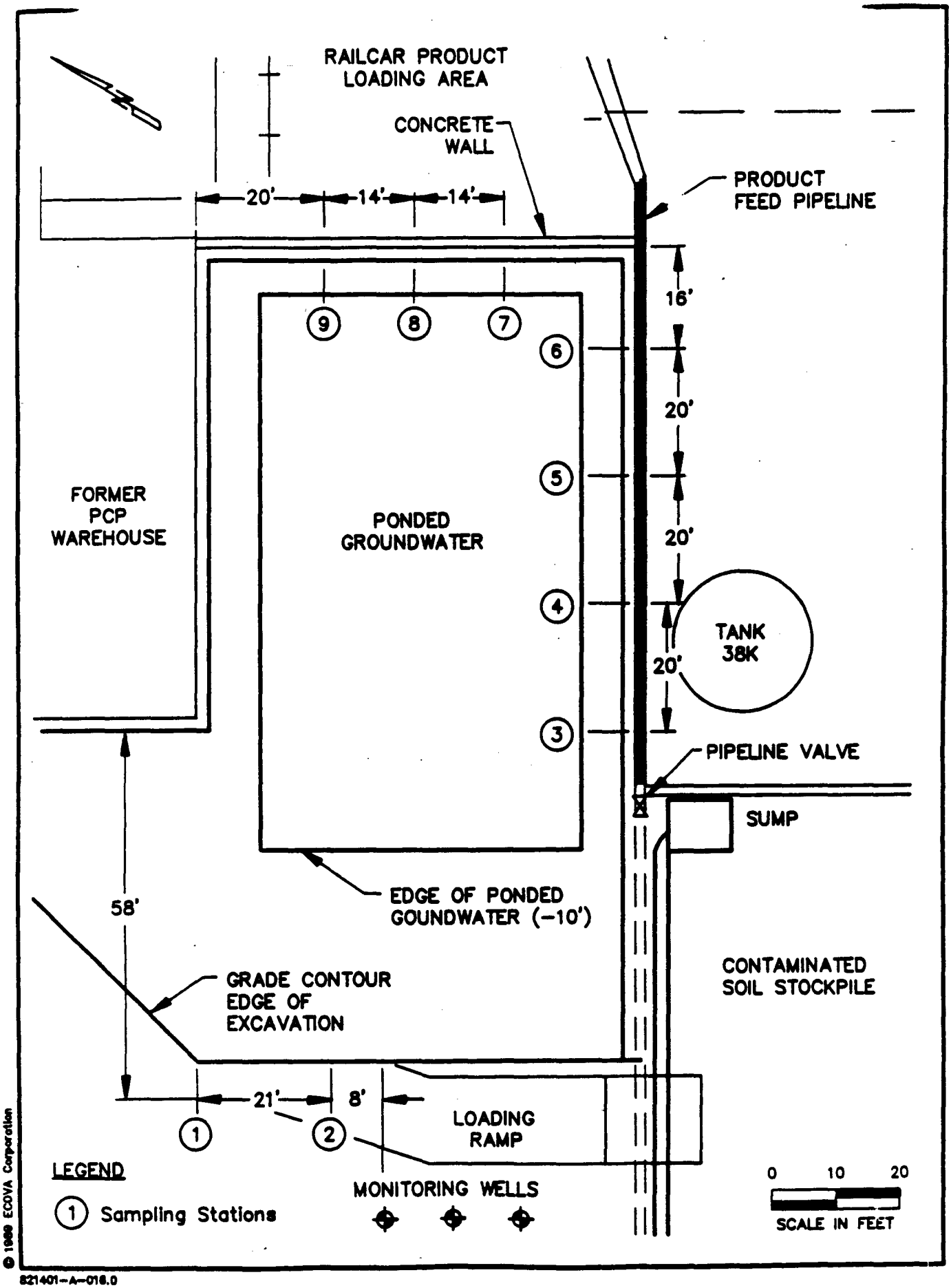
As we discussed on the telephone today, I would like to get Time Oil's authorization to proceed with backfilling by June 16. I will be happy to meet with you at your convenience to go over the data and answer any questions that you may have. With the above program, I think we will have the project back on track. While there are a number of details that we must work through, I believe that we can successfully complete the soil remediation project within the original schedule completion date.

Sincerely,

Mark W. Anderson
Senior Project Manager

cc: J. Bolton
J. Kinsella
R. Carr
Project Files

TOLS009323



TOLS009324

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E C O .

TABLE 1

Results of Excavation Pit Sampling & Analysis
Project No. 821401

Station #	Sample #	Depth from Surface(ft)	PCP (ppm)
1	CA54	2'	ND
1	CA55	5'	ND
1	CA56	8'	ND
2	CA57	2'	ND
2	CA58	5'	ND
2	CA59	6'	ND
3	CA60	4'	220 #
3	CA61	7'	1006 #
3	CA62	9.5'	304 #
4	CA63	4'	ND
4	CA64	7'	289 #
4	CA65	9.5'	ND
5	CA66	4'	6 J
5	CA67	7'	3 J
5	CA68	9.5'	2 J
6	CA69	4'	ND
6	CA70	7'	2 J
6	CA71	9.5'	ND
7	CA75	7'	2 J
7	CA72	9'	ND
8	CA76	7'	24
8	CA73	9'	3 J
9	CA77	7'	244 *
9	CA74	9'	78 #

ND - No peak detected
J - Estimated value (measured peak value too low for reliable determination from calibration standard used).
* - False positive value suspected, numerous peaks observed from solvent contamination present in sample.
\# - Other detectable compound peaks observed in sample.

TOLS009325

BZTO104(e)046147

E C O V A

July 14, 1989 P.N. 821401

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Fred:

Subject: Status of Remediation Project at Time Oil Northwest Terminal, Portland, Oregon

This letter documents the current status of the ECOVA project to remediate pentachlorophenol (PCP) soil at the subject site.

Work Completed To Date

Major tasks completed on the project to date include:

- Engineering and design of the treatment system, including additional laboratory confirmation testing of soil washing procedures;
- Mobilization of treatment and excavation equipment to the site;
- Setup and operation of an on-site laboratory for PCP determination using a GC with FID detector;
- Construction of lined stockpile and treatment area;
- Initial excavation, screening and stockpiling of contaminated soil from the PCP mixing facility area;
- Initial excavation of the disposal pits;
- Construction of the treatment system, including modification of the 38K tank for use as an aqueous bioreactor;

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TOLS009326

- Testing of soil and groundwater for unknown solvents encountered during excavation;
- Pumping of accumulated contaminated groundwater from the excavated pit into nearby tanks;
- Testing of contaminated soil in the disposal pits for unknown organic contaminants;
- Preparation of a large volume of microbial inoculum at the site for addition to a large scale bioreactor;
- Charging and operating one slurry bioreactor with straight soil feed to demonstrate biodegradation on large scale with presence of solvents.
- Backfilling of the excavation pit with clean soil obtained from the disposal pit areas and elsewhere on Time Oil property as directed by Mr. Neil Wallis.

Problems Encountered

As you are aware, the project has not proceeded according to the original plan. A number of factors account for this. Problems encountered to date on the project include:

- Obtaining power to the treatment site. According to the original schedule, power was needed about the third week in January. Power was not available until the end of February.
- Severe winter weather during February and March which slowed excavation operations and caused equipment demobilization problems at an ECOVA site in Tacoma (equipment destined for use at the Portland site);
- Difficulties associated with excavation of the warehouse foundation caused an alteration of the excavation plan and retention of a geotechnical subcontractor. The foundation of the warehouse is in very poor condition, with extensive pre-existing cracking. Final excavation around this

foundation is likely to cause additional cracking.

- Additional soil contaminated with PCP was identified that is outside the original excavation area. Soil with up to 6000 ppm PCP was detected in the soil in front of the manhole cover at the 38,000 gallon tank in the tank farm area adjacent to the excavation. Also, soil samples obtained from about a depth of 5' in the excavation for the stockpile area sump showed PCP and the presence of unknown organic solvents. Since this contaminated soil is in the middle of the stockpile facility, it was not possible to excavate the soil during the main excavation effort. This will need to be excavated at a later date when the stockpile has been largely treated.

- Unknown solvents and free solvent product floating on the groundwater surface were encountered during the excavation in the southeast corner of the pit.

- While completing the excavation of the disposal pit areas, additional contaminated soil was encountered. An expedited site assessment and laboratory analyses of collected samples was performed.

Out of Scope Items

A number of work items not covered by our contract have been discussed in previous letters to you. The following is ECOVA's current list of significant work items that need to be addressed by a Change Order:

1) Items included on the original Change Order that you have been holding, including the PGE power drop.

2) Excavation and backfill of PCP-contaminated soil under the septic tank in the stockpile area. It is not possible to estimate these costs at this time, and we propose to conduct this excavation on a time and materials basis.

3) Excavation and backfill of PCP-contaminated soil next to the 38K bioreactor tank. It is not possible to estimate these costs at this time, and we propose to conduct this excavation on a time and materials basis.

4) Quantity measurement (surveying) and biological treatment of contaminated soil from Items 2 & 3. Costs for this measurement and treatment would be determined at the time the soil is excavated and stockpiled.

5) Additional laboratory analyses for the unknown solvents in soil. Costs were $2050 (fast turnaround on five GC-MS runs).

6) Additional laboratory analysis for the unknown solvents in the groundwater sample to be taken. Cost incurred were $712.

7) Costs incurred in modifying the site Health & Safety Plan to take into consideration the unknown solvents encountered.

8) Additional ECOVA labor incurred in pumping contaminated water from the leaking Crosby & Overton tanks into another Time Oil tank.

9) Time and expenses incurred for regulatory preparation. To date approximately $360 have been incurred in procuring and reviewing Oregon DEQ regulations. Additional preparation is anticipated for the upcoming meeting with ODEQ in Portland.

10) Treatment of 100,000 gallons of diesel & gasoline contaminated water from slop tank at the site. Also, one GC analysis of the slop tank water for petroleum hydrocarbons was performed at a cost of $110.

11) Groundwater modelling of the site. Based on the results of the aquifer testing being conducted at the site and a review of the available data, ECOVA will construct a groundwater model of the

Time Oil property potentially impacted by PCP. The purpose of the model is to provide a basis for design of a groundwater treatment system at the site to control the migration of PCP in groundwater. The Prickett-Lonnquist (PLASM) groundwater flow model coupled to the Random Walk contaminant transport model will be used for the simulation. Because of the immediate need for the model results, a simplified case assuming homogeneous aquifer conditions will be used as a base case and be calibrated based on presently available information. The model can be modified for a more sophisticated simulation if needed. Costs are estimated at:

Senior Hydrogeologist	60 hrs @ $95	$5,700
Project Hydrogeologist	40 hrs @ $60	2,400
Drafter (with CAD)	36 hrs @ $50	1,800
Word Processor	8 hrs @ $30	240
Total Estimated Costs		$10,140

12) Excavation and biological treatment of mineral spirits contaminated soil from the disposal pit area. A separate letter proposal has been prepared that addresses this work item.

Revised Schedule

The revised schedule anticipated for the project is as follows:

Startup/Shakedown of
Treatment Operations.....June 26 - August 15 Scope

Pump Testing of
Monitoring Wells.....July 18 - 21 Scope

Modeling of Groundwater
Flow & Treatment Design.....July 19 - August 2 Scope

Proposed Oregon DEQ Meeting.....August 7 Scope - T&M

Soil Treatment Operations.....August 15 - April 15 Scope

Second Excavation and
Backfill.....October 1 - 30

Demobilization.....April 15 - 30, 1990

This schedule anticipates that the overall quantity of soil needing remediation does not increase significantly from the 3440 cubic yards originally forecast and that weather conditions do not cause major problems.

We have appreciated the opportunity of serving you on this project. If you have any questions over any of this information, please do not hesitate to give me a call.

Sincerely,

Mark W. Anderson, P.E.
Senior Project Manager

cc: R. Carr
J. Kinsella
Files

E C O V A

Mr. Fred Proby
The Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

September 12, 1989

Dear Mr. Proby:

This letter with attachments should bring us up to date as far as submittals you have requested from ECOVA, and outstanding Change Orders that cover the work to date at the Portland Northwest Terminal Remediation Site.

The contents of the attachments have been pulled from a variety of sources within ECOVA and are provided in regular type. Explanatory comments are given in boldfaced type to set them aside from the original documentation which has been provided to me.

Please review the document and call me at 883-1900 if I can provide any clarifications. Having not been directly involved in the hands on work at the site, I have had to rely on project manager files and the correspondence which has passed between our respective firms. I believe that we will need to sit down together to devise some mutually agreeable responses and conclusions based on this document. I look forward to doing that in the very near future.

It is my understanding that you were in favor of weekly progress meetings and that you and Mark Anderson held them at breakfast. I would be pleased to continue such communication if you will name the time and place. My work day commences at 7 AM, so I am happy to make the most of my early rising.

Please provide written direction to Ecova for the placement of treated soil from the bioreactors as indicated in your recent telephone conversation with Dr. Dave Edwards.

Sincerely yours,

Roderick A Carr

Roderick A. Carr
Contract Administrator

Encl. Three (3) Attachments

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

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500 Fifth Avenue
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New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

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TOLS009333

BZTO104(e)046155

ATTACHMENT 1 - Memorandum of August 10, 1989 Meeting

NOTE: Bold type indicates comments in addition to the original memorandum which was typed shortly after the meeting.

Attendees: Fred Proby, Time Oil
Dave Edwards, Ecova
Jim Borthen, Ecova
John Kinsella, Ecova
Mark Anderson, Ecova
Eric Paukstaitis, Ecova
April Rivkin, Ecova

SUBJECT: Summary of Time Oil- Portland Terminal Meeting held at Ecova Corporation on August 10, 1989

Ecova Team Members

Fred Proby was presented with an Ecova organization chart and resumes for the people working on the Time Oil - Portland Terminal project (J.N. 821401) He will review this material at another time. Fred stated that while he was concerned about the people assigned to this particular project, he was considering starting another clean-up project and wanted to know if Ecova, as a company would handle another project.

Change Orders

Outstanding Change Orders were discussed at length.

This discussion has been summarized in Attachment 4, Change Order Request, a part of this document.

It is obvious from the project record that both Ecova and Time Oil deal more effectively with changes in the scope of services and resulting potential changes in compensation. A Field Change Order Form is available for use so that additional requirements for response to site requirements can be properly documented, signed off by Time Oil, and productively accomplished.

Proposed Change Orders

We discussed the fact that there is a great deal (approximately 200,000 gallons) of contaminated water from various sources and with various types and amounts of contaminants. Time Oil's position was that we should use this water in our processing at this time and that there would be no charge for processing the water.

Our contract with Time Oil is for the bioremediation of soil not water. The potential for complications and negative impact on the bioreactors which could be caused by using the aforementioned

TOLS009334

BZTO104(e)046156

contaminated water cannot be determined. Ecova's best technical direction can only be to use clean water for supporting the bioreactors in order that they work as quickly and as efficiently as possible. Whether the contaminated water could be used is as yet undetermined, and would have to be explored in at least a bench scale experiment before a prudent project manager would allow the contaminated water to be placed in the bioreactors. This exploration would necessitate an equitable adjustment in Ecova's compensation.

Soil Borings in South End of Pit

No consensus was established on what will be done with this issue.

Groundwater Modeling

Recommendations for additional work have been made to Time Oil. Sampling and analysis completed. Analysis was accomplished in the Ecova Project Lab with a method that had relatively high detection limits. The data indicated no gross contamination, but could not be used to quantify low levels of contamination. Recommendations for additional sampling and analysis have been made to Time Oil but not agreed to, nor equitable adjustment determined.

Dioxin Analysis

Dioxin analysis at a cost of $1,800 has been agreed to and is contained in Attachment 3 - Change Order Request.

Treatment of Contaminated Soil in Excavation Pit

Treatment of soil in addition to the 3,440 yards originally contemplated by the parties has not been agreed to.

Change Order Procedures

Ecova's Field Change Order Form provides a format for quick documentation of a change in the scope of services, a place for mutually agreeing for the equitable adjustment required for compensation, and finally signature lines to indicate acceptance of both parties.

Schedule

An adjustment to the completion date of the effort is warranted based on the following situations encountered on site:

* Five weeks delay caused by failure to have electrical power on the site, outside of Ecova's control.

* Three weeks delay caused by the discovery of solvents and unexpected unknown contaminants within the excavation area

TOLS009335

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* Four week delay in obtaining clean soil for backfilling of the PCP pit due to the discovery of additional contamination on the site

A total of 12 weeks delay outside of Ecova control has impacted the project schedule and therefore project completion should be rescheduled at no additional cost for September 9, 1990. This change is included on Attachment 3 - Change Order Request

Unresolved Items

Monthly Progress Reports -

Monthly Progress Reports will be prepared during the first week of the Month covering the preceding months operations.

Electric Service Installation and Monthly Bills -

Ecova and Time Oil have agreed that the installation charge for power to the site will be paid by Time Oil. Ecova will pay PGE directly for electrical usage and the utility now sends directly to Ecova c/o Rod Carr for payment.

Chromatograms -

The question of missing chromatograms needs further identification of the samples in question to allow for retreival.

Certification of Insurance -

Certification of Insurance (July 27, 1899) mailed by Corroon and Black to Time Oil. Confirmed in Carr/Proby Memo of August 15, 1989.

Workman's Compensation Insurance - same as above.

City of Portland Business License Copy and registration as Foreign Corporation provided to Time Oil, August 15, 1989. These are the only current permits/licenses that we have been required to obtain from any level of government in Oregon.

As of this date there are no liens outstanding as a result of Ecova Operations at the Northwest Terminal of which I am aware.

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BZTO104(e)046158

ATTACHMENT 2 - Discussion of Analytical Laboratory QA/QC

It is my understanding that you have requested documentation on Laboratory QA/QC procedures that are used in the analysis of samples from the Time Oil Northwest Terminal Remediation Site. The following discussion provides some background as well as a description of the kinds of decisions that are made in specifying QA/QC for remediation analytical support.

The level and intensity of QA/QC is directly dependent on the data objectives of the project at hand. The need for specific demonstration of analytical precision and accuracy is contingent upon the use to which the date will be put. It is no secret that precision and accuracy are directly related to the cost of the analysis.

The first question that needs to be answered is what will the analytical result be used for. In the case of samples obtained at the Northwest Terminal up to now, the results have been used to:

a) Control the limits of the excavation activity

b) Determine the trends in bioremediation operations in the bioreactors now operating at the site

On both cases above, the data have been used in "go/no go" decision support. In a) we either continued to excavate if the analysis showed measurable (>0.5ppm) contamination. In b) a time series of measurements were utilized to show the trend with time inside of the bioreactor as the process was established and tuned to meet the needs of the biological population.

The second question is how rapidly the analytical results are required. Increased levels of QA/QC require additional time and do not allow the rapid turnaround of data necessary for decision making on-site. In both a) and b) above, time has been of the essence, and quick availability of data has been very important.

The third question is what budgetary constraints impact on the choice of analytical protocol. If the data is not to be used as legal evidence, then rigorous and expensive EPA CLP protocols are not the best use of project resources. Simply put, the budget often determines how many samples can be taken, and how they can be most advantageously analyzed.

The answer to each question leads us to the conclusion that the project demands cost effective, rapid turnaround, and appropriate QA/QC giving the precision and accuracy necessary for the decision making which will be required. For the project to date this has meant utilization of the Ecova Project Support Laboratory (PSL). QA/QC in the PSL focuses on routine monitoring of reagent blanks,

TOLS009337

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and on calibration of instrumentation using standardized solutions of known concentration. Precision and accuracy are typically controlled to within ±10% of the amount of analyte present.

Chain of custody procedures are established by the Project Manager and his staff. For the Northwest Terminal site, most samples are either hand carried directly from the field to the laboratory, or sent by overnight means.

Non-routine analyses were accomplished when unexpected pollutants were discovered at the Northwest Terminal site. The powerful technique of combined gas chromatography/mass spectroscopy (GC/MS) was employed to make tentative identifications of compounds which were found on the site which were not the compounds which the remediation system was developed to handle. The analysis for these compounds was accomplished by adding samples to the stream being handled by Pacific Northwest Environmental Lab (PNEL). The existing sample stream was already under control of rigorous tuning and response criteria required by EPA. Time Oil samples were analyzed with the benefit of this control protocol and instrumental parameters and performance was well documented within the standard procedures employed by PNEL.

Chemical analysis for determining final concentrations of analytes in soil and solutions that have undergone bioremediation may be subject to substantially increased scrutiny due to the importance of the analytical result, and to the need for defensability of the data. These requirements can be met by utilization of Pacific Northwest Environmental Laboratory formerly Ecova Analytical Services. This fully equipped, instrumented and established facility can provide the complete range of services required for production of legally admissable data from chemical analysis of environmental samples. Utilization of this facility needs to be based upon the needs of the client, and the ultimate use to which the data may be put. It is more costly, but allows a complete support of QA/QC methodology employing method blanks, matrix spikes, matrix spike duplicates, trip and reagent blanks, and comparison with external standards which are part of the EPA Contract Laboratory Program. A copy of the PNEL QA/QC Manual is available upon your request.

TOLS009338

BZTO104(e)046160

ECOVA CHANGE ORDER

CLIENT: TIME OIL COMPANY

PROJECT: NORTHWEST TERMINAL REMEDIATION - J.N. 821401

LOCATION: PORTLAND, OREGON

CHANGE ORDER NO.	001
DATE	09/12/89
ORIGINATOR	ROD CARR
PROJECT NO.	821401
COST CODE	

DESCRIPTION OF CHANGE

INCREASE IN SCOPE. ADDITIONAL WORK TO BE PERFORMED. EXTRA SERVICES AS REQUIRED BY VERBAL REQUEST OF TIME OIL'S FRED PROBY. ADJUSTMENT OF SCHEDULE DUE TO DELAYS BEYOND CONTROL OF ECOVA.

CAUSE OF CHANGE

DIFFERING SITE CONDITIONS FROM THOSE ANTICIPATED BY BOTH PARTIES UPON ENTERING INTO THE CONTRACT. PERFORMANCE OF OUT OF SCOPE SERVICES ON VERBAL ORDER OF TIME OIL COMPANY.

SCHEDULE IMPACT

Delay beyond control of ECOVA for original power drop to site, five weeks; delay for discovery of solvents and unexpected contaminants, 3 weeks; delay in obtaining clean soil for backfilling, 5 weeks. Request for no cost extension of period of Period of performance to be extended to September 9, 1990 at no cost.

QUALITY IMPACT

NONE

COST IMPACT

Reference Elevation Measurements on Wells	$ 330.00
Extra Cost of Gasoline Compatible Liner on Tank 38002	670.00
Eight (8) additional soil samples for PCB Analysis outside Crosby & Overton dike wall	700.00
Contamination Characterization of Location Where Clean Fill Soil - Was To Be Obtained for filling contamination excavation Sampling for Contaminated Soils (Attachment A)	3,960.00
Additional Solvents Encountered in PCP Contaminated Soils (Attachment B)	
Add'l Time to Excavate Soil	4,240.00
Sampling	930.00
Sample Analysis	3,620.00
Changes to Health and Safety Plan	360.00

TOLS009339

BZTO104(e)046161

Pumping and Repumping of Contaminated Water between tanks (Attachment C)	2,000.00
One (1) GC Analysis of Sump "Slop" Tank Water (Attachment C).....	110.00
Ground Water Study	1,500.00
Sample Analysis Charges for Groundwater Study (Attachment D).....	1,800.00
Procurement, review and support of Time Oil with respect to Oregon Department of Environmental Quality	360.00
Dioxin Analysis (1 analysis @ $1,800 per analysis).....	1,800.00
	$22,380.00

PROPOSED:

$22,380.00 — Amount

R.L. Carr for Dave Edwards — ECOVA Project Manager

Date

ACCEPTED:

Roderick A. Carr — ECOVA Contract Administrator

9/12/89 — Date

$ — Amount

Client Project Manager

Date

TOLS009340

ATTACHMENT A

COST ESTIMATES FOR CHANGE ORDERS

Disposal Pit Clean Up

Summary:

The area where we were supposed to obtain clean soil to fill in the excavated PCP area, turned out to be contaminated with solvents and other "mineral" spirits.

Upon discovery of contaminants, work on the pit was halted, and several holes were dug with a back hoe so that samples could be obtained for analysis.

Cost Break Down:

Taking Samples

Back Hoe Rental	3 days x 8 hrs x $50.00/hr	$1200.00
M. Anderson	3 days x 8 hrs x $75.00/hr	1800.00
Operator	3 days x 8 hrs x $40.00/hr	960.00
Additional time necessary to collect clean soil		$3,960.00
Two Trucks	4 days x $100/day	800.00
Loader	4 days x $180/day	720.00
Two Operators	4 days x 11 hours x 30.00	2640.00
		$8120.00

Red

No Red

analyses ?? Change Order Need

mark/Kevin

in scope ?? Contract

NO RAC

TOLS009341

BZTO104(e)046163

ATTACHMENT B

Tank - $90/yd.

KBs/min/carrier for penta

3440 cu. yd.

Solvents Discovered in PCP Contaminated Soils

Summary: Need log books. Excessive yardage

During excavation of the area south of the PCP warehouse, where it was believed that only PCP's would be found, solvents were discovered.

Cost Break Down:

Added time to excavate soil

Two Operators	4 days x 11 hours x $40.00/hr	$3520.00
Loader	4 days x $180.00	720.00
		$4240.00

Taking Soil Samples

2 Operators	1 day x 11 hours x $40.00/hr	880.00
2 boats / ? 1 boat*	1 day x $50.00/day	50.00
2 Soil Sampling		$930.00

Sample Analysis

4 samples GC/MS/Library Search $700.00 per sample	$2800.00
Kodak KB-3 and B-11 samples	$820.00
n	$3,620.00

OK Administrative

MSDS

Changes to Health and Safety Plan $360.00

~~Elimination of Contaminated Water in Pit~~

~~2 Operators 25 hours x $40.00/hour..... $2000.00~~

~~Testing of Sample ..... $110.00~~ ? NO RAC

H_2O (at Tank) ? Results -

~~Re-Pumping to new tank because first tank leaked~~

~~2 Operators 5 hours x $40.00/hours..... $400.00~~

$11,660.00

* The boat was required because the excavated pit had filled with water, and obtaining samples from the side walls was not possible otherwise.

TOLS009342

BZTO104(e)046164

ATTACHMENT C

Sump "Slop" Tank Water OK

Summary:

Time Oil had a tank near the water front which contained 100,000 gallons of water contaminated with diesel, gasoline and other hydrocarbons. We were asked to pump this water over to a storage tank next to our site, and later to clean this mixture.

Cost Break Down:

Pumping solution to new tank

2 Operators 25 hours x $40.00/hour $2000.00

Sample Analysis

GC analysis $110.00

$2110.00

Dan/Gary

What happened — long time?

Log

TOLS009343

ATTACHMENT D

Ground Water Study

Summary: Oct. 18th, 1988 Letter -

The original contract required that Ecova perform a pump test on the groundwater system and that the water be tested for PCP. Later, a second pump test was requested, and upon discovery of solvents in the soil, the water samples were tested for solvents.

Cost Break Down: 1st Shallow

Additional Pump Test 2nd Test - Deep Zone ...$1500.00 ? Need Breakd

Solvent Analysis HPLC 6 samples x $50.00/sample $300.00

2m

Total $1800.00

need lab report.

Change Order:

Power Drop

TOLS009344

BZTO104(e)046166

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-6036

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

October 31, 1989

ECOVA Corporation
Attn: Bill Mahaffey
3820 159th Avenue NE
Redmond, WA 98052

Re: Northwest Terminal Pentachlorophenol Cleanup

Dear Bill:

Enclosed are Change Orders number 1 and 2 for extra work and number 3 for a schedule adjustment. Kindly signify Ecova's acceptance by signing and returning a copy of each Change Order. The listed extra work is authorized and, having already been completed, ECOVA may submit invoices for the indicated amounts.

Should work outside of the scope of the contract be necessary in the future, written Change Orders will be issued by Time only after approval of a cost estimate. Verbal authorization to incur expenses will not be granted and expenses incurred without written authorization by Time will not be reimbursed. Accordingly, we both must be more diligent in anticipating out-of-scope work well in advance of the need so that proper approval may be obtained.

Sincerely,

Fred Proby
Environmental Specialist

enclosures

flp.22

TOLS009345

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

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TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 1
Date: October 30, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Survey reference elevations of existing wells	$ 330.00
2. Use gasoline-compatible liner on Tank 38002	$ 670.00
3. Characterize contamination encountered in clean soil borrow area	$ 3,960.00
4. Evaluate additional solvents (eg. KB3) encountered during penta excavation:	
Collect additional samples	$ 930.00
Sample analysis	$ 3,620.00
Revise Health and Safety Plan	$ 360.00
5. Analyze water from Time Oil "slop tank"	$ 110.00
6. Additional effort on groundwater study:	
Extra pump test	$ 1,500.00
Analyze water for solvents	$ 300.00
7. Provide consultation on Oregon DEQ rules	$ 360.00
[illegible]	$ 10,790.00
[illegible] for power drop paid for by Time	$(4,763.00)
[illegible] this Change Order	$ 6,027.00
[illegible] Contract Price	$451,027.00

Requested By: [signature]

Approved By: [signature]

Contractor: Roderick A Carr
Contract Administrator
ECOVA Corp.

TOLS009346

BZTO104(e)046168

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

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RICHMOND
LOS ANGELES

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

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 2
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Collect eight soil samples for PCB analysis outside of Crosby & Overton dike wall	$ 700.00
Total this Change Order	$ 700.00
Revised Contract Price	$451,727.00

Requested By: [signature]

Approved By: [signature]

Contractor: Roderick A. Carr
Contract Administrator
ECOVA CORP.

TOLS009347

BZTO104(e)046169

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

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SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 3
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Reason For Schedule Change	Weeks Added
1. Power drop to site delayed by Portland Electric due to bad weather	5
2. Discovery of solvents in excavation	3
3. Delay in locating clean soil for backfilling	5
Total Weeks Added to Schedule	13
Performance Period Extended To	September 9, 1990
Impact on Contract Price	None

Requested By: [signature]

Approved By: [signature]

Contractor: Roderick A. Carr
Contract Administrator
ECOVA CORP.

TOLS009348

BZTO104(e)046170

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

November 10, 1989

→ PROJECT FILE

Ecova Corporation
Attn: Mr. Bill Mahaffey
3820 159th Avenue NE
Redmond, WA 98052

Dear Bill:

On my routine inspections of Ecova's pentachlorophenol cleanup operation at our Northwest Terminal, including our visit together on November 2, I have made the following observations that I would like to document for your attention. Most of these points have been discussed with Jim Borthen, Dave Edwards and yourself, but corrective action has, in some cases, been rather slow.

It has become apparent that a "Procedures Manual" needs to be developed that clearly documents all aspects of your operation. This manual should describe how routine tasks are to be performed and should establish methods for handling unexpected events. It need not be a lengthy manual; much can be accomplished with simple forms and checklists that include step-by-step procedures and explanations.

There are three compelling reasons for having a Procedures Manual. First is the need to demonstrate that the cleanup is being performed according to procedures acceptable to the DEQ. This means, to me, a totally professional and well documented operation. Second, given this project's record of staff turnover, clear instructions will ensure consistent operation of the plant. Finally, the Work Plan includes a provision for Time Oil personnel to perform some routine monitoring of the plant as a means of reducing project costs (page 2-12). This cannot occur without an acceptable Procedures Manual.

Jim has made progress on a manual and we have discussed several ideas that could be incorporated. These include a form to document routine daily operations (a fill-in-the-blanks checklist), better records of interim analytical results and a "batch summary" form that lists all pertinent data for a particular batch. Attached to the batch summary form should be all field notes, chain of custody documents and lab results for that batch. These packets would then comprise your permanent treatment records. The one-page batch summary form, accompanied by lab results documenting attainment of the cleanup level, should also be made part of the monthly reports to Time Oil.

I would also like you to consider establishing some type of wall chart that plots each batch against time, so that one may see at a glance which batches are current and note any trends in batch processing time. This would help to eliminate the type of confusion that was caused by not assigning a number to the first small batch that was processed (which we agreed would be designated as batch 0.)

BZTO104(e)046171

Considering the treatment process itself, my independent samples indicate that the last load (batches 1, 2 and 3, I believe) that was discharged to the disposal pond during the week of September 25-29 did not meet the treatment standard. There was a "scum" that settled out on the surface of the pond that had 150 ppm pentachlorophenol. In addition, samples that I collected from coarse material beneath the discharge pipe in the disposal pond indicate that the sand from the bottom of the reactor also did not receive sufficient treatment (preliminary results show 10 ppm penta). I understand that your data confirms these findings.

This situation points out two problems: first, it was our agreement that this group of batches was to be an "experiment" to determine if all of the soil, including the sand, could be treated without the initial soil-washing step proposed in the Work Plan (Figure 2-3). How then could the load have been discharged without thorough verification of cleanup? It appears that this experiment was not very well designed, executed or supervised. It seems to me that there is a basic communication problem here that must be resolved. Among other things, a firm rule should be established that no material will be discharged without lab results present on site confirming that every phase of material (scum, water, suspended sediment and settled sand) meets the cleanup standard.

The second problem is the soil that was improperly discharged. Any soil in the disposal pond that exceeds 0.5 ppm total chlorinated phenols must be removed immediately. It is my understanding from our discussions over the last week that Ecova intends to re-excavate and treat this soil at it's own expense. Please confirm, in writing, when this will occur. Needless to say, I cannot recommend payment on any invoice for treatment until this soil has been removed from the disposal pond. (However, an invoice reflecting the latest Change Orders can be submitted for payment.)

Apart from these difficulties, I am encouraged by the sincere effort that I see being put forth on this project and I remain confident that we will soon leave this "shakedown" stage and get on to some serious cleanup.

Sincerely,

Fred Proby
Environmental Specialist

TOLS009350

BZTO104(e)046172

E C O V A

November 30, 1989

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

P.N. 821401

RE: Status Report of Remediation project at Time Oil Northwest Terminal, Portland, Oregon

Dear Fred:

At the end of September the first batch of slurries (e.g. batch 1, 2, 3) were sampled and analyzed. The analyses indicated that the slurry concentrations were below the cleanup level of 0.5 ppm. One of my concerns at that time was that not all the soil was staying in suspension as evident by the solids content of the slurry samples. I authorized disposal of the slurry with the caveat that soil which had settled in the dead zones of the tanks be retained for further treatment.

Evidently there was miscommunication with Jim Borthen, because he and Dan discharged this material as well. In addition the material in T3 was never to have been discharged as there was a great deal of residual waxy type material coating the walls of the tank. Unfortunately this material was also washed from the tanks and discharged. As you are well aware our analyses of the material disposed of to the pit confirms your independent verification that the soil was not clean. The results for the four samples taken are as follows:

FIELD ID	[PCP]
DP-1103-1	3.9 ppm
DP-1103-2	100 ppm
DP-1103-3	11 ppm
DP-1103-4	56 ppm

I have attached the analytical report which was generated at level IV QA/QC by PNEL (Appendix A). As of November 21, 1989 this soil has been excavated from the disposal pit and placed back on the stock pile. Our accounting department has been notified to stop billing on Invoice Number 102154.

During the first week of October, 66 yards of soil was loaded into tanks T1, T2, and T3 for slurry phase processing. This material is still under treatment. Again the problem we have realized in this treatment scenario is that the coarser sand grains settle very rapidly into reactor dead zones and thus there is reduced contact efficiency which is manifest in longer treatment time. On 11/03/89 samples were taken of the soil collecting in the dead zones of each of the reactors in order to ascertain the level of clean up being achieved. The results of these analyses are presented in Appendix B and represent data generated by our project support chemistry laboratory. Since you have expressed a great deal of concern about the reliability of data

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(212) 840-1663 FAX

generated at level II QA/QC, I submitted split samples for analysis by PNEL. The results from PNEL are provided in the data pack designated as Appendix C. I think you will see that the results are comparable. We will be having sample splits run as needed to verify our site support chemistry and use the PNEL data as our QA/QC check on each batch of soil treated.

During the week of November 13, 1989 we rented a cement mixer to test the original design configuration for this project. We performed three batch washes and were able to show that the wash efficiency was identical to that obtained in the laboratory. From initial starting concentrations of 440 ppm PCP we effectively reduced the concentration to 58 ppm with the first wash and to less than 0.5 ppm with the second wash. In one of the batches we were only able to reduce the concentration to 17 ppm after 5 successive washes.

Some important observations were made during these runs. First, in each of the batches a solvent film developed at the air water interface after the agitation was stopped. Second, the one batch where the PCP was reduced only to 17 ppm was also the same batch which exhibited the greatest solvent film after agitation ceased. The soil in this batch had a distinctive solvent odor after 5 successive washes. Third, in all batches there was always a significant silt fraction residual even after successive washings. When this silt fraction was washed from one of the set of duplicate samples then the PCP levels were significantly reduced versus the sample containing the silt (e.g. 17 ppm versus 140 ppm and <0.5 ppm versus 32 ppm).

These results emphasize that the silt fraction must be removed to achieve the cleanup criteria and that the presence of the solvents may present a barrier to cleanup by the soil washing process as designed. This later point requires some further verification.

We are currently exploring the use of a sand screw/auger system with counter current soil washing for the Portland Site soil. Jim Borthen will be in Redmond through the first week of December to perform the necessary bench scale testing. I will keep you informed as to our progress.

Please find enclosed as Appendix D a copy of the Hagedorn, Inc. computations on the stockpile soil volume. They have calculated the pit volume at 2909.2 cubic yards and the pile volume at 2697.6 cubic yards. Correcting the pile volume measurement for the 65 yards of soil which was incompletely processed and disposed of yields a pile volume estimate of 2762.6 cubic yards. The difference between the cut and fill (-146.6 cubic yards) is inconsistent with what would be expected. Generally the fill would be 10% to 20% larger than the cut. There are several possible explanations for these results.

1. Three different groups were involved in the surveying and volume calculations. One group surveyed the original site, another group surveyed the pit and pile on two separate days and a third group performed the volume calculations. If one group used an incorrect bench mark reference elevation, this might account for the discrepancies. From our examination of the data and conversations with survey company we are confident that both survey crews used the same bench mark elevation.

2. The survey of the excavation pit was performed, in part, from a row boat due to water accumulation. There may be some errors due to the inaccuracies encountered in handling the staff from a boat. Since they were unable to survey the bottom of pit they may have obtained an inaccurate cross section.

3. We have had discussions with Eugene Diloretto of Diloretto and Associates. He is a civil engineer with 40 years of experience, and has worked extensively in the Rivergate area of Portland. He claims that he has experienced subsidence in this area, and that the subsidence factor is 10%. This means that if one were to make a pile of dirt 1 foot high the ground beneath would sink 0.1 foot. If we accept this

theory, then we would expect the bermed area to have subsided from 0 feet at the berm to as much as 2 feet at the center of the original pile. Later a bulldozer was used to reshape the pile, which could only have confounded the problem by contributing to subsidence and compaction of the pile. For a correction calculation, we have assumed that the average subsidence over the entire bermed area is 1 foot.

Area of 30 yds X 40 yds	1200 sq. yds.
Volume of subsidence 1200 X 0.33	400 cu. yds.
Original pile volume	2762.6 cu. yds.
New pile volume est.(2762.6 + 400)	3162.6 cu. yds.
Pit volume	2909.2 cu. yds.
Fluff factor based on new estimate	8.7%

There is a way subsidence can be checked. After the pile has been processed, a surveyor can perform a spot check on the impermeable membrane which is beneath the pile and the degree of subsidence estimated. The volume of pile material treated can then be recalculated at that time. In the interim you may wish to consider using the average of the new pile volume estimate (3162.6 cu. yds.) and the pit volume estimate (2909.2 cu. yds.) for purposes of estimating the volume of soil to be treated (3035.9 cu. yds.).

In addition I would also like to remind you of the additional contaminated soil which was identified outside the original excavation area, as was brought to your attention in Mark Andersons' letter of March 14, 1989. It is my understanding that PCP contaminated soil, with up to 6000 ppm PCP, was identified in the tank farm area adjacent to the excavation. In addition there is more soil in the area of the stockpile sump which contains PCP as well as unidentified solvents.

We propose to add the soil from the tank farm area to the total volume of soil to be treated, working toward the 3,440 yard estimated to be originally treated. However, since we did not anticipate a second excavation activity in our pricing of the job, we suggest that the cost of the excavation of the additional soil required to reach 3,440 yd^3 in the tank farm area be shared equally between ECOVA and Time Oil, and are prepared to submit a change order for 1/2 the cost of the excavation.

This project is certainly a challenge for me, and I am looking forward to moving this project forward in a careful, thorough manner to ensure the highest quality end product. I want to thank you for your support and valuable input. It is a pleasure to work with you.

Sincerely,

Bill Mahaffey

William R. Mahaffey
Senior Microbiologist/Project Manager

cc: J. Kinsella
Files

TOLS009353

BZTO104(e)046175

PACIFIC NORTHWEST ENVIRONMENTAL LABORATORY

November 28, 1989

Bill Mahaffey
ECOVA
3820 159th Ave NE
Redmond, WA 98052

NARRATIVE FOR PNEL 2121
Submission from Pacific Northwest Environmental Laboratory

Enclosed are data summary sheets and supporting documentation for the four samples received on November 8, 1989 of the Time Oil/Portland project. The field identification numbers, corresponding lab identification numbers, and dates collected are listed below.

FIELD ID	LAB ID	DATE COLLECTED
DP-1103-1	2121-01	11-03-89
DP-1103-2	2121-02	11-03-89
DP-1103-3	2121-03	11-03-89
DP-1103-4	2121-04	11-03-89

Listed below are anomalies and narratives associated with the receipt and/or analysis of these samples.

Due to a high concentration of pentachlorophenol, some of the samples had to be diluted before analysis. 2121-02 was analyzed at a 20x dilution, 2121-03 was diluted 2x, and a 15x dilution was necessary for 2121-04.

Pentachlorophenol exceeded the calibration range in 2121-01MS and 2121-01MSD. However, dilutions were not made because, according to the CLP SOW, the matrix spike and matrix spike duplicate must be analyzed at the same dilution as the original unspiked sample.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Karen J. Kotz

76\NAR-1005.121
Enclosures

3820 159th Avenue NE Redmond, WA 98052 (206) 885-0083 FAX (206) 867-2210

TOLS009355

BZTO104(e)046177

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g Percent Moisture: 6
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-01
Customer Sample: DP-1103-1
Sample Description: Surface of Disp. Pit Taken in Sandy Area
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/06/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	350	U
120-83-2	2,4-Dichlorophenol	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1800	U
87-86-5	Pentachlorophenol	3900	

000001

Form 1

TOLS009356

BZTO104(e)046178

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 20
Sample wt/vol: 30 g Percent Moisture: 31
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-02
Customer Sample: DP-1103-2
Sample Description: Surface of Disp. Pit Taken in Clay Area
Date Collected: 11/03/89
Time Collected: 11:50 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	9700	U
120-83-2	2,4-Dichlorophenol	9700	U
59-50-7	4-Chloro-3-methylphenol	9700	U
88-06-2	2,4,6-Trichlorophenol	9700	U
95-95-4	2,4,5-Trichlorophenol	48000	U
87-86-5	Pentachlorophenol	100000	

800000

FORM 1

TOLS009357

BZTO104(e)046179

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: [redacted]
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 2
Sample wt/vol: 30 g Percent Moisture: 9
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-03
Customer Sample: DP-1103-2
Sample Description: Comp. 0 - 1' Deep Sand Includes Clay La
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	730	U
120-83-2	2,4-Dichlorophenol	730	U
59-50-7	4-Chloro-3-methylphenol	730	U
88-06-2	2,4,6-Trichlorophenol	730	U
95-95-4	2,4,5-Trichlorophenol	3700	U
87-86-5	Pentachlorophenol	11000	

000015

Form 1

TOLS009358

BZTO104(e)046180

SEMIVOLATILE DATA PACKAGE

QC SUMMARY

1) Surrogate Percent Recovery (Form II-SV)
2) MS/MSD Summary (Form III-SV)
3) Method Blank Summary (Form IV-SV)
4) GC/MS Tuning and Mass Calibration (Form V-SV)
5) Calibration Report (Form VI-SV)
6) Calibration Check Report (Form VII-SV) Quant and RIC
7) Internal Standard Area Summary (Form VIII-SV)
8) [illegible] (Form I-SV) Quant, RIC, and TCL Spectra
9) [illegible] Spike (Form I-SV) Quant and RIC
10) [illegible] Spike Duplicate (Form I-SV) Quant and RIC

TOLS009359

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PNELI

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	2121-00MB	77	84	98	70	70	79		0
02	2121-01	76	86	103	68	64	75		0
03	2121-01MS	81	90	107	67	69	87		0
04	2121-01MSD	78	87	107	67	69	76		0
05	2121-02	94	82	90	75	75	80		0
06	2121-03	70	88	95	69	71	101		0
07	2121-04	65	94	112	82	75	74		0
08									
09									
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28									
29									
30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(23-120)
S2 (FBP) = 2-Fluorobiphenyl	(30-115)
S3 (TPH) = Terphenyl-d14	(18-137)
S4 (PHL) = Phenol-d5	(24-113)
S5 (2FP) = 2-Fluorophenol	(25-121)
S6 (TBP) = 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

620000

TOLS009360

BZTO104(e)046182

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PNELI_____ Contract: _____

Lab Code: PNELI__ Case No.: 2121__ SAS No.: _____ SDG No.: _____

Matrix Spike - Client Sample No: DP1103-1 Level: (low/med) LOW___

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	7100	0	4600	65	26- 90
2-Chlorophenol	7100	0	4300	60	25-102
1,4-Dichlorobenzene	3500	0	2300	66	28 104
N-Nitroso-di-n-prop.(1)	3500	0	2300	66	41 126
1,2,4-Trichlorobenzene	3500	0	2500	71	38 107
4-Chloro-3-methylphenol	7100	0	5100	72	26 103
Acenaphthene	3500	0	2400	68	31-137
4-Nitrophenol	7100	0	6300	89	11-114
2,4-Dinitrotoluene	3500	0	3100	89	28- 89
Pentachlorophenol	7100	3900	9800	83	17-109
Pyrene	3500	82	3000	83	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	7100	4500	63	3	35	26- 90
2-Chlorophenol	7100	4200	59	2	50	25-102
1,4-Dichlorobenzene	3500	2400	68	-3	27	28 104
N-Nitroso-di-n-prop.(1)	3500	2400	68	-3	38	41 126
1,2,4-Trichlorobenzene	3500	2600	74	-4	23	38 107
4-Chloro-3-methylphenol	7100	5200	73	-1	33	26 103
Acenaphthene	3500	2400	68	0	19	31-137
4-Nitrophenol	7100	5900	83	7	50	11-114
2,4-Dinitrotoluene	3500	3100	88	1	47	28- 89
Pentachlorophenol	7100	8200	60	32	47	17-109
Pyrene	3500	3000	83	0	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: __0 out of _11 outside limits
Spike Recovery: __0 out of _22 outside limits

COMMENTS:

000030

TOLS009361

BZTO104(e)046183

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-00MB
Customer Sample: NA
Sample Description: Method Blank
Date Collected: NA
Time Collected: NA
Date Received: NA
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	330	U
120-83-2	2,4-Dichlorophenol	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1700	U
87-86-5	Pentachlorophenol	1700	U

000060

Form I

TOLS009362

BZTO104(e)046184

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g Percent Moisture: 6
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-01MS
Customer Sample: DP-1103-1MS
Sample Description: Surface of Disp. Pit Taken in Sandy Are
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	4300	*
120-83-2	2,4-Dichlorophenol	350	U
59-50-7	4-Chloro-3-methylphenol	5100	*
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1800	U
87-86-5	Pentachlorophenol	9800	*E

990000

TOLS009363

BZTO104(e)046185

SEMI VOLATILE
ORGANICS ANALYSIS DATA SHEET

Laboratory Name: PNELI
Project Number: 31-891005
Sample Matrix: Sand
Concentration: Low Dilution Factor: 1
Sample wt/vol: 30 g Percent Moisture: 6
Date Extracted: 11/09/89
Date Analyzed: 11/13/89

Lab Sample: 2121-01MSD
Customer Sample: DP-1103-1MSD
Sample Description: Surface of Disp. Pit Taken in Sandy Ar
Date Collected: 11/03/89
Time Collected: 11:00 A.M.
Date Received: 11/08/89
Data Release Authorized:

C.A.S. Number		UG/KG	
95-57-8	2-Chlorophenol	4200	*
120-83-2	2,4-Dichlorophenol	350	U
59-50-7	4-Chloro-3-methylphenol	5200	*
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1800	U
87-86-5	Pentachlorophenol	8200	*E

000072

Form I

TOLS009364

BZTO104(e)046186

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

March 14, 1990

ECOVA Corp.
Attn: John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

MAR 19 1990

Dear John:

As you requested, the following is my summary of our March 9, 1990 status meeting on the Northwest terminal pentachlorophenol cleanup project:

ECOVA expressed the position that the project has gotten "far afield of the original contract." Over the last year, ECOVA has invested much research and development into trying to solve the problem of interference created by the presence of "solvents." Accordingly, ECOVA is faced with an "impossibility of performance" situation. ECOVA suggested an entirely new contract.

Time pointed out that a new contract would reopen the entire bid process. An alternate approach would be to issue two major change orders. The first would cover negotiations with the DEQ to set a cleanup level that everyone can live with. ECOVA's billing on this task would be on a time & materials basis as provided for in Task 2.3.2 of the Work Plan. The second change order would address ECOVA's costs incurred as a result of the "solvents." ECOVA agreed that the change order approach would be preferable to a new contract. ECOVA pointed out that negotiations with the DEQ might result in changes being required in the Work Plan, which would necessitate another change order.

It was agreed by ECOVA that a higher cleanup standard, negotiated with the DEQ, would substantially solve their technical problems. ECOVA pointed out that the negotiation process will need to address both the solvents and dioxin.

ECOVA stated that $505,000 has been spent to date on this project. Time again asked for a detailed breakdown so that it could be seen how the money was spent. (This request was made at our last status meeting on 2/7/90.) ECOVA promised to provide a cost breakdown late this week (3/16). It is necessary to be able to identify what costs could properly be attributed to interference from the solvents. ECOVA was not very hopeful that their cost records would be detailed enough to show that. Time suggested that ECOVA's changes in personnel have caused project management inefficiencies that could account for a substabtial portion of the over-run. ECOVA did not agree. Time pointed out that the work ECOVA has done on soil washing is part of the contract, in that it is called for in the Work Plan.

TOLS009365

BZTO104(e)046187

Time asked for a complete identification of ECOVA's problems and what it will take to fix it, including a detailed letter proposing contract changes. ECOVA agreed and also promised to provide an analysis of project correspondence to support their position.

Sincerely,

Fred Proby
Environmental Specialist

March 12, 1990 c:\wp\files\pdx0309.90

MEMORANDUM OF MEETING

Attendees:	Time Oil	Ecova Corporation
	Joe Sanzo	John Kinsella
	Fred Proby	Bill Mahaffey
		Rod Carr

Items covered not necessarily in order of discussion.

1. It was mutually agreed that Ecova and Time Oil are jointly responsible for the expenditures made during the period covered by "R&D" activities at the Northwestern Terminal. Both agree that the complications encountered when an array of unanticipated contaminants were found at the site, are the shared responsibility of each and as such must be born jointly.

2. The period of the R&D activities commenced with the discovery of unknown compounds during the January 1989 excavations and continued until the site activity was stopped in December 1990.

   Joint responsibility is not agreed to for activities during the R&D period which are directly attributable to budgeted tasks in the workplan which cannot be considered part of the R&D activities, such as Mobilization, or internal inefficiencies caused by Ecova management changes which can be specifically identified to not be a part of the R&D activities into which both parties ventured.

3. Rod Carr of Ecova will provide an annotated abstract of the project documentation as a basis for judging what activities should be included in the base cost of the R&D activity. Included will be documented costs by task, and an abstract record of project communications that show the development of the R&D effort as guided by Mr. Proby. A recommended partitioning of the costs will be provided along with and a statement that Ecova top management concurs with the above.

   During today's meeting, Time Oil and Ecova both assented to an equal responsibility for the conduct of the R&D phase, and approved of the statement that an equal share of the costs thereby incurred was a reasonable means of partitioning.

4. The future of the November 9, 1990 contract was projected by the attendees to be likely to take the following steps in this order:

   a) Presentation of R&D phase costs and negotiation of responsibility and payment for shared costs.

   b) Time Oil authorization of change order or other means of

March 14, 1990

MEMORANDUM OF MEETING

Attendees:	Time Oil	Ecova Corporation
	Joe Sanzo	John Kinsella
	Fred Proby	Bill Mahaffey
		Rod Carr

Items covered, not necessarily in order of discussion.

1. It was mutually agreed that Ecova and Time Oil are jointly responsible for the expenditures made during the period covered by "R&D" activities at the Northwestern Terminal. Both agree that the complications encountered when an array of unanticipated contaminants were found at the site, are the shared responsibility of each and as such must be born jointly.

2. The period of the R&D activities commenced with the discovery of unknown compounds during the January 1989 excavations and continued until the site activity was stopped in December 1990.

   Joint responsibility is not agreed to for activities during the R&D period which are directly attributable to budgeted tasks in the workplan which cannot be considered part of the R&D activities, such as mobilization, or internal inefficiencies caused by Ecova management changes which can be specifically identified to not be a part of the R&D activities into which both parties ventured.

3. Rod Carr of Ecova will provide an annotated abstract of the project documentation as a basis for judging what activities should be included in the base cost of the R&D activity. Included will be documented costs by task, and an abstract record of project communications that show the development of the R&D effort as guided by Mr. Proby. A recommended partitioning of the costs will be provided along with and a statement that Ecova top management concurs with the above.

   During today's meeting, Time Oil and Ecova concurred in a discussion of approximately equal responsibility for the conduct of the R&D phase. Neither took exception to the suggestion that the R&D phase might be appropriately shared on an equal basis, but that a detailed examination of the costs incurred was required to determine the actual partition.

4. The future of the November 9, 1990 contract was projected by the attendees to be likely to take the following steps in order:

   a) Presentation and review of R&D phase costs with negotiation of responsibility and payment for shared

costs.

b) Time Oil authorization of change order or other means of accomplishing dioxin testing of both soil and "bio-scum" as preparation to c) below.

c) Time Oil authorization of change order for Ecova T&M services to support negotiation of Oregon DEQ acceptable cleanup criteria for PCP, and for other contaminants which have been discovered on the site.

d) Development of work plan for site cleanup with negotiation of cost to complete and modification of contract to include new cost data.

e) Change order to contract to provide for treatment of residual liquids which emanate from the slurry tanks for PCP and newly identified contaminants.

5. Fred Proby agreed to also generate a memorandum of this meeting so that it could be blended with this document as a proper record of the meeting and the activities to be subsequently accomplished.

6. Schedule a meeting between Time Oil and Ecova to resolve the above issues and to agree on a program for completing the project.

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ATTACHMENT B - PHASE II COST BY TASK/ACTIVITY

TOLS009370

BZTO104(e)046192

TABLE B-1 SUMMARY OF PHASE II JOB CHARGES

ACTIVITY	DESCRIPTION	PHASE II LABOR	PHASE II ODC
200	ENGINEERING/DESIGN	$8,007	$3,736
300	GROUNDWATER INVEST. (*)	$2,179	$6,332
510	MOBILIZATION/CONSTRUCT.	$38,894	$60,747
520	EXCAVATION	$16,653	$32,030
600	ON SITE OPERATIONS	$58,112	$69,381
651	EXPERIMENTAL OPERATIONS	$10,756	$3,220
		$134,601	$175,446

(*) - Net Charge to Time Oil

TOLS009371

BZTO104(e)046193

TABLE B-2 PHASE II LABOR AND ODC COSTS
ACTIVITY 200 - ENGINEERING AND DESIGN

TITLE	PHASE II HOURS	PHASE II COST
STAFF ENGINEER	271	$4,514
SR. PROJ. MANAGER	40	$1,469
DRAFTER/CAD	40	$761
FIELD TECHNICIAN	24.5	$262
SR. SCIENTIST	23	$958
ASST. SCIENTIST	2	$29
HEALTH AND SAFETY	1	$14
	401.5	$8,007
OTHER DIRECT CHARGES		$3,736
		$11,743

TABLE B-3 PHASE II LABOR AND ODC COSTS
ACTIVITY 300 - GROUNDWATER INVESTIGATION

	INCURRED COST	COST TO TIME OIL
PHASE I COST	$6,360	$6,360
PHASE II COST	$14,291	$8,511
TOTAL JOB COST	$20,651	$14,753
ORIGINAL BUDGET	<14753>	
COST NOT BILLED TO TIME OIL BY AGREEMENT	$5,898	

TABLE B-4 PHASE II LABOR AND ODC COSTS
ACTIVITY 510 - MOBILIZATION AND CONSTRUCTION

TITLE	PHASE II HOURS	PHASE II COST
FIELD TECHNICIAN	1298	$18,357
SR. FIELD TECH.	743	$11,840
STAFF ENGINEER	119	$2,038
SR. SCIENTIST	105	$3,347
SR. PROJ. MANAGER	65.5	$2,395
HEALTH AND SAFETY	17	$244
SR. ENGINEER	14	$452
DRAFTER/CAD	7.5	$136
PROJ. GEOLOGIST	4	$86
	2373	$38,895
OTHER DIRECT CHARGES		$60,747
		$99,642

TABLE B-5 PHASE II LABOR AND ODC COSTS
ACTIVITY 520 - EXCAVATION

TITLE	PHASE II HOURS	PHASE II COST
FIELD TECHNICIAN	671.5	$10,624
SR. PROJ. MANAGER	115	$2,903
PROJECT SCIENTIST	31	$1,160
HEALTH AND SAFETY	25	$359
SR. HYDROGEOL.	22	$781
SR. FIELD TECH.	18	$297
STAFF ENGINEER	13	$219
SR. ENGINEER	6	$213
PRINCIPAL	2	$95
WORD PROC.	0.25	$2
	903.75	$16,653
OTHER DIRECT CHARGES		$32,030
		$48,683

TABLE B-6 PHASE II LABOR AND ODC COSTS
ACTIVITY 600 - SITE OPERATIONS

TITLE	PHASE II HOURS	PHASE II COST
PROJECT ENGINEER	924	$19,635
FIELD TECH.	831	$10,846
LAB TECH.	463	$5,377
SR.PROJECT MANAGER	358.5	$12,976
ASST. SCIENTIST	92	$1,551
CONTRACT ADMIN.	80.5	$2,535
PROJ. SCIENTIST	61	$1,049
SR. HYDROGEOL.	56	$1,978
STAFF ENGINEER	32	$538
GEOLOGIST	19	$352
PROJ. HYDROGEOL.	13.5	$417
DRAFTER/CAD	10.5	$184
SR. SCIENTIST	10.5	$255
PURCHASING MGR.	8	$142
PRINCIPAL	4	$203
WORD PROC.	2	$25
HEALTH AND SAFETY	1	$18
PROPERTY MGR.	1	$31
	2968	$58,112
OTHER DIRECT CHARGES		$69,381
		$127,493

TOLS009376

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TABLE B-7 PHASE II LABOR AND ODC COSTS
ACTIVITY 651 - EXPERIMENTAL SIT

TITLE	PHASE II HOURS	PHASE II COST
PROJECT ENGINEER	232	$4,356
FIELD TECH.	107	$1,348
SR.PROJECT MANAGER	95	$3,251
ANALYTICAL TECH.	48.5	$545
SCIENTIST	30	$721
ASST. FIELD SCIENT	30	$346
STAFF ENGINEER	10	$144
PURCHASING MGR.	1.5	$34
CLERICAL	1	$11
	555	$10,756
OTHER DIRECT CHARGES		$3,220
		$13,976

TOLS009377

ATTACHMENT C - PHASE II "OTHER DIRECT CHARGE" COST DETAIL

TOLS009378

BZTO104(e)046200

MARCH 89

Date 04/03/89
03-89-0516

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 04/03/89

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/	Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532510	821401	031849	VO	03-89	03-89	023513	03/07/89	SPRIAP		0.000		
					TRAVEL				0.00	0.00	655.00	
532510	821401	031849	VO	03-89	03-89	023514	03/07/89	RIVERC		0.000		
					TRAVEL				0.00	0.00	270.00	
532510	821401	031849	VO	03-89	03-89	023515	03/07/89	RIVERC		0.000		
					TRAVEL				0.00	0.00	315.00	
532510	821401	031861	VO	03-89	03-89	023648	03/09/89	GRANTR		0.000		
					02-510-99				0.00	0.00	88.60 ✓	
532510	821401	031861	VO	03-89	03-89	023649	03/09/89	GRANTR		0.000		
					TRAVEL				0.00	0.00	156.54 ✓	
532510	821401	031861	VO	03-89	03-89	023658	03/09/89	DELTAI		0.000		
					02-510-99				0.00	0.00	31.61 ✓	
532510	821401	031866	VO	03-89	03-89	023709	03/11/89	MANDER		0.000		
					02-510-99				0.00	0.00	26.05 ✓	
532510	821401	031872	VO	03-89	03-89	023836	03/17/89	GRANTR		0.000		
					02-510-99				0.00	0.00	14.18	
532510	821401	031872	VO	03-89	03-89	023837	03/17/89	GRANTR		0.000		
					02-510-99				0.00	0.00	20.34	
532510	821401	031872	VO	03-89	03-89	023840	03/17/89	THAMES		0.000		
					02-510-99				0.00	0.00	655.00	
532510	821401	031885	VO	03-89	03-89	023981	03/24/89	MANDER		0.000		
					02-520-99				0.00	0.00	52.91 ✓	
532510	821401	031889	VO	03-89	03-89	024020	03/27/89	AMEXPR		0.000		
					02-510-99				0.00	0.00	940.00	
532510	821401	031889	VO	03-89	03-89	024020	03/27/89	AMEXPR		0.000		
									0.00	0.00	115.00	
532510	821401	031889	VO	03-89	03-89	024020	03/27/89	AMEXPR		0.000		
					02-200-99				0.00	0.00	[redacted]	
532510	821401	031889	VO	03-89	03-89	024020	03/27/89	AMEXPR		0.000		
									0.00	0.00	64.00	
532510	821401	031889	VO	03-89	03-89	024021	03/27/89	AMEXPR		0.000		
					TRAVEL				0.00	0.00	418.00	
532510	821401	031889	VO	03-89	03-89	024021	03/27/89	AMEXPR		0.000		
					02-510-99				0.00	0.00	180.00	
532510	821401	031889	VO	03-89	03-89	024021	03/27/89	AMEXPR		0.000		
									0.00	0.00	90.00	
532510	821401	031897	VO	03-89	03-89	024043	03/27/89	AMEXPR		0.000		
					0				0.00	0.00	483.00	
532510	821401	031897	VO	03-89	03-89	024043	03/27/89	AMEXPR		0.000		
									0.00	0.00	470.00	
532510	821401	031913	VO	03-89	03-89	024294	04/01/89	DELTAI		0.000		
					02-520-99				0.00	0.00	63.22 ✓	
532510	821401	031913	VO	03-89	03-89	024295	04/01/89	DELTAI		0.000		
					02-300-99				0.00	0.00	99.33 ✓	
532510	821401	031914	VO	03-89	03-89	024319	04/01/89	MUTTRA		0.000		
Travel					02-520-99				0.00	0.00	398.00 ✓	
								Acct Sub Total			5785.78	0.00
532610	821401	031910	VO	03-89	03-89	024232	04/01/89	GRANTR		0.000		
					02-510-99				0.00	0.00	161.54 ✓	
532610	821401	031910	VO	03-89	03-89	024233	04/01/89	GRANTR		0.000		
					02-510-99				0.00	0.00	92.72 ✓	
532610	821401	031913	VO	03-89	03-89	024285	04/01/89	RIVERC		0.000		

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532610	821401	031913	VO 03-89	03-89	024286	04/01/89	RIVERC	0.00	0.00	270.00 ✓	
									0.000		
532610	821401	031913	VO 03-89	03-89	024287	04/01/89	SPRIAP	0.00	0.00	315.00 ✓	
									0.000		
532610	821401	031913	VO 03-89	03-89	024288	04/01/89	FERGUS	0.00	0.00	655.00 ✓	
									0.000		
532610	821401	031913	VO 03-89	03-89	024289	04/01/89	BARLOW	0.00	0.00	100.00 ✓	
									0.000		
Temporary Living Exp								0.00	0.00	210.00 ✓	
							Acct Sub Total			1804.26	0.00
533610	821401	031844	VO 03-89	03-89	023497	03/06/89	DERBES		0.000		
				02-520-99				0.00	0.00	91.64	
533610	821401	031844	VO 03-89	03-89	023498	03/06/89	DERBES		0.000		
				02-520-99				0.00	0.00	65.64	
533610	821401	031849	VO 03-89	03-89	023508	03/07/89	FERGUS		0.000		
				MEALS				0.00	0.00	400.00	
533610	821401	031849	VO 03-89	03-89	023509	03/07/89	SCHWEI		0.000		
				MEALS				0.00	0.00	400.00	
533610	821401	031849	VO 03-89	03-89	023510	03/07/89	THAMES		0.000		
				MEALS				0.00	0.00	400.00	
533610	821401	031849	VO 03-89	03-89	023511	03/07/89	BARLOW		0.000		
				MEALS				0.00	0.00	400.00	
533610	821401	031849	VO 03-89	03-89	023512	03/07/89	KRAFT		0.000		
				MEALS				0.00	0.00	296.80	
533610	821401	031866	VO 03-89	03-89	023709	03/11/89	MANDER		0.000		
				02-510-99				0.00	0.00	2.37 ✓	
533610	821401	031885	VO 03-89	03-89	023945	03/24/89	MANDER		0.000		
				02-520-99				0.00	0.00	3.50 ✓	
533610	821401	031885	VO 03-89	03-89	023959	03/24/89	HANCOC		0.000		
				02-200-99				0.00	0.00	[redacted] ✓	
533610	821401	031913	VO 03-89	03-89	024263	04/01/89	HANCOC		0.000		
				02-510-99				0.00	0.00	22.92 ✓	
533610	821401	031913	VO 03-89	03-89	024265	04/01/89	ZAWIST		0.000		
Meals				02-520-99				0.00	0.00	29.30 ✓	
							Acct Sub Total			2136.92	0.00
541410	821401	031861	VO 03-89	03-89	023655	03/09/89	CLARK		0.000		
				02-510-99				0.00	0.00	28.63 ✓	
541410	821401	031861	VO 03-89	03-89	023659	03/09/89	CLARK		0.000		
				02-510-99				0.00	0.00	204.09 ✓	
541410	821401	031861	VO 03-89	03-89	023660	03/09/89	CLARK		0.000		
				02-510-99				0.00	0.00	23.92 ✓	
541410	821401	031872	VO 03-89	03-89	023832	03/17/89	CLARK		0.000		
				02-510-99				0.00	0.00	31.49	
541410	821401	031872	VO 03-89	03-89	023833	03/17/89	CLARK		0.000		
Util Rel - Electrical				02-510-99				0.00	0.00	38.55	
							Acct Sub Total			326.68	0.00
542810	821401	031866	VO 03-89	03-89	023701	03/11/89	KRAFT		0.000		
								0.00	0.00	13.75 ✓	
542810	821401	031883	VO 03-89	03-89	023905	03/23/89	ZAWIST		0.000		
				02-520-99				0.00	0.00	6.00 ✓	

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TOLS009380

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 04/03/89

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
542810	821401	031885	VO	03-89	03-89	023973	03/24/89	BARLOW		0.000		
					02-650-99				0.00	0.00	[illegible].72 ✓	
542810	821401	031885	VO	03-89	03-89	023981	03/24/89	MANDER		0.000		
					02-520-99				0.00	0.00	0.25 ✓	
542810	821401	031913	VO	03-89	03-89	024266	04/01/89	KRAFT		0.000		
									0.00	0.00	15.72	
542810	821401	031913	VO	03-89	03-89	024269	04/01/89	BARLOW		0.000		
Telephone									0.00	0.00	15.72 ✓	
								Acct Sub Total			67.16	0.00
550710	821401	031867	VO	03-89	03-89	023764	03/14/89	HEWLET		0.000		
					02-510-99				0.00	0.00	225.00 ✓	
550710	821401	031868	VO	03-89	03-89	023809	03/14/89	HP		0.000		
Chemical Supplies					02-510-99				0.00	0.00	59.00 ✓	
								Acct Sub Total			284.00	0.00
550810	821401	031861	VO	03-89	03-89	023663	03/09/89	RICESA		0.000		
					02-510-99				0.00	0.00	18.50 ✓	
550810	821401	031861	VO	03-89	03-89	023664	03/09/89	RICESA		0.000		
					02-510-99				0.00	0.00	180.00 ✓	
550810	821401	031861	VO	03-89	03-89	023665	03/09/89	RICESA		0.000		
					SAFETY SUPPLIES				0.00	0.00	[redacted] 4,520	
550810	821401	031910	VO	03-89	03-89	024181	04/01/89	SKC		0.000		
					02-520-99				0.00	0.00	83.00 ✓	
550810	821401	031910	VO	03-89	03-89	024185	04/01/89	RICESA		0.000		
Safety Sup					02-650-99				0.00	0.00	[illegible].45 ✓	
								Acct Sub Total			498.17	0.00
550910	821401	031861	VO	03-89	03-89	023631	03/09/89	PRP		0.000		
					OTHER MATERIALS SUPPLIES				0.00	0.00	164.43 ✓	
550910	821401	031861	VO	03-89	03-89	023632	03/09/89	PRP		0.000		
					OTHER MATERIALS SUPPLIES				0.00	0.00	544.35 ✓	
550910	821401	031861	VO	03-89	03-89	023633	03/09/89	PRP		0.000		
					OTHER MATERIALS SUPPLIES				0.00	0.00	1221.79 ✓	
550910	821401	031861	VO	03-89	03-89	023656	03/09/89	STAROI		0.000		
					OTHER MATERIALS SUPPLIES				0.00	0.00	[redacted] 5/b 520	
550910	821401	031861	VO	03-89	03-89	023666	03/09/89	STAROI		0.000		
					02-520-99				0.00	0.00	199.40 ✓	
550910	821401	031867	VO	03-89	03-89	023771	03/14/89	TEGAL		0.000		
					02-520-99				0.00	0.00	325.85 ✓	
550910	821401	031872	VO	03-89	03-89	023841	03/17/89	THAMES		0.000		
					02-510-99				0.00	0.00	-88.05	
550910	821401	031875	VO	03-89	03-89	023845	03/17/89	STJHAR		0.000		
					02-650-99				0.00	0.00	[illegible].79	
550910	821401	031875	VO	03-89	03-89	023846	03/17/89	STJHAR		0.000		
					Other Materials -Time Oil				0.00	0.00	42.15	
550910	821401	031875	VO	03-89	03-89	023847	03/17/89	STJHAR		0.000		
					02-650-99				0.00	0.00	13.93	
550910	821401	031885	VO	03-89	03-89	023973	03/24/89	BARLOW		0.000		
					02-520-99				0.00	0.00	14.50 ✓	
550910	821401	031887	VO	03-89	03-89	023998	03/27/89	SHERMA		0.000		
					02-510-99				0.00	0.00	364.75 ✓	
550910	821401	031901	VO	03-89	03-89	024051	03/28/89	NETDEC		0.000		

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TOLS009381

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
				01-650-99				0.00	0.00	98.95	
550910	821401	031903	VO 03-89	03-89	024064	03/30/89	STAROI		0.000		
				OTH MAT SUP TIME OIL PORT				0.00	0.00		
550910	821401	031903	VO 03-89	03-89	024069	03/30/89	STAROI		0.000		
				OTH MAT SUP TIME OIL PORT				0.00	0.00	234.66	
550910	821401	031903	VO 03-89	03-89	024102	03/30/89	FAMILI		0.000		
				OTH MAT SUP				0.00	0.00	41.54	
550910	821401	031903	VO 03-89	03-89	024103	03/30/89	FAMILI		0.000		
				OTH MAT SUP				0.00	0.00	196.51	
550910	821401	031903	VO 03-89	03-89	024106	03/30/89	STAROI		0.000		
				OTH MAT SUP				0.00	0.00	121.97	
550910	821401	031904	VO 03-89	03-89	024116	03/31/89	PACROC		0.000		
				02-510-99				0.00	0.00	219.23	
550910	821401	031910	VO 03-89	03-89	024173	04/01/89	STJHI		0.000		
				02-510-99				0.00	0.00	18.44	
550910	821401	031910	VO 03-89	03-89	024174	04/01/89	STJHI		0.000		
				02-510-99				0.00	0.00	47.88	
550910	821401	031910	VO 03-89	03-89	024177	04/01/89	IGI		0.000		
				02-510-99				0.00	0.00	37.29	
550910	821401	031911	VO 03-89	03-89	024245	04/01/89	GRINNE		0.000		
				02-510-99				0.00	0.00	450.00	
550910	821401	031913	VO 03-89	03-89	024266	04/01/89	KRAFT		0.000		
								0.00	0.00	8.25	
550910	821401	031913	VO 03-89	03-89	024269	04/01/89	BARLOW		0.000		
								0.00	0.00	7.25	
550910	821401	031913	VO 03-89	03-89	024271	04/01/89	GRINNE		0.000		
				02-510-99				0.00	0.00	617.00	
550910	821401	031913	VO 03-89	03-89	024272	04/01/89	GRINNE		0.000		
				02-510-99				0.00	0.00	462.60	
550910	821401	031913	VO 03-89	03-89	024273	04/01/89	GRINNE		0.000		
				02-510-99				0.00	0.00	359.32	
550910	821401	031913	VO 03-89	03-89	024274	04/01/89	GRINNE		0.000		
				02-510-99				0.00	0.00	20.18	
550910	821401	031913	VO 03-89	03-89	024306	04/01/89	PRP		0.000		
				02-510-99				0.00	0.00	194.10	
550910	821401	031915	VO 03-89	03-89	024329	04/01/89	THAMES		0.000		
				02-510-99				0.00	0.00	54.98	
550910	821401	031915	VO 03-89	03-89	024329	04/01/89	THAMES		0.000		
				02-520-99				0.00	0.00	109.60	
550910	821401	031915	VO 03-89	03-89	024329	04/01/89	THAMES		0.000		
				02-650-99				0.00	0.00	65.63	
550910	821401	031915	VO 03-89	03-89	024340	04/01/89	MONTWA		0.000		
				01-650-99				0.00	0.00	499.98	
550910	821401	031933	VO 03-89	03-89	024377	04/03/89	MCMAST		0.000		
				01-650-99				0.00	0.00	123.41	
550910	821401	031933	VO 03-89	03-89	024378	04/03/89	MCMAST		0.000		
Misc Supplies				01-650-99				0.00	0.00	893.57	
								Acct Sub Total		7947.00	0.00
550923	821401	031914	VO 03-89	03-89	024317	04/01/89	NWAIRG		0.000		
				02-650-99				0.00	0.00	367.37	
560510	821401	031861	VO 03-89	03-89	023661	03/09/89	E&C		0.000		

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As Of 04/03/89

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
				02-520-99				0.00	0.00	3200.00 ✓	
560510	821401	031861	VO 03-89	03-89	023662	03/09/89	E&SC		0.000		
				02-520-99				0.00	0.00	3200.00 ✓	
560510	821401	031863	VO 03-89	03-89	023669	03/09/89	POWER		0.000		
				02-510-99				0.00	0.00	457.10 ✓	
560510	821401	031864	AD 03-89	03-89	023679	03/09/89	E&SC		0.000		
				02-510-99	INV #5381			0.00	0.00		1170.00 ✓
560510	821401	031867	VO 03-89	03-89	023782	03/14/89	CEI		0.000		
				02-510-99				0.00	0.00	77.90 ✓	
560510	821401	031868	VO 03-89	03-89	023807	03/14/89	NWSANI		0.000		
				02-510-99				0.00	0.00	62.50 ✓	
560510	821401	031868	VO 03-89	03-89	023808	03/14/89	NWSANI		0.000		
				02-510-99				0.00	0.00	104.00 ✓	
560510	821401	031875	VO 03-89	03-89	023843	03/17/89	E&SC		0.000		
				02-510-99				0.00	0.00	962.66	
560510	821401	031876	AD 03-89	03-89	023852	03/17/89	E&SC		0.000		
				EQUIPTMENT RENT TIME OIL				0.00	0.00		2385.30
560510	821401	031905	VO 03-89	03-89	024142	03/31/89	E&SC		0.000		
				02-510-99				0.00	0.00	4300.00 ✓	
560510	821401	031908	VO 03-89	03-89	024153	03/31/89	POWER		0.000		
				02-510-99				0.00	0.00	266.08 ✓	
560510	821401	031908	VO 03-89	03-89	024154	03/31/89	POWER		0.000		
				02-510-99				0.00	0.00	202.30 ✓	
560510	821401	031910	VO 03-89	03-89	024170	04/01/89	UNEQ		0.000		
				02-510-99				0.00	0.00	120.00 ✓	
560510	821401	031910	VO 03-89	03-89	024226	04/01/89	POWER		0.000		
				02-510-99				0.00	0.00	166.02 ✓	
560510	821401	031918	AD 03-89	03-89	024348	04/01/89	E&SC		0.000		
Equipment Rental				02-510-99				0.00	0.00		2450.00 ✓
							Acct Sub Total			13118.56	6005.30
560910	821401	031844	VO 03-89	03-89	023497	03/06/89	DERBES		0.000		
				02-520-99				0.00	0.00	105.60	
560910	821401	031844	VO 03-89	03-89	023498	03/06/89	DERBES		0.000		
				02-520-99				0.00	0.00	193.60	
560910	821401	031866	VO 03-89	03-89	023709	03/11/89	MANDER		0.000		
				02-510-99				0.00	0.00	9.00 ✓	
560910	821401	031878	VO 03-89	03-89	023860	03/20/89	MANDER		0.000		
				02-510-99				0.00	0.00	2.20	
560910	821401	031885	VO 03-89	03-89	023945	03/24/89	MANDER		0.000		
				02-520-99				0.00	0.00	33.00 ✓	
560910	821401	031885	VO 03-89	03-89	023959	03/24/89	HANCOC		0.000		
				02-200-99				0.00	0.00	37.40 ✓	
560910	821401	031885	VO 03-89	03-89	023960	03/24/89	FERGUS		0.000		
				02-510-99				0.00	0.00	50.60 ✓	
560910	821401	031885	VO 03-89	03-89	023961	03/24/89	FERGUS		0.000		
				02-510-99				0.00	0.00	97.68 ✓	
560910	821401	031885	VO 03-89	03-89	023962	03/24/89	FERGUS		0.000		
				02-510-99				0.00	0.00	97.68 ✓	
560910	821401	031885	VO 03-89	03-89	023963	03/24/89	FERGUS		0.000		
				02-510-99				0.00	0.00	57.64 ✓	
560910	821401	031885	VO 03-89	03-89	023981	03/24/89	MANDER		0.000		
				02-520-99				0.00	0.00	18.49 ✓	

MARCH 89 - 6

Date 04/03/89
03-89-0516

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 04/03/89

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Rept 03 69

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/	Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
560910	821401	031907	VO	03-89	03-89 02-520-99	024150	03/31/89	DERBES	0.00	0.000 0.00	105.60 ✓	
560910	821401	031907	VO	03-89	03-89 02-520-99	024151	03/31/89	DERBES	0.00	0.000 0.00	101.20 ✓	
560910	821401	031913	VO	03-89	03-89 02-510-99	024263	04/01/89	HANCOC	0.00	0.000 0.00	92.40 ✓	
560910	821401	031913	VO	03-89	03-89 02-520-99	024265	04/01/89	ZAWIST	0.00	0.000 0.00	103.40 ✓	
Vehicle Operating Exp.									Acct Sub Total		1160.49	0.00
571610	821401	031861	VO	03-89	03-89 OUTSIDE SERVICES	023630	03/09/89	STACO	0.00	0.000 0.00	[redacted] reclass to Act 300	
571610	821401	031868	VO	03-89	03-89 02-510-99	023806	03/14/89	MARINE	0.00	0.000 0.00	89.00 ✓	
571610	821401	031877	VO	03-89	03-89 02-510-99	023854	03/17/89	TANKL	0.00	0.000 0.00	225.89	
571610	821401	031877	VO	03-89	03-89 02-510-99	023855	03/17/89	TANKL	0.00	0.000 0.00	8388.00	
Outside Services									Acct Sub Total		15357.64	0.00
571660	821401	031913	VO	03-89	03-89 01-510-99	024290	04/01/89	OVERLP	0.00	0.000 0.00	5.57 ✓	
571660	821401	031913	VO	03-89	03-89 02-300-99	024290	04/01/89	OVERLP	0.00	0.000 0.00	7.57 ✓	
Outside services									Acct Sub Total		13.14	0.00
573210	821401	031858	VO	03-89	03-89 POSTAGE	023544	03/09/89	AIRBOR	0.00	0.000 0.00	10.00 ✓	
573210	821401	031859	VO	03-89	03-89 POSTAGE	023567	03/09/89	AIRBOR	0.00	0.000 0.00	7.50 ✓	
573210	821401	031867	VO	03-89	03-89 02-510-99	023758	03/14/89	AIRBOR	0.00	0.000 0.00	7.50 ✓	
573210	821401	031867	VO	03-89	03-89 02-510-99	023759	03/14/89	AIRBOR	0.00	0.000 0.00	10.00 ✓	
573210	821401	031878	VO	03-89	03-89 02-510-99	023860	03/20/89	MANDER	0.00	0.000 0.00	11.00	
573210	821401	031903	VO	03-89	03-89 POSTAGE TIME OIL PORTL TE 200	024075	03/30/89	AIRBOR	0.00	0.000 0.00	[redacted] - reclass to 200	
Postage									Acct Sub Total		53.50	0.00
573298	821401	031913	VO	03-89	03-89	024282	04/01/89	AIRBOR	0.00	0.000 0.00	7.50 ✓	
									Total		48928.17	6005.30

Activity 510:	$31,895.32 (820,796.00)	<10,633.33> (less 3/15 report)	21,261.99 (3/31 report)
Activity 520:	8503.70 (8940.69)	<9512.70>	<1009.00>
Activity 300	106.90 (6761.65)	—	106.90
Activity 650:	2119.80	—	2119.80
Activity 200:	297.15 (304.65)	—	297.15
	42,922.87		22,776.84
Activity 600	98.78		98.78

TOLS009384

BZTO104(e)046206

APRIL 89

As Of 05/01/89

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-510-99				0.00	0.00	[illegible]	
571610	821401	032003	VO	04-89	04-89	024934	04/28/89	HARRIG		0.000		
					02-200-99				0.00	0.00	[illegible]	
571610	821401	032009	VO	04-89	04-89	024973	05/01/89	HARRIG		0.000		
					02-200-99				0.00	0.00	[illegible]	
571610	821401	032009	VO	04-89	04-89	024987	05/01/89	ELECON		0.000		
					02-510-99				0.00	0.00	40.50 ✓	
Outside Services										Acct Sub Total	5046.30	0.00
571660	821401	031956	VO	04-89	04-89	024538	04/14/89	OVERLP		0.000		
					02-520-99				0.00	0.00	3.78 ✓	
571660	821401	031956	VO	04-89	04-89	024538	04/14/89	OVERLP		0.000		
					02-510-99				0.00	0.00	[illegible] ✓	
Outside Services										Acct Sub Total	12.84	0.00
573210	821401	031950	VO	04-89	04-89	024456	04/12/89	AIRBOR		0.000		
					02-510-99				0.00	0.00	[illegible] ✓	
573210	821401	031950	VO	04-89	04-89	024457	04/12/89	AIRBOR		0.000		
					02-520-99				0.00	0.00	10.00 ✓	
573210	821401	031950	VO	04-89	04-89	024458	04/12/89	AIRBOR		0.000		
					02-510-99				0.00	0.00	[illegible] ✓	
573210	821401	031970	VO	04-89	04-89	024684	04/24/89	AIRBOR		0.000		
					02-520-99				0.00	0.00	18.37 ✓	
573210	821401	031970	VO	04-89	04-89	024685	04/24/89	AIRBOR		0.000		
					02-520-99				0.00	0.00	7.50 ✓	
573210	821401	031996	VO	04-89	04-89	024867	04/28/89	PETROL		0.000		
					02-510-99				0.00	0.00	[illegible] ✓	
Postage										Acct Sub Total	784.75	0.00
										Total	29971.80	1237.00

		@ 4/30	@ 4/15	Diff
[illegible]	Activity 200 -	$ 2420.98		$ 2422.98
[illegible]	Activity 210 -	3.45		3.45
[illegible]	Activity 510 -	$ 10,801.64	(793.52)	10,008.12
	Activity 520 -	$ 11,606.02	(9625.50)	1980.52
	Activity 650 -	$ 3,766.71	(1012.38)	2754.33
	~~Activity 510~~ Unmodel	$ 134.00		134.00
		$ 28,734.80	11,431.40	$ 17,303.40

Activity 800 411.55 41.55

TOLS009385

BZTO104(e)046207

BZTO104(e)046208

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532510	821401	031951	VO	04-89	04-89	024478	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	158.05	
532510	821401	031951	VO	04-89	04-89	024479	04/13/89	DELTAI		0.000		
					02-510-99				0.00	0.00	31.61	
532510	821401	031951	VO	04-89	04-89	024480	04/13/89	DELTAI		0.000		
					02-510-99				0.00	0.00	63.22	
532510	821401	031951	VO	04-89	04-89	024481	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	63.22	
532510	821401	031951	VO	04-89	04-89	024505	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	284.49	
532510	821401	031951	VO	04-89	04-89	024506	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	31.61	
532510	821401	031951	VO	04-89	04-89	024507	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	31.61	
532510	821401	031951	VO	04-89	04-89	024508	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	31.61	
532510	821401	031951	VO	04-89	04-89	024509	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	31.61	
532510	821401	031951	VO	04-89	04-89	024510	04/13/89	DELTAI		0.000		
					02-520-99				0.00	0.00	126.44	
532510	821401	031951	VO	04-89	04-89	024511	04/13/89	DELTAI		0.000		
Travel					02-520-99				0.00	0.00	158.05	
								Acct Sub Total			1011.52	0.00
532610	821401	031985	VO	04-89	04-89	024810	04/27/89	SCHWEI		0.000		
					02-510-99				0.00	0.00	425.00	
532610	821401	031985	VO	04-89	04-89	024811	04/27/89	THAMES		0.000		
					02-510-99				0.00	0.00	400.00	
532610	821401	031985	VO	04-89	04-89	024812	04/27/89	KRAFT		0.000		
					02-510-99				0.00	0.00	300.00	
532610	821401	031985	VO	04-89	04-89	024813	04/27/89	BARLOW		0.000		
					02-510-99				0.00	0.00	210.00	
532610	821401	031986	AD	04-89	04-89	024816	04/27/89	BARLOW		0.000		
					02-510-99				0.00	0.00		210.00
532610	821401	032003	VO	04-89	04-89	024941	04/28/89	SPRIAP		0.000		
					02-510-99 MAY				0.00	0.00	655.00	
532610	821401	032003	VO	04-89	04-89	024942	04/28/89	RIVERC		0.000		
					02-510-99 MAY				0.00	0.00	270.00	
532610	821401	032003	VO	04-89	04-89	024943	04/28/89	RIVERC		0.000		
					02-510-99 MAY				0.00	0.00	315.00	
532610	821401	032003	VO	04-89	04-89	024944	04/28/89	THAMES		0.000		
					02-510-99 MAY				0.00	0.00	225.00	
532610	821401	032003	VO	04-89	04-89	024945	04/28/89	SCHWEI		0.000		
					02-510-99 MAY				0.00	0.00	815.00	
532610	821401	032003	VO	04-89	04-89	024946	04/28/89	KRAFT		0.000		
					02-510-99 MAY				0.00	0.00	245.00	
532610	821401	032003	VO	04-89	04-89	024947	04/28/89	BARLOW		0.000		
					02-510-99 MAY				0.00	0.00	345.00	
532610	821401	032009	VO	04-89	04-89	025030	05/01/89	GRANTR		0.000		
					02-510-99 MAY				0.00	0.00	88.60	
532610	821401	032009	VO	04-89	04-89	025031	05/01/89	GRANTR		0.000		
					02-510-99 Apr				0.00	0.00	92.72	
532610	821401	032009	VO	04-89	04-89	025032	05/01/89	GRANTR		0.000		

TOLS009386

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-510-99 May				0.00	0.00	456.64 ✓	
532610	821401	032009	VO	04-89	04-89	025033	05/01/89	GRANTR		0.000		
Temporary Living Exp.					02-510-99 Apr				0.00	0.00	161.54 ✓	
								Acct Sub Total			4204.40	210.00
533610	821401	031970	VO	04-89	04-89	024688	04/24/89	HANCOC		0.000		
					02-200-99				0.00	0.00	[redacted] ✓	
533610	821401	031996	VO	04-89	04-89	024844	04/28/89	HANCOC		0.000		
					02-510-99				0.00	0.00	8.75 ✓	
533610	821401	032006	VO	04-89	04-89	024959	04/28/89	MAZIAR		0.000		
Meals					02-520-99				0.00	0.00	34.35 ✓	
								Acct Sub Total			66.98	0.00
541410	821401	031970	VO	04-89	04-89	024682	04/24/89	CLARK		0.000		
					02-510-99				0.00	0.00	83.45 ✓	
541410	821401	031970	VO	04-89	04-89	024683	04/24/89	CLARK		0.000		
Utilities- Electrical					02-510-99				0.00	0.00	29.53 ✓	
								Acct Sub Total			62.98	0.00
542810	821401	031950	VO	04-89	04-89	024459	04/12/89	USWC		0.000		
					02-510-99				0.00	0.00	36.06 ✓	
542810	821401	031950	VO	04-89	04-89	024460	04/12/89	USWC		0.000		
					02-510-99				0.00	0.00	145.13 ✓	
542810	821401	031950	VO	04-89	04-89	024461	04/12/89	USWC		0.000		
Telephone					02-510-99				0.00	0.00	293.95 ✓	
								Acct Sub Total			415.13	0.00
545010	821401	032011	VO	04-89	04-89	025043	05/01/89	C&B		0.000		
Corporate Insurance					INSURANCE-CORP.				0.00	0.00	134.00	
550710	821401	031970	VO	04-89	04-89	024662	04/24/89	RECLAS		0.000		
Chemical Supplies					02-210-99				0.00	0.00	9.45 ✓	
550723	821401	031962	VO	04-89	04-89	024589	04/19/89	CURTIN		0.000		
					02-210-99				0.00	0.00	9.45	
550723	821401	031970	VO	04-89	04-89	024662	04/24/89	RECLAS		0.000		
Chemical Supplies					02-210-99				0.00	0.00	9.45	
								Acct Sub Total			0.00	0.00
550910	821401	031941	VO	04-89	04-89	024414	04/07/89	MCMAST		0.000		
					01-650-99				0.00	0.00	838.66 ✓	
550910	821401	031953	VO	04-89	04-89	024517	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	144.60 ✓	
550910	821401	031953	VO	04-89	04-89	024517	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	47.95 ✓	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	11.98 ✓	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-650-99				0.00	0.00	27.64 ✓	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	3.18 ✓	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
Misc Supplies					02-510-99				0.00	0.00	42.71 ✓	

BZTO104(e)046209

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	1.42	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	2.29	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	5.17	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	12.58	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	7.98	
550910	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	2.20	
550910	821401	031963	VO	04-89	04-89	024594	04/19/89	BARLOW		0.000		
					02-510-99				0.00	0.00	0.50	
550910	821401	031963	VO	04-89	04-89	024611	04/19/89	AMERIN		0.000		
					02-510-99				0.00	0.00	598.75	
550910	821401	031970	VO	04-89	04-89	024655	04/24/89	NWAIRG		0.000		
					02-520-99				0.00	0.00	19.50	
550910	821401	031970	VO	04-89	04-89	024657	04/24/89	NWAIRG		0.000		
					02-520-99				0.00	0.00	19.50	
550910	821401	031978	VO	04-89	04-89	024756	04/26/89	FAMILI		0.000		
					01-650-99				0.00	0.00	280.98	
550910	821401	031980	VO	04-89	04-89	024790	04/26/89	THAMES		0.000		
					01-510-99				0.00	0.00	56.04	
550910	821401	031980	VO	04-89	04-89	024790	04/26/89	THAMES		0.000		
					01-520-99				0.00	0.00	387.70	
550910	821401	031996	VO	04-89	04-89	024833	04/28/89	FAMILI		0.000		
					02-510-99				0.00	0.00	81.68	
550910	821401	031996	VO	04-89	04-89	024834	04/28/89	FAMILI		0.000		
					02-510-99				0.00	0.00	105.78	
550910	821401	032003	VO	04-89	04-89	024921	04/28/89	ESCO		0.000		
					02-650-99				0.00	0.00	324.66	
550910	821401	032009	VO	04-89	04-89	024988	05/01/89	STAROI		0.000		
					02-510-99				0.00	0.00	54.44	
550910	821401	032009	VO	04-89	04-89	024989	05/01/89	GRINNE		0.000		
					02-650-99				0.00	0.00	273.25	
550910	821401	032009	VO	04-89	04-89	024990	05/01/89	GRINNE		0.000		
					02-650-99				0.00	0.00	79.80	
550910	821401	032009	VO	04-89	04-89	024991	05/01/89	GRINNE		0.000		
					02-510-99				0.00	0.00	71.96	
550910	821401	032009	VO	04-89	04-89	024992	05/01/89	GRINNE		0.000		
					02-510-99				0.00	0.00	84.76	
550910	821401	032009	VO	04-89	04-89	024993	05/01/89	GRINNE		0.000		
					02-510-99				0.00	0.00	367.00	
550910	821401	032009	VO	04-89	04-89	024994	05/01/89	GRINNE		0.000		
					02-510-99				0.00	0.00	37.01	
Misc Supp												
								Acct Sub Total			4099.56	0.00
550923	821401	031950	VO	04-89	04-89	024473	04/12/89	STAROI		0.000		
					02-510-99				0.00	0.00	14.50	
550923	821401	031950	VO	04-89	04-89	024476	04/12/89	STJHAR		0.000		
					02-510-99				0.00	0.00	17.95	
550923	821401	031951	VO	04-89	04-89	024482	04/13/89	STJHAR		0.000		

BZTO104(e)046210

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/	Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-510-99				0.00	0.00	41.42	
550923	821401	031951	VO	04-89	04-89	024483	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	2.29	
550923	821401	031951	VO	04-89	04-89	024484	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	5.17	
550923	821401	031951	VO	04-89	04-89	024485	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	12.58	
550923	821401	031951	VO	04-89	04-89	024486	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	84.98	
550923	821401	031951	VO	04-89	04-89	024487	04/13/89	STJHAR		0.000		
					02-650-99				0.00	0.00	27.64	
550923	821401	031951	VO	04-89	04-89	024488	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	53.18	
550923	821401	031951	VO	04-89	04-89	024489	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	2.71	
550923	821401	031951	VO	04-89	04-89	024490	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	41.42	
550923	821401	031951	VO	04-89	04-89	024491	04/13/89	STJHAR		0.000		
					02-510-99				0.00	0.00	2.20	
550923	821401	031953	VO	04-89	04-89	024517	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	164.80	
550923	821401	031953	VO	04-89	04-89	024517	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	41.95	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	84.98	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-650-99				0.00	0.00	-27.64	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-53.18	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-2.71	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-41.42	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-2.29	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-5.17	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-12.58	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-7.98	
550923	821401	031953	VO	04-89	04-89	024518	04/14/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-2.20	
Misc Supplies												
								Acct Sub Total			0.00	0.00
550930	821401	031941	VO	04-89	04-89	024397	04/07/89	STEAMS		0.000		
					01-650-99				0.00	0.00	146.08 ✓	
550930	821401	031970	VO	04-89	04-89	024660	04/24/89	STEAMS		0.000		
					01-650-99				0.00	0.00	1092.37 ✓	
550930	821401	031970	VO	04-89	04-89	024661	04/24/89	STEAMS		0.000		
					01-650-99				0.00	0.00	703.27 ✓	
Misc Supplies												
								Acct Sub Total			1941.72	0.00

BZTO104(e)046211

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
560510	821401	031941	VO 04-89	04-89 02-520-99	024392	04/07/89	POWER	0.00	0.000 0.00	147.03	
560510	821401	031942	VO 04-89	04-89 02-520-99	024424	04/07/89	CLYDE	0.00	0.000 0.00	5260.00	
560510	821401	031942	VO 04-89	04-89 02-510-99	024427	04/07/89	UNIEQU	0.00	0.000 0.00	-270.00	
560510	821401	031951	VO 04-89	04-89 02-520-99	024499	04/13/89	CEI	0.00	0.000 0.00	38.00	
560510	821401	031953	VO 04-89	04-89 02-520-99	024517	04/14/89	RECLAS	0.00	0.000 0.00	3250.00	
560510	821401	031953	VO 04-89	04-89 02-510-99	024517	04/14/89	RECLAS	0.00	0.000 0.00	-347.52	
560510	821401	031953	VO 04-89	04-89 02-510-99	024521	04/14/89	GELCO	0.00	0.000 0.00	-947.52	
560510	821401	031970	VO 04-89	04-89 02-510-99	024646	04/24/89	UNIEQU	0.00	0.000 0.00	-750.00	
560510	821401	031970	VO 04-89	04-89 02-520-99	024652	04/24/89	UNIEQU	0.00	0.000 0.00	50.00	
560510	821401	031970	VO 04-89	04-89 02-520-99	024656	04/24/89	USIR	0.00	0.000 0.00	1349.00	
560510	821401	031970	VO 04-89	04-89 02-510-99	024664	04/24/89	NWSANI	0.00	0.000 0.00	-55.00	
560510	821401	031973	AD 04-89	04-89 02-510-99	024709	04/24/89	UNIEQU	0.00	0.000 0.00		-28.00
560510	821401	032017	VO 04-89	04-89 02-510-99	025060	05/01/89	POWER	0.00	0.000 0.00	-37.00	
Equipment Rental								Acct Sub Total		11901.07	27.00
560523	821401	031950	VO 04-89	04-89 02-520-99	024466	04/12/89	E&SC	0.00	0.000 0.00	3250.00	
560523	821401	031950	VO 04-89	04-89 02-510-99	024467	04/12/89	GELCO	0.00	0.000 0.00	-947.52	
560523	821401	031953	VO 04-89	04-89 02-520-99	024517	04/14/89	RECLAS	0.00	0.000 0.00	-3250.00	
560523	821401	031953	VO 04-89	04-89 02-510-99	024517	04/14/89	RECLAS	0.00	0.000 0.00	947.52	
560523	821401	031955	AD 04-89	04-89 02-510-99	024536	04/14/89	E&SC	0.00	0.000 0.00		-1000.00
Equipment Rental								Acct Sub Total		0.00	1000.00
560910	821401	031970	VO 04-89	04-89 02-200-99	024688	04/24/89	HANCOC	0.00	0.000 0.00	[redacted]	
560910	821401	031996	VO 04-89	04-89 02-510-99	024844	04/28/89	HANCOC	0.00	0.000 0.00	-92.40	
560910	821401	032006	VO 04-89	04-89 02-520-99	024959	04/28/89	MAZIAR	0.00	0.000 0.00	94.60	
Vehicle Operating Exp.								Acct Sub Total		287.10	0.00
571610	821401	031963	VO 04-89	04-89 02-510-99	024612	04/19/89	VANDYK	0.00	0.000 0.00	-163.20	
571610	821401	031970	VO 04-89	04-89 02-510-99	024639	04/24/89	CAMCRA	0.00	0.000 0.00	-1850.00	
571610	821401	031970	VO 04-89	04-89	024672	04/24/89	VANDYK		0.000		

BZTO104(e)046212

Date 06/05/89
05-89-0584

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 06/05/89

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Rept 03.69

MAY 89

777777 821401

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Type	Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532510	821401	032039	VO	05-89	05-89	025185	05/09/89	DELTAI		0.000		
					02-200-99				0.00	0.00	[redacted]	
532510	821401	032039	VO	05-89	05-89	025186	05/09/89	DELTAI		0.000		
					02-200-99				0.00	0.00	[redacted]	
532510	821401	032080	VO	05-89	05-89	025611	05/31/89	DELTAI		0.000		
					02-520-99				0.00	0.00	126.44	
532510	821401	032080	VO	05-89	05-89	025612	05/31/89	DELTAI		0.000		
					02-520-99				0.00	0.00	126.44	
532510	821401	032080	VO	05-89	05-89	025613	05/31/89	DELTAI		0.000		
					02-200-99				0.00	0.00	[redacted]	
532510	821401	032080	VO	05-89	05-89	025614	05/31/89	DELTAI		0.000		
					02-520-99				0.00	0.00	31.61	
532510	821401	032080	VO	05-89	05-89	025615	05/31/89	DELTAI		0.000		
					02-520-99				0.00	0.00	63.22	
532510	821401	032080	VO	05-89	05-89	025616	05/31/89	DELTAI		0.000		
					02-510-99				0.00	0.00	316.10	
532510	821401	032080	VO	05-89	05-89	025617	05/31/89	DELTAI		0.000		
					02-510-99				0.00	0.00	379.32	
532510	821401	032080	VO	05-89	05-89	025618	05/31/89	DELTAI		0.000		
					02-510-99				0.00	0.00	727.03	
532510	821401	032080	VO	05-89	05-89	025619	05/31/89	DELTAI		0.000		
					02-200-99				0.00	0.00	[redacted]	
532510	821401	032084	VO	05-89	05-89	025663	06/01/89	DELTAI		0.000		
					01-520-99				0.00	0.00	1201.18	
532510	821401	032090	VO	05-89	05-89	025730	06/02/89	MUTTRA		0.000		
					TRAVEL				0.00	0.00	525.00	
532510	821401	032094	VO	05-89	05-89	025755	06/02/89	MUTTRA		0.000		
					TRAVEL				0.00	0.00	407.00	
532510	821401	032099	VO	05-89	05-89	025835	06/03/89	DELTAI		0.000		
					02-300-99				0.00	0.00	[redacted]	
532510	821401	032099	VO	05-89	05-89	025837	06/03/89	DELTAI		0.000		
					02-510-99				0.00	0.00	31.61	
532510	821401	032118	VO	05-89	05-89	026008	06/05/89	DELTAI		0.000		
					02-510-99				0.00	0.00	158.05	
532510	821401	032121	VO	05-89	05-89	026024	06/05/89	RECLAS		0.000		
					TRAVEL				0.00	0.00	-158.06	
								Acct Sub Total			4289.20	0.00
532610	821401	032086	VO	05-89	05-89	025671	06/01/89	RIVERC		0.000		
					02-520-99				0.00	0.00	315.00	
532610	821401	032086	VO	05-89	05-89	025672	06/01/89	RIVERC		0.000		
					02-520-99				0.00	0.00	270.00	
532610	821401	032086	VO	05-89	05-89	025673	06/01/89	SPRIAP		0.000		
					02-520-99				0.00	0.00	855.00	
532610	821401	032086	VO	05-89	05-89	025674	06/01/89	THAMES		0.000		
					02-520-99				0.00	0.00	90.00	
532610	821401	032086	VO	05-89	05-89	025675	06/01/89	SCHWEI		0.000		
					02-520-99				0.00	0.00	340.00	
532610	821401	032086	VO	05-89	05-89	025676	06/01/89	KRAFT		0.000		
					02-520-99				0.00	0.00	225.00	
532610	821401	032086	VO	05-89	05-89	025679	06/01/89	GRANTR		0.000		
					02-520-99				0.00	0.00	88.60	
532610	821401	032086	VO	05-89	05-89	025680	06/01/89	GRANTR		0.000		

Travel

miscoded not Time Oil

ok -

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BZTO104(e)046213

TOLS009391

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Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-520-99				0.00	0.00	156.54	
532610	821401	032104	VO	05-89	05-89	025929	06/04/89	THAMES		0.000		
					02-510-99				0.00	0.00	94.46	
532610	821401	032104	VO	05-89	05-89	025930	06/04/89	THAMES		0.000		
					02-510-99				0.00	0.00	107.78	
532610	821401	032118	VO	05-89	05-89	026017	06/05/89	THAMES		0.000		
Temp Living Expense					01-510-99				0.00	0.00	101.49	
								Acct Sub Total			2443.87	0.00
533510	821401	032090	VO	05-89	05-89	025687	06/02/89	MUTTRA		0.000		
Travel					02-650-99				0.00	0.00	[redacted]	
533610	821401	032033	VO	05-89	05-89	025145	05/09/89	HANCOC		0.000		
					02-510-99				0.00	0.00	7.60	
533610	821401	032033	VO	05-89	05-89	025145	05/09/89	HANCOC		0.000		
					02-200-99				0.00	0.00	[redacted]	
533610	821401	032039	VO	05-89	05-89	025178	05/09/89	RECLAS		0.000		
					02-520-99				0.00	0.00	66.50	
533610	821401	032104	VO	05-89	05-89	025931	06/04/89	MANDER		0.000		
Meals					02-520-99				0.00	0.00	11.18	
								Acct Sub Total			99.63	0.00
541410	821401	032045	VO	05-89	05-89	025294	05/15/89	CLARK		0.000		
					02-650-99				0.00	0.00	[redacted]	
541410	821401	032045	VO	05-89	05-89	025295	05/15/89	CLARK		0.000		
Utilities - Electrical					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			34.36	0.00
542810	821401	032045	VO	05-89	05-89	025263	05/15/89	MCI-W		0.000		
					02-510-99				0.00	0.00	9.80	
542810	821401	032045	VO	05-89	05-89	025335	05/15/89	KRAFT		0.000		
					02-510-99				0.00	0.00	15.72	
542810	821401	032045	VO	05-89	05-89	025336	05/15/89	BARLOW		0.000		
					01-510-99				0.00	0.00	15.72	
542810	821401	032063	VO	05-89	05-89	025470	05/24/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-36.05	
542810	821401	032081	VO	05-89	05-89	025647	06/01/89	USW-PO		0.000		
					02-510-99				0.00	0.00	145.13	
542810	821401	032081	VO	05-89	05-89	025648	06/01/89	USW-PO		0.000		
					02-510-99				0.00	0.00	239.95	
542810	821401	032082	AD	05-89	05-89	025650	06/01/89	USWC		0.000		
					02-510-99				0.00	0.00		145.13
542810	821401	032082	AD	05-89	05-89	025650	06/01/89	USWC		0.000		
					02-510-99				0.00	0.00		239.95
542810	821401	032118	VO	05-89	05-89	025996	06/05/89	USW-PO		0.000		
					02-510-99				0.00	0.00	186.52	
542810	821401	032118	VO	05-89	05-89	025997	06/05/89	USW-PO		0.000		
Telephone					02-510-99				0.00	0.00	198.50	
								Acct Sub Total			769.29	379.08
550723	821401	032099	VO	05-89	05-89	025838	06/03/89	CURTIN		0.000		
					02-210-99				0.00	0.00	928.61	
550723	821401	032121	VO	05-89	05-89	026024	06/05/89	RECLAS		0.000		
Chemical Supplies												

BZTO104(e)046214

TOLS009392

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Type	Pd Fn/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
						LAB CHEM SUP			0.00	0.00	-920.61	
								Acct Sub Total			0.00	0.00
550810	821401	032032	VO	05-89	05-89	025115	05/04/89	RICESA		0.000		
					02-510-99				0.00	0.00	204.27	
550810	821401	032032	VO	05-89	05-89	025116	05/04/89	RICESA		0.000		
					02-510-99				0.00	0.00	13.51	
550810	821401	032032	VO	05-89	05-89	025117	05/04/89	RICESA		0.000		
					02-510-99				0.00	0.00	128.33	
550810	821401	032032	VO	05-89	05-89	025134	05/04/89	RICESA		0.000		
					02-650-99				0.00	0.00	8.94	
550810	821401	032090	VO	05-89	05-89	025746	06/02/89	RICESA		0.000		
					02-520-99				0.00	0.00	23.06	
								Acct Sub Total			378.11	0.00
550910	821401	032039	VO	05-89	05-89	025170	05/09/89	OMEGA		0.000		
					01-650-99				0.00	0.00	916.50	
550910	821401	032039	VO	05-89	05-89	025172	05/09/89	GRINNE		0.000		
					02-510-99				0.00	0.00	29.60	
550910	821401	032040	VO	05-89	05-89	025192	05/10/89	T&TINS		0.000		
					01-650-99				0.00	0.00	191.00	
550910	821401	032040	VO	05-89	05-89	025194	05/10/89	GRINNE		0.000		
					02-510-99				0.00	0.00	147.11	
550910	821401	032040	VO	05-89	05-89	025203	05/10/89	GRINNE		0.000		
					02-510-99				0.00	0.00	63.95	
550910	821401	032040	VO	05-89	05-89	025204	05/10/89	GRINNE		0.000		
					02-510-99				0.00	0.00	26.43	
550910	821401	032045	VO	05-89	05-89	025253	05/15/89	GRINNE		0.000		
					02-510-99				0.00	0.00	58.62	
550910	821401	032045	VO	05-89	05-89	025260	05/15/89	GRINNE		0.000		
					02-510-99				0.00	0.00	22.60	
550910	821401	032045	VO	05-89	05-89	025271	05/15/89	GRINNE		0.000		
					02-510-99				0.00	0.00	4.61	
550910	821401	032045	VO	05-89	05-89	025272	05/15/89	GRINNE		0.000		
					02-510-99				0.00	0.00	95.57	
550910	821401	032045	VO	05-89	05-89	025273	05/15/89	GRINNE		0.000		
					02-510-99				0.00	0.00	963.71	
550910	821401	032045	VO	05-89	05-89	025276	05/15/89	STJHAR		0.000		
					02-510-99				0.00	0.00	19.93	
550910	821401	032045	VO	05-89	05-89	025277	05/15/89	STJHAR		0.000		
					02-520-99				0.00	0.00	26.29	
550910	821401	032045	VO	05-89	05-89	025278	05/15/89	STJHAR		0.000		
					02-510-99				0.00	0.00	6.24	
550910	821401	032045	VO	05-89	05-89	025279	05/15/89	STJHAR		0.000		
					02-520-99				0.00	0.00	9.49	
550910	821401	032045	VO	05-89	05-89	025280	05/15/89	STJHAR		0.000		
					02-510-99				0.00	0.00	5.89	
550910	821401	032045	VO	05-89	05-89	025281	05/15/89	STJHAR		0.000		
					02-510-99				0.00	0.00	23.25	
550910	821401	032045	VO	05-89	05-89	025282	05/15/89	STJHAR		0.000		
					02-510-99				0.00	0.00	2.99	
550910	821401	032045	VO	05-89	05-89	025283	05/15/89	STJHAR		0.000		
					02-520-99				0.00	0.00	24.00	

Safety Supplies

BZTO104(e)046215

TOLS009393

??????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd Type	Pd En/ Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
550910	821401	032045	VO	05-89	05-89 025284	05/15/89	STJHAR		0.000		
				02-510-99				0.00	0.00	0.84	
550910	821401	032045	VO	05-89	05-89 025327	05/15/89	THAMES		0.000		
				02-510-99				0.00	0.00	35.97	
550910	821401	032045	VO	05-89	05-89 025327	05/15/89	THAMES		0.000		
				02-520-99				0.00	0.00	56.25	
550910	821401	032045	VO	05-89	05-89 025328	05/15/89	THAMES		0.000		
				02-510-99				0.00	0.00	108.38	
550910	821401	032045	VO	05-89	05-89 025328	05/15/89	THAMES		0.000		
				02-520-99				0.00	0.00	58.00	
550910	821401	032045	VO	05-89	05-89 025335	05/15/89	KRAFT		0.000		
				02-510-99				0.00	0.00	15.75	
550910	821401	032045	VO	05-89	05-89 025336	05/15/89	BARLOW		0.000		
				01-510-99				0.00	0.00	9.05	
550910	821401	032047	VO	05-89	05-89 025356	05/16/89	THAMES		0.000		
				02-510-99				0.00	0.00	6.10	
550910	821401	032054	VO	05-89	05-89 025437	05/19/89	ZURN		0.000		
				02-650-99				0.00	0.00	[illegible]	
550910	821401	032063	VO	05-89	05-89 025485	05/24/89	KRAFT		0.000		
				02-510-99				0.00	0.00	15.75	
550910	821401	032063	VO	05-89	05-89 025493	05/24/89	BURKE		0.000		
				02-520-99				0.00	0.00	222.00	
550910	821401	032063	VO	05-89	05-89 025495	05/24/89	STAROI		0.000		
				02-510-99				0.00	0.00	129.84	
550910	821401	032063	VO	05-89	05-89 025496	05/24/89	STAROI		0.000		
				02-510-99				0.00	0.00	116.85	
550910	821401	032084	VO	05-89	05-89 025666	06/01/89	IMO		0.000		
				02-650-99				0.00	0.00	[illegible]	
550910	821401	032118	VO	05-89	05-89 026006	06/05/89	OMEGA		0.000		
Misc Supplies				01-650-99				0.00	0.00	[illegible]	
							Acct Sub Total			19764.06	0.00
560510	821401	032032	VO	05-89	05-89 025122	05/04/89	POWER		0.000		
				02-650-99				0.00	0.00	[illegible]	
560510	821401	032032	VO	05-89	05-89 025123	05/04/89	POWER		0.000		
				02-510-99				0.00	0.00	1550.00	
560510	821401	032032	VO	05-89	05-89 025125	05/04/89	POWER		0.000		
				02-510-99				0.00	0.00	133.57	
560510	821401	032032	VO	05-89	05-89 025126	05/04/89	POWER		0.000		
				02-510-99				0.00	0.00	114.00	
560510	821401	032040	VO	05-89	05-89 025212	05/10/89	HERTZ		0.000		
				02-510-99				0.00	0.00	40.00	
560510	821401	032040	VO	05-89	05-89 025214	05/10/89	USIR		0.000		
				02-520-99				0.00	0.00	1349.00	
560510	821401	032041	VO	05-89	05-89 025223	05/10/89	USIR		0.000		
				02-510-99				0.00	0.00	1928.00	
560510	821401	032043	AD	05-89	05-89 025235	05/10/89	USIR		0.000		
				02-510-99				0.00	0.00		579.00
560510	821401	032045	VO	05-89	05-89 025320	05/15/89	GELCO		0.000		
				02-510-99				0.00	0.00	286.99	
560510	821401	032080	VO	05-89	05-89 025573	05/31/89	NWSANI		0.000		
				02-510-99				0.00	0.00	55.00	
560510	821401	032080	VO	05-89	05-89 025574	05/31/89	NWSANI		0.000		

BZTO104(e)046216

TOLS009394

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Pd Tp	Pd Fn/ Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
				02-510-99				0.00	0.00	55.00	
560510	821401	032099	VO	05-89	025809	06/03/89	GRANTR		0.000		
				02-510-99				0.00	0.00	10.06	
560510	821401	032104	VO	05-89	025915	06/04/89	UNIEQU		0.000		
				02-510-99				0.00	0.00	2000.00	
560510	821401	032106	AD	05-89	025960	06/04/89	UNIEQU		0.000		
				02-510-99				0.00	0.00		990.00
560510	821401	032121	VO	05-89	026024	06/05/89	RECLAS		0.000		
Equipment Rental				EQUIP RENT				0.00	0.00	-10.06	
							Acct Sub Total			8349.62	1569.00
560910	821401	032033	VO	05-89	025143	05/09/89	MANDER		0.000		
				02-520-99				0.00	0.00	101.20	
560910	821401	032033	VO	05-89	025145	05/09/89	HANCOC		0.000		
				02-510-99				0.00	0.00	44.00	
560910	821401	032033	VO	05-89	025145	05/09/89	HANCOC		0.000		
				02-200-99				0.00	0.00	[redacted]	
560910	821401	032045	VO	05-89	025334	05/15/89	SCHWEI		0.000		
Vehicle Operating Exp.				02-510-99				0.00	0.00	12.50	
							Acct Sub Total			207.20	0.00
571610	821401	032054	VO	05-89	025430	05/19/89	ELECON		0.000		
				02-510-99				0.00	0.00	8557.93	
571610	821401	032080	VO	05-89	025575	05/31/89	ELECON		0.000		
				02-510-99				0.00	0.00	169.33	
571610	821401	032080	VO	05-89	025626	05/31/89	CJ&A		0.000		
				02-520-99				0.00	0.00	759.00	
571610	821401	032104	VO	05-89	025899	06/04/89	RECLAS		0.000		
Outside Services				02-200-99				0.00	0.00	[redacted]	
							Acct Sub Total			10083.51	0.00
571660	821401	032045	VO	05-89	025274	05/15/89	OVERLP		0.000		
Outside Services				02-510-99				0.00	0.00	9.06	
573210	821401	032040	VO	05-89	025193	05/10/89	AIRBOR		0.000		
				02-520-99				0.00	0.00	7.50	
573210	821401	032063	VO	05-89	025497	05/24/89	UPS		0.000		
Postage				02-510-99				0.00	0.00	20.00	
							Acct Sub Total			27.50	0.00
							Total			47010.41	1948.08

[redacted] Activity 200 $ 886.91 — Single 886.91 — Total 886.91 — (163.22) — 723.69
Activity 560 $ 17,817.11 — 6.50 — 17,823.61 — (5574.56) — 12,249.05
Activity 520 6404.50 — 30.75 — 6435.25 — (1700.23) — 4,743.02
[redacted] Activity 200 126.45 — 126.45 — — 126.45
Activity 560 18,815.36 — 18,895.36 — (5987.86) — 12,907.50
No Code - error 932.00 — 932.00 — 932.00
45,062.33 — 140.70 — 140.70
Act 800 — 140.70 — 45,248.28 — (13,475.87) — 31,822.41

TOLS009395

BZTO104(e)046217

222222 821401

Acct	Sub	Batch/ Job Phase-Cost	Tr Tp/ Pd Tp/ Pd Fn/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
				02-650-99				0.00	0.00	[illegible]	
550910	821401	032173	VO 06-89	06-89	026346	06/21/89	STAROI		0.000		
				02-650-99				0.00	0.00	[illegible]	
550910	821401	032188	VO 06-89	06-89	026491	06/22/89	KRAFT		0.000		
				02-510-99				0.00	0.00	102.21	
550910	821401	032188	VO 06-89	06-89	026492	06/22/89	KRAFT		0.000		
				02-510-99				0.00	0.00	101.68	
550910	821401	032188	VO 06-89	06-89	026492	06/22/89	KRAFT		0.000		
				02-520-99				0.00	0.00	[illegible]	
550910	821401	032206	AD 06-89	06-89	026618	06/29/89	GRINNE		0.000		
				02-650-99				0.00	0.00		[illegible]
Misc Supplies											
								Acct Sub Total		304.05	172.80
560510	821401	032153	VO 06-89	06-89	026199	06/16/89	GELCO		0.000		
				02-650-99				0.00	0.00	[illegible]	
560510	821401	032174	VO 06-89	06-89	026366	06/21/89	USIR		0.000		
				02-520-99				0.00	0.00	[illegible]	
560510	821401	032206	AD 06-89	06-89	026620	06/29/89	CLYDE		0.000		
				02-520-99				0.00	0.00		[illegible]
560510	821401	032225	VO 06-89	06-89	026715	06/30/89	E&SC		0.000		
				02-520-99				0.00	0.00	[illegible]	
Equipment Rental											
								Acct Sub Total		3185.99	2500.00
560710	821401	032188	VO 06-89	06-89	026491	06/22/89	KRAFT		0.000		
Repair & Maint Equip.				02-510-99				0.00	0.00	175.00	
560910	821401	032153	VO 06-89	06-89	026222	06/16/89	THAMES		0.000		
				02-510-99				0.00	0.00	22.85	
560910	821401	032181	VO 06-89	06-89	026404	06/22/89	MANDER		0.000		
				02-520-99				0.00	0.00	[illegible]	
560910	821401	032181	VO 06-89	06-89	026405	06/22/89	HANCOC		0.000		
				02-510-99				0.00	0.00	92.40	
560910	821401	032188	VO 06-89	06-89	026491	06/22/89	KRAFT		0.000		
				02-520-99				0.00	0.00	[illegible]	
Vehicle Operating Exp.											
								Acct Sub Total		214.65	0.00
571610	821401	032196	VO 06-89	06-89	026511	06/23/89	GEOTEC		0.000		
Outside Services				02-300-99				0.00	0.00	5794.75	
573210	821401	032153	VO 06-89	06-89	026222	06/16/89	THAMES		0.000		
				02-510-99				0.00	0.00	5.00	
573210	821401	032188	VO 06-89	06-89	026491	06/22/89	KRAFT		0.000		
				02-510-99				0.00	0.00	10.00	
								Acct Sub Total		15.00	0.00
								Total		12503.89	2777.80

Postage Act 300 [illegible]
Act 510 [illegible]
[illegible] Act 520 2637.72 + Phone/Xerox $250.04 [illegible]
[illegible] Act 650 [illegible]
[illegible] Act 512 [illegible]
$ 9726.09

JUNE 89

BZTO104(e)046218
TOLS009396

Acct	Sub	Batch/ Job Phase	In Tp/ Cost	Pd To/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate/ Unit Price	Debit Amt	Credit Amt
532510	821401	032182	VO	06-89	06-89	026440	06/22/89	DELTAI		0.000		
Travel					02-510-99				0.00	0.00	67.58	
532610	821401	032134	AD	06-89	06-89	026098	06/13/89	THAMES		0.000		
					TEMP. LIVING				0.00	0.00		105.00
532610	821401	032228	VO	06-89	06-89	026740	07/03/89	SPRIAP		0.000		
					TEMP LIVING-TIME OIL				0.00	0.00	[redacted]	
532610	821401	032228	VO	06-89	06-89	026741	07/03/89	RIVERC		0.000		
					TEMP LIVING				0.00	0.00	[redacted]	
532610	821401	032228	VO	06-89	06-89	026742	07/03/89	RIVERC		0.000		
					TEMP LIVING				0.00	0.00	[redacted]	
532610	821401	032228	VO	06-89	06-89	026745	07/03/89	GRANTR		0.000		
					TEMP LIVING				0.00	0.00	[redacted]	
532610	821401	032228	VO	06-89	06-89	026746	07/03/89	GRANTR		0.000		
					TEMP LIVING				0.00	0.00	[redacted]	
532610	821401	032232	VO	06-89	06-89	026757	07/03/89	KRAFT		0.000		
					TEMP LIVING				0.00	0.00	[redacted]	
532610	821401	032232	VO	06-89	06-89	026758	07/03/89	SCHWEI		0.000		
Temp Living Exp					TEMP LIVING				0.00	0.00	[redacted]	
								Acct Sub Total			2070.14	105.00
533610	821401	032181	VO	06-89	06-89	026404	06/22/89	MANDER		0.000		
					02-520-99				0.00	0.00	[redacted]	
533610	821401	032181	VO	06-89	06-89	026405	06/22/89	HANCOC		0.000		
Meals					02-510-99				0.00	0.00	[redacted]	
								Acct Sub Total			51.44	0.00
541410	821401	032174	VO	06-89	06-89	026368	06/21/89	CLARK		0.000		
					02-510-99				0.00	0.00	16.59	
541410	821401	032181	VO	06-89	06-89	026421	06/22/89	CLARK		0.000		
Utilities- Electrical					02-510-99				0.00	0.00	27.57	
								Acct Sub Total			44.16	0.00
550510	821401	032188	VO	06-89	06-89	026492	06/22/89	KRAFT		0.000		
Office Supplies					02-510-99				0.00	0.00	2.58	
550710	821401	032164	VO	06-89	06-89	026292	06/20/89	HP		0.000		
					02-510-99				0.00	0.00	225.00	
550710	821401	032225	VO	06-89	06-89	026710	06/30/89	HIGH-P		0.000		
Chemical Supplies					02-510-99				0.00	0.00	353.55	
								Acct Sub Total			578.55	0.00
550910	821401	032147	VO	06-89	06-89	026176	06/14/89	STJHAR		0.000		
					02-512-99				0.00	0.00	[redacted]	
550910	821401	032147	VO	06-89	06-89	026177	06/14/89	STJHAR		0.000		
					02-650-99				0.00	0.00	[redacted]	
550910	821401	032147	VO	06-89	06-89	026178	06/14/89	STJHAR		0.000		
					02-650-99				0.00	0.00	[redacted]	
550910	821401	032147	VO	06-89	06-89	026179	06/14/89	STJHAR		0.000		
					02-520-99				0.00	0.00	[redacted]	
550910	821401	032153	VO	06-89	06-89	026222	06/16/89	THAMES		0.000		
					02-510-99				0.00	0.00	7.45	
550910	821401	032173	VO	06-89	06-89	026318	06/21/89	STAROI		0.000		

510
520

BZTO104(e)046219

TOLS009397

BZTO104(e)046220

July 89

Date 08/01/89
07-89-0639

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 08/01/89

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
528010	821401	032259	VO 07-89	07-89	027080	07/20/89	CENOCC		0.000		
Physicals				02-520-99				0.00	0.00	215.40 ✓	
532510	821401	032234	VO 07-89	07-89	026772	07/10/89	SKOGER		0.000		
				01-510-99				0.00	0.00	36.55 ✓	
532510	821401	032247	VO 07-89	07-89	026898	07/13/89	MAHAFF		0.000		
				02-510-99				0.00	0.00	153.45 ✓	
532510	821401	032257	VO 07-89	07-89	027043	07/20/89	MANDER		0.000		
				02-175-99				0.00	0.00	80.66 ✓	
532510	821401	032267	VO 07-89	07-89	027181	07/25/89	BORTHE		0.000		
				02-510-99				0.00	0.00	190.75 ✓	
532510	821401	032267	VO 07-89	07-89	027183	07/25/89	BORTHE		0.000		
Travel				02-510-99				0.00	0.00	120.99 ✓	
							Acct Sub Total			582.40	0.00
533610	821401	032234	VO 07-89	07-89	026777	07/10/89	MAHAFF		0.000		
				02-510-99				0.00	0.00	29.79 ✓	
533610	821401	032247	VO 07-89	07-89	026898	07/13/89	MAHAFF		0.000		
				02-510-99				0.00	0.00	100.00 ✓	
533610	821401	032257	VO 07-89	07-89	027043	07/20/89	MANDER		0.000		
				02-175-99				0.00	0.00	96.04 ✓	
533610	821401	032266	VO 07-89	07-89	027136	07/25/89	MAY		0.000		
				02-400-99				0.00	0.00	75.00 ✓	
533610	821401	032266	VO 07-89	07-89	027137	07/25/89	GOODFE		0.000		
				02-300-20				0.00	0.00	50.00 ✓	
533610	821401	032267	VO 07-89	07-89	027181	07/25/89	BORTHE		0.000		
				02-510-99				0.00	0.00	150.00 ✓	
533610	821401	032267	VO 07-89	07-89	027183	07/25/89	BORTHE		0.000		
Meals				02-510-99				0.00	0.00	100.00 ✓	
							Acct Sub Total			600.83	0.00
542810	821401	032234	VO 07-89	07-89	026789	07/10/89	USW-PO		0.000		
				02-510-99				0.00	0.00	5.06 ✓	
542810	821401	032247	VO 07-89	07-89	026898	07/13/89	MAHAFF		0.000		
				02-510-99				0.00	0.00	3.39 ✓	
542810	821401	032254	VO 07-89	07-89	026928	07/18/89	KRAFT		0.000		
				02-520-99				0.00	0.00	20.23 ✓	
542810	821401	032254	VO 07-89	07-89	026929	07/18/89	KRAFT		0.000		
				02-520-99				0.00	0.00	15.95 ✓	
542810	821401	032257	VO 07-89	07-89	027043	07/20/89	MANDER		0.000		
Telephone				02-175-99				0.00	0.00	6.35 ✓	
							Acct Sub Total			49.98	0.00
550710	821401	032234	VO 07-89	07-89	026780	07/10/89	HIGH-P		0.000		
				02-510-99				0.00	0.00	330.01 ✓	
550710	821401	032234	VO 07-89	07-89	026781	07/10/89	HIGH-P		0.000		
Chemical Supp				02-510-99				0.00	0.00	327.60 ✓	
							Acct Sub Total			657.61	0.00
550810	821401	032247	VO 07-89	07-89	026889	07/13/89	KRAFT		0.000		
Safety Supp				02-175-99				0.00	0.00	4.58	
550910	821401	032237	VO 07-89	07-89	026822	07/11/89	BORTHE		0.000		

TOLS009398

BZTO104(e)046221

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
				02-520-99				0.00	0.00	320.85	
550910	821401	032247	VO 07-89	07-89	026887	07/13/89	KRAFT		0.000		
				02-510-99				0.00	0.00	56.63	
550910	821401	032247	VO 07-89	07-89	026888	07/13/89	KRAFT		0.000		
				02-510-99				0.00	0.00	42.51	
550910	821401	032247	VO 07-89	07-89	026888	07/13/89	KRAFT		0.000		
				02-520-99				0.00	0.00	113.94	
550910	821401	032247	VO 07-89	07-89	026889	07/13/89	KRAFT		0.000		
				02-510-99				0.00	0.00	83.88	
550910	821401	032247	VO 07-89	07-89	026889	07/13/89	KRAFT		0.000		
				02-520-99				0.00	0.00	251.39	
550910	821401	032254	VO 07-89	07-89	026922	07/18/89	KRAFT		0.000		
				02-510-99				0.00	0.00	176.57 ✓	
550910	821401	032254	VO 07-89	07-89	026922	07/18/89	KRAFT		0.000		
				02-520-99				0.00	0.00	56.60 ✓	
550910	821401	032256	VO 07-89	07-89	027032	07/18/89	STJHAR		0.000		
				02-650-99				0.00	0.00	23.29 ✓	
550910	821401	032256	VO 07-89	07-89	027033	07/18/89	STJHAR		0.000		
				02-510-99				0.00	0.00	27.56 ✓	
550910	821401	032256	VO 07-89	07-89	027034	07/18/89	STJHAR		0.000		
				02-510-99				0.00	0.00	19.99 ✓	
550910	821401	032257	VO 07-89	07-89	027043	07/20/89	MANDER		0.000		
				02-175-99				0.00	0.00	18.73 ✓	
550910	821401	032266	VO 07-89	07-89	027136	07/25/89	MAY		0.000		
Misc Supp				02-400-99				0.00	0.00	6.99 ✓	
							Acct Sub Total			1199.93	0.00
560510	821401	032234	VO 07-89	07-89	026778	07/10/89	E&SC		0.000		
				02-520-99				0.00	0.00	1500.00 ✓	
560510	821401	032235	VO 07-89	07-89	026811	07/11/89	PETROL		0.000		
				02-650-99				0.00	0.00	465.00 ✓	
560510	821401	032235	VO 07-89	07-89	026812	07/11/89	PETROL		0.000		
				02-650-99				0.00	0.00	450.00 ✓	
560510	821401	032235	VO 07-89	07-89	026813	07/11/89	PETROL		0.000		
				02-650-99				0.00	0.00	465.00 ✓	
560510	821401	032235	VO 07-89	07-89	026814	07/11/89	PETROL		0.000		
				02-650-99				0.00	0.00	450.00 ✓	
560510	821401	032235	VO 07-89	07-89	026815	07/11/89	PETROL		0.000		
				02-650-99				0.00	0.00	450.00 ✓	
560510	821401	032256	VO 07-89	07-89	026980	07/18/89	E&SC		0.000		
				02-520-99				0.00	0.00	258.36 ✓	
560510	821401	032256	VO 07-89	07-89	027005	07/18/89	E&SC		0.000		
				02-520-99				0.00	0.00	472.30 ✓	
560510	821401	032256	VO 07-89	07-89	027008	07/18/89	E&SC		0.000		
				02-520-99				0.00	0.00	900.00 ✓	
560510	821401	032256	VO 07-89	07-89	027029	07/18/89	POWER		0.000		
				02-175-99				0.00	0.00	38.52 ✓	
560510	821401	032256	VO 07-89	07-89	027030	07/18/89	POWER		0.000		
				02-510-99				0.00	0.00	44.36 ✓	
560510	821401	032259	VO 07-89	07-89	027061	07/20/89	GELCO		0.000		
				02-510-99				0.00	0.00	347.52 ✓	
560510	821401	032259	VO 07-89	07-89	027070	07/20/89	PETROL		0.000		
Equipment Rental				02-650-99				0.00	0.00	450.00 ✓	

Equipment - Capital

Date 08/01/89
07-89-0639

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 08/01/89

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
							Acct Sub Total		0.000	6261.06	0.00
560910	821401	032234	VO 07-89	07-89	026772	07/10/89	SKOGER		0.000		
				01-510-99				0.00	0.00	32.30 ✓	
560910	821401	032254	VO 07-89	07-89	026931	07/18/89	SCHWEI		0.000		
				02-520-99				0.00	0.00	28.60 ✓	
560910	821401	032257	VO 07-89	07-89	027043	07/20/89	MANDER		0.000		
				02-175-99				0.00	0.00	86.90 ✓	
560910	821401	032257	VO 07-89	07-89	027044	07/20/89	SCHWEI		0.000		
				02-510-99				0.00	0.00	74.80 ✓	
560910	821401	032266	VO 07-89	07-89	027137	07/25/89	GOODFE		0.000		
				02-300-20				0.00	0.00	17.70 ✓	
560910	821401	032267	VO 07-89	07-89	027181	07/25/89	BORTHE		0.000		
				02-510-99				0.00	0.00	94.16 ✓	
560910	821401	032267	VO 07-89	07-89	027183	07/25/89	BORTHE		0.000		
				02-510-99				0.00	0.00	91.96 ✓	
Vehicle Operating Exp.											
							Acct Sub Total			416.42	0.00
571610	821401	032234	VO 07-89	07-89	026772	07/10/89	SKOGER		0.000		
				01-510-99				0.00	0.00	34.27 ✓	
571610	821401	032254	VO 07-89	07-89	026930	07/18/89	KRAFT		0.000		
				02-520-99				0.00	0.00	12.75 ✓	
571610	821401	032254	VO 07-89	07-89	026940	07/18/89	ELECON		0.000		
				02-510-99				0.00	0.00	2477.00 ✓	
571610	821401	032267	VO 07-89	07-89	027172	07/25/89	CENTER		0.000		
				02-520-99				0.00	0.00	341.00 ✓	
Outside Services											
							Acct Sub Total			2865.02	0.00
571660	821401	032234	VO 07-89	07-89	026804	07/10/89	OVERLP		0.000		
Outside Services				02-510-99				0.00	0.00	4.53 ✓	
573210	821401	032259	VO 07-89	07-89	027066	07/20/89	OREGON		0.000		
Postage				02-510-99				0.00	0.00	55.74 ✓	
							Total			12913.50	0.00

Act 175 [redacted]
Act 300
Act 400
Act 510 $ [redacted]
Act 520 [redacted]
Act 650 ~~293.29~~

12,913.50

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BZTO104(e)046222

Date 09/05/89
08-89 0669

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 09/05/89

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AUG 89

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Pd Tp	Pd Fn/ Pd Post/ Transaction	Ref No/ Description	Tran Date/ Unit	Ven ID/ Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
573210	821401	032309	VO	08-89 02-175-99	08-89 027644	08/10/89	FEDERA 0.00	0.000 0.00	53.25	
573210	821401	032321	VO	08-89 02-510-99	08-89 027764	08/16/89	OREGON 0.00	0.000 0.00	30.02	
573210	821401	032333	VO	08-89 02-650-99	08-89 027972	08/23/89	UPS 0.00	0.000 0.00	[redacted]	
573210	821401	032333	VO	08-89 02-300-99	08-89 027974	08/23/89	CROSST 0.00	0.000 0.00	[redacted]	
573210	821401	032346	VO	08-89 02-510-99	08-89 028193	08/29/89	FEDERA 0.00	0.000 0.00	17.25	
573210	821401	032346	VO	08-89 02-510-99	08-89 028194	08/29/89	FEDERA 0.00	0.000 0.00	65.75	
							Acct Sub Total		262.27	0.00
							Total		10788.43	6.10

10,782.33

	8/31	8/15	Net
Acct 510	[redacted]	2,040.20	[redacted]
[redacted] Acct 650	[redacted]	494.25	[redacted]
[redacted] Acct 300	[redacted]	82.84	[redacted]
Acct 400	[redacted]	409.86	ø
[redacted] Acct 475	[redacted]	39.01	ø
[redacted] Acct 520	[redacted]	1,144.49	[redacted]
[redacted] Acct 500	[redacted]	ø	[redacted]
Acct 600	[redacted]	ø	[redacted]
~~[redacted] Acct 475~~			
[redacted] Acct 150	[redacted]	ø	[redacted]
[redacted] Acct 200	[redacted]	ø	[redacted]
Acct 175	[redacted]	53.15	ø
	10 82.35	4,261.90	6,520.43

BZTO104(e)046223

TOLS009401

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Type	Pd En/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-510-99				0.00	0.00	19.99	
550910	821401	032351	VO	08-89	08-89	028258	08/31/89	BORTHE		0.000		
					02-510-99				0.00	0.00	297.61	
								Acct Sub Total			991.79	6.10
560510	821401	032300	VO	08-89	08-89	027403	08/07/89	POWER		0.000		
					02-520-99				0.00	0.00	[illegible]	
560510	821401	032309	VO	08-89	08-89	027650	08/10/89	PETROL		0.000		
					02-650-99				0.00	0.00	[illegible]	
560510	821401	032316	VO	08-89	08-89	027713	08/15/89	USIR		0.000		
					02-510-99				0.00	0.00	449.66	
560510	821401	032316	VO	08-89	08-89	027714	08/15/89	USIR		0.000		
					02-510-99				0.00	0.00	449.67	
560510	821401	032316	VO	08-89	08-89	027715	08/15/89	USIR		0.000		
					02-510-99				0.00	0.00	449.67	
560510	821401	032346	VO	08-89	08-89	028227	08/29/89	GELCO		0.000		
					02-510-99				0.00	0.00	286.99	
560510	821401	032358	VO	08-89	08-89	028391	09/01/89	UNIEQU		0.000		
					02-650-99				0.00	0.00	[illegible]	
								Acct Sub Total			3570.48	0.00
560910	821401	032294	VO	08-89	08-89	027298	08/04/89	PAUKST		0.000		
					02-400-60				0.00	0.00	133.00	
560910	821401	032294	VO	08-89	08-89	027301	08/04/89	MAHAFF		0.000		
					02-510-99				0.00	0.00	97.68	
560910	821401	032294	VO	08-89	08-89	027318	08/04/89	MAHAFF		0.000		
					02-510-99				0.00	0.00	16.00	
560910	821401	032294	VO	08-89	08-89	027319	08/04/89	MAY		0.000		
					02-400-99				0.00	0.00	88.00	
560910	821401	032334	VO	08-89	08-89	028078	08/24/89	DEDWAR		0.000		
					01-150-60				0.00	0.00	94.60	
560910	821401	032346	VO	08-89	08-89	028141	08/29/89	KASH		0.000		
					01-500-99				0.00	0.00	13.63	
560910	821401	032346	VO	08-89	08-89	028232	08/29/89	DEDWAR		0.000		
					01-200-99				0.00	0.00	96.80	
560910	821401	032351	VO	08-89	08-89	028258	08/31/89	BORTHE		0.000		
					02-510-99				0.00	0.00	107.05	
								Acct Sub Total			646.76	0.00
560930	821401	032293	VO	08-89	08-89	027293	08/04/89	GERNER		0.000		
					02-475-99				0.00	0.00	[illegible]	
571610	821401	032303	VO	08-89	08-89	027495	08/08/89	ELECON		0.000		
					01-510-10				0.00	0.00	40.50	
571610	821401	032358	VO	08-89	08-89	028381	09/01/89	PNEL		0.000		
					02-510 50				0.00	0.00	320.00	
								Acct Sub Total			360.50	0.00
571660	821401	032327	VO	08-89	08-89	027894	08/18/89	OVERLP		0.000		
					02-520-99				0.00	0.00	[illegible]	
573210	821401	032300	VO	08-89	08-89	027358	08/07/89	AIRBOR		0.000		
					02-510-40				0.00	0.00	10.00	

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SEPT. 89

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Type	Pd Fn/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532510	821401	032412	VO	09-89	09-89	029175	09/28/89	DEDWAR		0.000		
Travel					01-600-99				0.00	0.00	38.71	
532610	821401	032365	VO	09-89	09-89	028600	09/08/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	200.00	
532610	821401	032371	VO	09-89	09-89	028707	09/13/89	GRANTR		0.000		
					TEMPORARY LIVING				0.00	0.00	156.54	
532610	821401	032372	VO	09-89	09-89	028806	09/14/89	GRANTR		0.000		
					02-510-99				0.00	0.00	88.60	
532610	821401	032373	AD	09-89	09-89	028809	09/14/89	GRANTR		0.000		
					TEMPORARY LIVING				0.00	0.00		156.54
532610	821401	032374	VO	09-89	09-89	028819	09/14/89	BORTHE		0.000		
					02-650-99				0.00	0.00	315.00	
532610	821401	032391	VO	09-89	09-89	029042	09/25/89	RECLAS		0.000		
					02-510-99				0.00	0.00	-88.60	
532610	821401	032391	VO	09-89	09-89	029042	09/25/89	RECLAS		0.000		
Temp Living Exp.					02-650-99				0.00	0.00	88.60	
								Acct Sub Total			760.14	156.54
533610	821401	032374	VO	09-89	09-89	028819	09/14/89	BORTHE		0.000		
					02-510-99				0.00	0.00	6.92	
533610	821401	032406	VO	09-89	09-89	029114	09/28/89	BORTHE		0.000		
					02-650-99				0.00	0.00	2.49	
533610	821401	032412	VO	09-89	09-89	029175	09/28/89	DEDWAR		0.000		
Meals					01-600-99				0.00	0.00	21.40	
								Acct Sub Total			30.81	0.00
541410	821401	032365	VO	09-89	09-89	028620	09/08/89	CLARK		0.000		
					02-510-99				0.00	0.00	12.27	
541410	821401	032365	VO	09-89	09-89	028621	09/08/89	CLARK		0.000		
					02-510-99				0.00	0.00	15.41	
541410	821401	032379	VO	09-89	09-89	028914	09/19/89	PGE		0.000		
Utilities-Electrical					01-600-60				0.00	0.00	1146.97	
								Acct Sub Total			1174.65	0.00
541610	821401	032413	VO	09-89	09-89	029213	09/28/89	SCHWEI		0.000		
Utilities - Gas					02-650-99				0.00	0.00	66.00	
542810	821401	032365	VO	09-89	09-89	028574	09/08/89	USW-PO		0.000		
					01-650-99				0.00	0.00	144.90	
542810	821401	032374	VO	09-89	09-89	028819	09/14/89	BORTHE		0.000		
					02-650-99				0.00	0.00	57.23	
542810	821401	032406	VO	09-89	09-89	029114	09/28/89	BORTHE		0.000		
					02-510-99				0.00	0.00	39.95	
542810	821401	032412	VO	09-89	09-89	029175	09/28/89	DEDWAR		0.000		
Telephone					01-600-99				0.00	0.00	3.79	
								Acct Sub Total			245.87	0.00
550510	821401	032372	VO	09-89	09-89	028779	09/14/89	BORTHE		0.000		
					02-650-99				0.00	0.00	2.34	
550510	821401	032406	VO	09-89	09-89	029114	09/28/89	BORTHE		0.000		
					02-650-99				0.00	0.00	15.15	
550510	821401	032406	VO	09-89	09-89	029116	09/28/89	BORTHE		0.000		

BZTO104(e)046225

TOLS009403

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Acct	Sub	Batch/ Job-Phase	In Tp/ Cost	Pd Fn/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-650-99				0.00	0.00	2.34	
550510	821401	032416	AD	09-89	09-89	029246	09/29/89	BORTHE		0.000		
Office Supplies					02-650-99				0.00	0.00		2.34
								Acct Sub Total			19.83	2.34
550710	821401	032379	VO	09-89	09-89	028932	09/19/89	HIGH-P		0.000		
					02-650-99				0.00	0.00	89.80	
550710	821401	032412	VO	09-89	09-89	029156	09/28/89	SIGMA		0.000		
Chemical Supplies					01-600-99				0.00	0.00	45.83	
								Acct Sub Total			135.63	0.00
550910	821401	032365	VO	09-89	09-89	028443	09/08/89	STJHI		0.000		
					02-510-99				0.00	0.00	1.77	
550910	821401	032372	VO	09-89	09-89	028719	09/14/89	NWAIRG		0.000		
					02-650-99				0.00	0.00	23.25	
550910	821401	032372	VO	09-89	09-89	028779	09/14/89	BORTHE		0.000		
					02-650-99				0.00	0.00	82.67	
550910	821401	032372	VO	09-89	09-89	028779	09/14/89	BORTHE		0.000		
					01-510-99				0.00	0.00	47.92	
550910	821401	032379	VO	09-89	09-89	028919	09/19/89	STJHAR		0.000		
					02-650-99				0.00	0.00	8.94	
550910	821401	032391	VO	09-89	09-89	028987	09/25/89	PALCO		0.000		
					02-650-99				0.00	0.00	336.59	
550910	821401	032406	VO	09-89	09-89	029114	09/28/89	BORTHE		0.000		
					02-650-99				0.00	0.00	156.98	
550910	821401	032406	VO	09-89	09-89	029116	09/28/89	BORTHE		0.000		
					02-650-99				0.00	0.00	82.67	
550910	821401	032406	VO	09-89	09-89	029116	09/28/89	BORTHE		0.000		
					02-510-99				0.00	0.00	47.92	
550910	821401	032416	AD	09-89	09-89	029246	09/29/89	BORTHE		0.000		
					02-650-99				0.00	0.00		82.67
550910	821401	032416	AD	09-89	09-89	029246	09/29/89	BORTHE		0.000		
Misc Supplies					02-510-99				0.00	0.00		47.92
								Acct Sub Total			788.71	130.59
560510	821401	032365	VO	09-89	09-89	028546	09/08/89	NWSANI		0.000		
					02-510-99				0.00	0.00	55.00	
560510	821401	032365	VO	09-89	09-89	028547	09/08/89	NWSANI		0.000		
					02-510-99				0.00	0.00	55.00	
560510	821401	032365	VO	09-89	09-89	028548	09/08/89	NWSANI		0.000		
					02-510-99				0.00	0.00	55.00	
560510	821401	032365	VO	09-89	09-89	028549	09/08/89	NWSANI		0.000		
					01-510-99				0.00	0.00	165.00	
560510	821401	032372	VO	09-89	09-89	028747	09/14/89	USIR		0.000		
					02-510-99				0.00	0.00	449.67	
560510	821401	032378	VO	09-89	09-89	028824	09/19/89	HERTZP		0.000		
					02-510-99				0.00	0.00	312.50	
560510	821401	032378	VO	09-89	09-89	028843	09/19/89	GELCO		0.000		
					02-650-99				0.00	0.00	265.49	
560510	821401	032379	VO	09-89	09-89	028930	09/19/89	POWER		0.000		
					02-510-99				0 00	0.00	29.00	
560510	821401	032385	AD	09-89	09-89	028953	09/20/89	NWSANI		0.000		
					01-510-99				0.00	0.00		165.00

BZTO104(e)046226

TOLS009404

?????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Pd Tp	Pd Fn/ Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
560510	821401	032388	VO	09-89	09-89 028968	09/21/89	PETROL		0.000		
					02-650-99			0.00	0.00	15.00	
560510	821401	032389	AD	09-89	09-89 028972	09/21/89	PETROL		0.000		
					02-650-99			0.00	0.00		2917.50
560510	821401	032412	VO	09-89	09-89 029159	09/28/89	GELCO		0.000		
Equipment Rental					02-650-99			0.00	0.00	265.49	
							Acct Sub Total			1667.15	3082.50
560710	821401	032388	VO	09-89	09-89 028969	09/21/89	PETROL		0.000		
Repair & Maint Equip.					02-650-99			0.00	0.00	70.23	
560910	821401	032365	VO	09-89	09-89 028599	09/08/89	BORTHE		0.000		
					02-510-99			0.00	0.00	9.90	
560910	821401	032372	VO	09-89	09-89 028779	09/14/89	BORTHE		0.000		
					02-650-99			0.00	0.00	63.61	
560910	821401	032372	VO	09-89	09-89 028782	09/14/89	DEDWAR		0.000		
					01-600-99			0.00	0.00	88.00	
560910	821401	032406	VO	09-89	09-89 029114	09/28/89	BORTHE		0.000		
					02-650-99			0.00	0.00	40.00	
560910	821401	032406	VO	09-89	09-89 029116	09/28/89	BORTHE		0.000		
					02-650-99			0.00	0.00	63.61	
560910	821401	032412	VO	09-89	09-89 029175	09/28/89	DEDWAR		0.000		
					01-600-99			0.00	0.00	96.80	
560910	821401	032416	AD	09-89	09-89 029246	09/29/89	BORTHE		0.000		
Vehicle Operating Exp.					02-650-99			0.00	0.00		63.61
							Acct Sub Total			361.92	63.61
571610	821401	032365	VO	09-89	09-89 028567	09/08/89	ELECON		0.000		
					02-510-99			0.00	0.00	2438.00	
571610	821401	032425	VO	09-89	09-89 029278	09/29/89	CENTER		0.000		
Outside Services					02-650-99			0.00	0.00	400.00	
							Acct Sub Total			2838.00	0.00
573210	821401	032379	VO	09-89	09-89 028933	09/19/89	FEDERA		0.000		
Postage					02-650-99			0.00	0.00	51.50	
599010	821401	032374	VO	09-89	09-89 028819	09/14/89	BORTHE		0.000		
Miscellaneous					02-510-99			0.00	0.00	217.50	
							Total			8466.65	3435.58

BZTO104(e)046227

TOLS009405

OCT. 89

BZTO104(e)046228

Date 10/30/89
10 89-0728

Ecova Corporation
Paid Accounts Payable Distribution List
As Of 10/30/89

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Sept 01 89

222222 821401

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/	Pd Fo/ Type	Pd Post/ Transaction	Ref No/ Description	Trsn Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532510	821401	032428	VO	10-89	10-89	029344	10/05/89	DEDWAK		0.000		
Travel					01-650-99				0.00	0.00	[redacted]	
532610	821401	032427	VO	10-89	10-89	029324	10/05/89	GRANTR		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032446	VO	10-89	10-89	029631	10/20/89	BORTHE		0.000		
					02-650-99				0.00	0.00	262.00	
532610	821401	032446	VO	10-89	10-89	029659	10/20/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032465	VO	10-89	10-89	029808	10/25/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032465	VO	10-89	10-89	029809	10/25/89	BORTHE		0.000		
Temp Living Exp					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			850.60	0.00
532610	821401	032428	VO	10-89	10-89	029344	10/05/89	DEDWAK		0.000		
					01-650-99				0.00	0.00	[redacted]	
532610	821401	032428	VO	10-89	10-89	029345	10/05/89	CARR		0.000		
					01-850-20				0.00	0.00	[redacted]	
532610	821401	032436	VO	10-89	10-89	029543	10/13/89	BORTHE		0.000		
Meals					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			61.33	0.00
541410	821401	032435	VO	10-89	10-89	029506	10/12/89	CLARK		0.000		
					02-510-99				0.00	0.00	16.20	
541410	821401	032435	VO	10-89	10-89	029507	10/12/89	CLARK		0.000		
					02-510-99				0.00	0.00	18.16	
541410	821401	032446	VO	10-89	10-89	029659	10/20/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	[redacted]	
541410	821401	032475	VO	10-89	10-89	029937	10/27/89	PGE		0.000		
Utilities-Electrical					01-600-60				0.00	0.00	[redacted]	
								Acct Sub Total			1826.79	0.00
542810	821401	032433	VO	10-89	10-89	029418	10/11/89	USWCOM		0.000		
					02-510-99				0.00	0.00	174.50	
542810	821401	032439	VO	10-89	10-89	029569	10/13/89	PAUKST		0.000		
					01-500-60				0.00	0.00	[redacted]	
542810	821401	032446	VO	10-89	10-89	029631	10/20/89	BORTHE		0.000		
Telephone					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			193.00	0.00
550710	821401	032433	VO	10-89	10-89	029465	10/11/89	HIGH-P		0.000		
Chemical Supplies					02-650-99				0.00	0.00	298.75	
550910	821401	032436	VO	10-89	10-89	029543	10/13/89	BORTHE		0.000		
					02-650-99				0.00	0.00	410.59	
550910	821401	032436	VO	10-89	10-89	029544	10/13/89	BORTHE		0.000		
					02-510-99				0.00	0.00	27.41	
550910	821401	032437	VO	10-89	10-89	029564	10/13/89	NWATER		0.000		
					02-650-99				0.00	0.00	[redacted]	
550910	821401	032446	VO	10-89	10-89	029660	10/20/89	BORTHE		0.000		
					02-650-99				0.00	0.00	168.00	
550910	821401	032446	VO	10-89	10-89	029660	10/20/89	BORTHE		0.000		
Misc Supplies												

TOLS009406

Misc Supplies

Date 10/30/89
10-89-0728

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 10/30/89

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Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/	Pd En/ Type	Pd Post/ Transaction Description	Ref No/	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
					02-510-99				0.00	0.00	[redacted]	
									Acct Sub Total		679.74	36.56
560510	821401	032432	VO	10-89	10-89	029359	10/09/89	GELCO		0.000		
					02-650-99				0.00	0.00	[redacted]	
560510	821401	032433	VO	10-89	10-89	029464	10/11/89	CIT		0.000		
					02-650-99				0.00	0.00	336.19	
560510	821401	032468	VO	10-89	10-89	029856	10/26/89	GELCO		0.000		
Equipment Rental					02-650-99				0.00	0.00	[redacted]	
									Acct Sub Total		867.17	0.00
560710	821401	032449	VO	10-89	10-89	029729	10/23/89	ROGMAC		0.000		
Repair & Maint Equip					02-650-99				0.00	0.00	383.24	
560910	821401	032428	VO	10-89	10-89	029344	10/05/89	DEDWAR		0.000		
					01-650-99				0.00	0.00	[redacted]	
560910	821401	032428	VO	10-89	10-89	029345	10/05/89	CARR		0.000		
					01-850-20				0.00	0.00	9.46	
560910	821401	032433	VO	10-89	10-89	029480	10/11/89	CARR		0.000		
Vehicle Oper Exp.					01-150-30				0.00	0.00	5.94	
									Acct Sub Total		112.20	0.00
573210	821401	032446	VO	10-89	10-89	029675	10/20/89	FEDERA		0.000		
					02-650-99				0.00	0.00	20.00	
573210	821401	032468	VO	10-89	10-89	029846	10/26/89	FEDERA		0.000		
Postage					02-650-99				0.00	0.00	[redacted]	
									Acct Sub Total		67.00	0.00
									Total		5387.38	36.56

		10/31	10/15	Diff
	Acct 510	[redacted]	236.27	Ø
[redacted]	Acct 650	[redacted]	1,554.41	1,722.36 ✓
[redacted]	Acct 850	[redacted]	23.80	Ø
[redacted]	Acct 500	[redacted]	4.50	Ø
	Acct 150	[redacted]	5.94	Ø
[redacted]	Acct 600	[redacted]		1,711.80 ✓
[redacted]	Acct 510	[redacted]		91.74 ✓
		5,350.82	1,824.92	3,525.90

TOLS009407

BZTO104(e)046229

Nov. 89

Equipment Rental

Vehicle Operating Exp.

Outside Services

Postage

TOLS009408

BZTO104(e)046230

BZTO104(e)046231

Travel

Temp Living Exp.

Meals

Utilities - Electrical

Telephone

Chemical Supplies

Misc Supplies

TOLS009409

Date 12/31/89
12 89 0784

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 12/31/89

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222222 821401

DEC. 89

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/	Pd Fn/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532610	821401	032550	VO	12-89	12-89	030772	12/05/89	GRANTR		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032553	VO	12-89	12-89	030861	12/07/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	60.00	
532610	821401	032556	VO	12-89	12 89	030941	12/13/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032556	VO	12-89	12-89	030948	12/13/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032574	VO	12-89	12-89	031094	12/27/89	SCHWEI		0.000		
					02-650-99				0.00	0.00	[redacted]	
532610	821401	032588	VO	12-89	12-89	031331	12/29/89	SCHWEI		0.000		
Temp Living Exp					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			773.95	0.00
541410	821401	032550	VO	12-89	12-89	030767	12/05/89	PGE		0.000		
					02-650-99				0.00	0.00	[redacted]	
541410	821401	032573	VO	12-89	12-89	031079	12/27/89	CLARK		0.000		
					02-510-99				0.00	0.00	15.41	
541410	821401	032573	VO	12-89	12-89	031083	12/27/89	PGE		0.000		
Utilities - Electrical					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			3012.88	0.00
542010	821401	032560	VO	12-89	12-89	031032	12/14/89	BORTHE		0.000		
Garbage Pickup					02-650-99				0.00	0.00	[redacted]	
542810	821401	032573	VO	12-89	12-89	031084	12/27/89	USW-PO		0.000		
					02-510-99				0.00	0.00	337.31	
542810	821401	032589	VO	12-89	12-89	031352	12/29/89	MCITEL		0.000		
Telephone					TELEPHONE 800				0.00	0.00	[redacted]	
								Acct Sub Total			337.69	0.00
550710	821401	032560	VO	12-89	12-89	031022	12/14/89	HIGH-P		0.000		
Chemical Supplies					02-650-99				0.00	0.00	[redacted]	
550910	821401	032560	VO	12-89	12-89	031023	12/14/89	HIGH-P		0.000		
					02-650-99				0.00	0.00	[redacted]	
550910	821401	032560	VO	12-89	12-89	031024	12/14/89	HIGH-P		0.000		
					02-650-99				0.00	0.00	[redacted]	
550910	821401	032560	VO	12-89	12-89	031032	12/14/89	BORTHE		0.000		
					02-650-99				0.00	0.00	[redacted]	
550910	821401	032560	VO	12-89	12-89	031032	12/14/89	BORTHE		0.000		
					02-651-99				0.00	0.00	105.10	
550910	821401	032587	VO	12-89	12-89	031271	12/28/89	HIGH-P		0.000		
Misc Supp					02-650-99				0.00	0.00	[redacted]	
								Acct Sub Total			454.25	0.00
560510	821401	032556	VO	12-89	12-89	030971	12/13/89	E&SC		0.000		
					02-650-99				0.00	0.00	[redacted]	
560510	821401	032556	VO	12-89	12-89	030972	12/13/89	E&SC		0.000		
					02-650-99				0.00	0.00	[redacted]	
560510	821401	032585	VO	12-89	12-89	031168	12/28/89	GELCO		0.000		
Equipment Rental					02-510-99				0.00	0.00	265.49	

BZTO104(e)046232

TOLS009410

Date 12/31/89
12-89-0784
222222 821401

Ecova Corporation
Ptd Accounts Payable Distribution List
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Acct	Sub	Batch/ Job-Phase-Cost	In Tp/	Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
									Acct Sub Total		867.09	0.00
560710	821401	032587	VO	12-89	12-89	031265	12/28/89	INDUST		0.000		
Repair & Maint Equip.					02-651-99				0.00	0.00	75.64	
560910	821401	032560	VO	12-89	12-89	031031	12/14/89	BORTHE		0.000		
					02-650-99				0.00	0.00	[illegible]	
560910	821401	032560	VO	12-89	12-89	031032	12/14/89	BORTHE		0.000		
					02-651-99				0.00	0.00	5.00	
560910	821401	032560	VO	12-89	12-89	031032	12/14/89	BORTHE		0.000		
Vehicle Operating Exp.					02-650-99				0.00	0.00	[illegible]	
									Acct Sub Total		84.11	0.00
571610	821401	032587	VO	12-89	12-89	031261	12/28/89	PNEL		0.000		
					02-650-99				0.00	0.00	[illegible]	
571610	821401	032587	VO	12-89	12-89	031263	12/28/89	PNEL		0.000		
					02-650-99				0.00	0.00	[illegible]	
571610	821401	032587	VO	12-89	12-89	031319	12/28/89	ELECON		0.000		
					02-510-99				0.00	0.00	1533.41	
571610	821401	032590	AD	12-89	12-89	031356	12/29/89	PNEL		0.000		
Outside Services					01-650-99				0.00	0.00		[illegible]
									Acct Sub Total		7083.41	1960.00
573210	821401	032550	VO	12-89	12-89	030799	12/05/89	FEDERA		0.000		
					02-510-99				0.00	0.00	15.00	
573210	821401	032550	VO	12-89	12-89	030803	12/05/89	FEDERA		0.000		
					02-651-99				0.00	0.00	118.75	
573210	821401	032556	VO	12-89	12-89	030931	12/13/89	FEDERA		0.000		
Postage					02-651-99				0.00	0.00	68.75	
									Acct Sub Total		202.50	0.00
									Total		12961.52	1960.00

11,001.52

	12/31	12/15	Diff
[illegible] Task 650	[illegible]	3,714.11	4,747.17 ✓
[illegible] Task 510	[illegible]	15.00	2,151.68 ✓
Task 651	[illegible]	297.60	75.64 ✓
[illegible] Task 800	[illegible]	—	.32 ✓
	11,001.52	4,026.71	6,974.81

TOLS009411

BZTO104(e)046233

JAN 90

BZTO104(e)046234

Date 02/05/90
01 90 0830

[redacted] Corporation
Old Accounts Payable Distribution List
As Of 01/31/90

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Rept AP 669

222222 821401

Acct	Sub	Batch/ Job Phase	Jn Tp/ Cost	Pd Fn/ Type	Pd Post/ Transaction	Ref No/ Description	Trans Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
532610	821401	032602	VO	01-90	01-90	031453	01/04/90	GRANTR		0.000		
					02-650-99				0.00	0.00	88.60	
532610	821401	032612	VO	01-90	01-90	031556	01/06/90	SCHWEI		0.000		
					02-650-99				0.00	0.00	30.00	
532610	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	60.00	
532610	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	315.00	
532610	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	45.00	
532610	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-651-99				0.00	0.00	[redacted]	
532610	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	75.00	
532610	821401	032625	VO	01-90	01-90	031770	01/12/90	SCHWEI		0.000		
					02-650-99				0.00	0.00	60.00	
532610	821401	032625	VO	01-90	01-90	031771	01/12/90	SCHWEI		0.000		
					02-650-99				0.00	0.00	200.00	
532610	821401	032642	VO	01-90	01-90	032018	01/20/90	SCHWEI		0.000		
					02-650-99				0.00	0.00	75.00	
532610	821401	032661	VO	01-90	01-90	032194	01/25/90	SCHWEI		0.000		
					02-650-99				0.00	0.00	30.00	
532610	821401	032668	VO	01-90	01-90	032330	02/01/90	SCHWEI		0.000		
					02-650-99				0.00	0.00	60.00	
532610	821401	032668	VO	01-90	01-90	032351	02/01/90	GRANTR		0.000		
					02-650-99				0.00	0.00	88.60	
								Acct Sub Total			1232.20	0.00
533610	821401	032674	VO	01-90	01-90	032428	02/02/90	MONTOY		0.000		
					02-651-99				0.00	0.00	[redacted]	
541410	821401	032640	VO	01-90	01-90	031974	01/19/90	PGE		0.000		
					02-650-99				0.00	0.00	2672.55	
541410	821401	032642	VO	01-90	01-90	031999	01/20/90	CLARK		0.000		
					01-510-99				0.00	0.00	16.20	
								Acct Sub Total			2688.75	0.00
542010	821401	032629	VO	01-90	01-90	031810	01/13/90	BORTHE		0.000		
					02-650-99				0.00	0.00	13.00	
542810	821401	032607	AD	01-90	01-90	031459	01/05/90	USW-PO		0.000		
					02-510-99				0.00	0.00		337.37
542810	821401	032608	VO	01-90	01-90	031462	01/05/90	USW PO		0.000		
					02-510-99				0.00	0.00	182.72	
542810	821401	032615	VO	01-90	01-90	031714	01/08/90	USWCOM		0.000		
					01-510-99				0.00	0.00	157.38	
								Acct Sub Total			340.10	337.37
550510	821401	032629	VO	01-90	01-90	031810	01/13/90	BORTHE		0.000		
					02-650-99				0.00	0.00	5.50	
550710	821401	032615	VO	01-90	01-90	031700	01/08/90	SIGMA		0.000		
					01-600-40				0.00	0.00	92.32	

TOLS009412

TOLS009413

BZTO104(e)046235

Trove Corporation
Ptd Accounts Payable Distribution List
As Of 01/31/90

222222 821401

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/	Pd En/ Type	Pd Post/ Transaction	Ref No/ Description	Trans Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
550910	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	81.22	
550910	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	9.66	
550910	821401	032625	VO	01-90	01-90	031772	01/12/90	RECLAS		0.000		
					02-651-99				0.00	0.00	[illegible]	
550910	821401	032629	VO	01-90	01-90	031810	01/13/90	BORTHE		0.000		
					02-650-99				0.00	0.00	275.79	
550910	821401	032631	VO	01-90	01-90	031831	01/17/90	BORTHE		0.000		
					02-650-99				0.00	0.00	35.93	
550910	821401	032640	VO	01-90	01-90	031977	01/19/90	BORTHE		0.000		
					02-651-99				0.00	0.00	[illegible]	
550910	821401	032658	VO	01-90	01-90	032130	01/24/90	STJHAR		0.000		
					02-650-99				0.00	0.00	68.23	
550910	821401	032665	VO	01-90	01-90	032227	01/31/90	HIGH-P		0.000		
					02-650-99				0.00	0.00	19.80	
										Acct Sub Total	913.24	0.00
560510	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-651-99				0.00	0.00	[illegible]	
560510	821401	032629	VO	01-90	01-90	031810	01/13/90	BORTHE		0.000		
					02-650-99				0.00	0.00	150.00	
560510	821401	032638	VO	01-90	01-90	031859	01/19/90	GELCO		0.000		
					02-650-99				0.00	0.00	233.70	
560510	821401	032638	VO	01-90	01-90	031875	01/19/90	CLYDE		0.000		
					02-520-99				0.00	0.00	[illegible]	
560510	821401	032638	VO	01-90	01-90	031877	01/19/90	UNIEQU		0.000		
					02-651-99				0.00	0.00	[illegible]	
560510	821401	032658	VO	01-90	01-90	032094	01/24/90	HERTZP		0.000		
					02-650-99				0.00	0.00	214.16	
560510	821401	032658	VO	01-90	01-90	032095	01/24/90	E&SC		0.000		
					02-650-99				0.00	0.00	495.75	
560510	821401	032671	VO	01-90	01-90	032406	02/02/90	CLYDE		0.000		
					02-651-60				0.00	0.00	[illegible]	
										Acct Sub Total	2248.72	0.00
560910	821401	032612	VO	01-90	01-90	031557	01/06/90	BORTHE		0.000		
					02-650-99				0.00	0.00	5.00	
560910	821401	032629	VO	01-90	01-90	031810	01/13/90	BORTHE		0.000		
					02-650-99				0.00	0.00	32.75	
560910	821401	032631	VO	01-90	01-90	031831	01/17/90	BORTHE		0.000		
					02-650-99				0.00	0.00	17.90	
560910	821401	032674	VO	01-90	01-90	032428	02/02/90	MONTOY		0.000		
					02-651-99				0.00	0.00	[illegible]	
										Acct Sub Total	139.25	0.00
571610	821401	032612	VO	01-90	01-90	031537	01/06/90	ELECON		0.000		
					02-650-99				0.00	0.00	195.78	
571610	821401	032614	VO	01-90	01-90	031609	01/08/90	PNET		0.000		
					02-650-99				0.00	0.00	980.00	
571610	821401	032641	VO	01-90	01-90	031989	01/19/90	PNET		0.000		
					02-650-99				0.00	0.00	140.00	

BZTO104(e)046236

Date 02/05/90
01-90-0830

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 01/31/90

??????? 821401

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/ Type	Pd Fn/	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
571610	821401	032641	VO	01-90	01-90 02-650-99	031990	01/19/90	PNEL		0.000		
571610	821401	032679	AD	01-90	01-90 02-200-99	032441	02/03/90	HARRIG	0.00	0.00 0.000	805.00	
571610	821401	032680	VO	01-90	01-90 02-200-99	032445	02/03/90	HARRIG	0.00	0.00 0.000		1250.00
									0.00	0.00	200.00	
								Acct Sub Total			2320.78	1250.00
573210	821401	032612	VO	01-90	01-90 02-650-99	031484	01/06/90	AIRBOR	0.00	0.000 0.00	7.50	
573210	821401	032612	VO	01-90	01-90 02-650-99	031544	01/06/90	FEDERA	0.00	0.000 0.00	42.50	
573210	821401	032626	VO	01-90	01-90 02-650-99	031795	01/12/90	FEDERA	0.00	0.000 0.00	55.50	
								Acct Sub Total			105.50	0.00
								Total			9679.42	1587.37

8,092.05

Activity 650 = 7684.48
Activity 651 = 1181.21
Activity 510 = 18.93
Activity 600 = 52.32
Activity 520 = 205.11
Activity 200 = <1050.00>

8,092.05

TOLS009414

Date 03/01/90
02-90-0854

Ecova Corporation
Ptd Accounts Payable Distribution List
As Of 02/28/90

FEB.90

222222 821401

Acct	Sub	Batch/ Job-Phase-Cost	In Tp/	Pd Fn/ Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
528010	821401	032717	VO	02-90	02-90 02-520-99	033056	02/26/90	CENOCC	0.00	0.000 0.00	106.90	
532510	821401	032710	VO	02-90	02-90 02-650-60	032846	02/17/90	DELTAI	0.00	0.000 0.00	34.88	
532510	821401	032710	VO	02-90	02-90 02-651-60	032847	02/17/90	DELTAI	0.00	0.000 0.00	[redacted]	
								Acct Sub Total			174.40	0.00
532610	821401	032685	VO	02-90	02-90 02-651-99	032489	02/08/90	SCHWEI	0.00	0.000 0.00	[redacted]	
532610	821401	032701	VO	02-90	02-90 02-650-99	032776	02/16/90	BORTHE	0.00	0.000 0.00	75.00	
532610	821401	032701	VO	02-90	02-90 02-650-99	032777	02/16/90	BORTHE	0.00	0.000 0.00	390.00	
532610	821401	032701	VO	02-90	02-90 02-650-99	032778	02/16/90	BORTHE	0.00	0.000 0.00	30.00	
532610	821401	032701	VO	02-90	02-90 02-651-99	032783	02/16/90	BORTHE	0.00	0.000 0.00	[redacted]	
532610	821401	032701	VO	02-90	02-90 02-650-99	032787	02/16/90	BORTHE	0.00	0.000 0.00	75.00	
532610	821401	032705	VO	02-90	02-90 02-650-99	032826	02/17/90	SCHWEI	0.00	0.000 0.00	275.00	
								Acct Sub Total			1235.00	0.00
533610	821401	032685	VO	02-90	02-90 02-651-99	032494	02/08/90	MAZIAR	0.00	0.000 0.00	[redacted]	
533610	821401	032701	VO	02-90	02-90 02-651-40	032781	02/16/90	SKOGER	0.00	0.000 0.00	[redacted]	
								Acct Sub Total			175.00	0.00
541410	821401	032686	VO	02-90	02-90 02-510-99	032539	02/08/90	CLARK	0.00	0.000 0.00	[redacted]	
541410	821401	032696	VO	02-90	02-90 02-650-99	032714	02/14/90	PGE	0.00	0.000 0.00	622.41	
541410	821401	032705	VO	02-90	02-90 02-650-99	032825	02/17/90	SCHWEI	0.00	0.000 0.00	162.21	
								Acct Sub Total			799.25	0.00
542810	821401	032686	VO	02-90	02-90 02-650-99	032545	02/08/90	USW-PO	0.00	0.000 0.00	139.17	
542810	821401	032687	VO	02-90	02-90 PHONE 651	032596	02/09/90	MCITEL	0.00	0.000 0.00	[redacted]	
542810	821401	032701	VO	02-90	02-90 02-651-99	032783	02/16/90	BORTHE	0.00	0.000 0.00	[redacted]	
542810	821401	032710	VO	02-90	02-90 02-651-60	032847	02/17/90	DELTAI	0.00	0.000 0.00	[redacted]	
								Acct Sub Total			166.24	0.00
550910	821401	032685	VO	02-90	02-90 02-651-99	032494	02/08/90	MAZIAR	0.00	0.000 0.00	[redacted]	
550910	821401	032689	VO	02-90	02-90 02-650-99	032631	02/09/90	HIGH-P	0.00	0.000 0.00	17.16	

BZTO104(e)046237

TOLS009415

Acct	Sub	Batch/ Job-Phase-Cost	Tn Tp/ Pd Tp	Pd Pr/ Pd Type	Pd Post/ Transaction	Ref No/ Description	Tran Date/	Ven ID/ Unit	Rate Base/ Qty	Rate Unit Price	Debit Amt	Credit Amt
550910	821401	032701	VO	02-90	02-90	032783	02/16/90	BORTHE		0.000		
					02-651-99				0.00	0.00	[redacted]	
550910	821401	032701	VO	02-90	02-90	032787	02/16/90	BORTHE		0.000		
					02-650-99				0.00	0.00	188.73	
550910	821401	032705	VO	02-90	02-90	032807	02/17/90	NEIDEC		0.000		
					01-650-99				0.00	0.00	3.68	
								Acct Sub Total			266.77	0.00
560510	821401	032685	VO	02-90	02-90	032470	02/08/90	GELCO		0.000		
					02-510-99				0.00	0.00	[redacted]	
560510	821401	032714	VO	02-90	02-90	032955	02/22/90	GELCO		0.000		
					02-510-99				0.00	0.00	[redacted]	
560510	821401	032714	VO	02-90	02-90	032956	02/22/90	CLYDE		0.000		
					02-651-60				0.00	0.00	[redacted]	
								Acct Sub Total			697.38	0.00
560910	821401	032685	VO	02-90	02-90	032494	02/08/90	MAZIAR		0.000		
					02-651-99				0.00	0.00	[redacted]	
560910	821401	032701	VO	02-90	02-90	032778	02/16/90	BORTHE		0.000		
					02-650-99				0.00	0.00	79.20	
560910	821401	032701	VO	02-90	02-90	032781	02/16/90	SKOGER		0.000		
					02-651-40				0.00	0.00	[redacted]	
								Acct Sub Total			239.60	0.00
650510	821401	032716	VO	02-90	02-90	033015	02/22/90	EQUSUP		0.000		
					SUPPLIES-OFFICE	650			0.00	0.00	947.50	
								Total			4808.04	0.00

[redacted] Activity 650 = 3,039.94
Activity 651 = 1,115.53
Activity 520 = 105.78
[redacted] Activity 510 = 545.61
4,808.04

BZTO104(e)046238

TOLS009416

E C O V A

March 19, 1990

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

P.N. 821401

Dear Fred:

In response to your call this morning with respect to the emergency problem with one of the reactors, we have contacted Mike at the Northwest Terminal site. It appears that after our weekly site maintainance on March 14 there was a significant rainfall which resulted in one of the tanks filling to over capacity. This overflow resulted in a situation where the sump pumps proceeded to cycle water between the tank and the sump. We have turned off the pumps to break the cycle and will have Dan Schweigle and/or Jim Borthen on site late Tuesday afternoon or early Wednesday morning. We will then transfer water from the sumps and reactors to the 700,000 gallon storage tank.

I estimate that this work will probably be a two day activity. We will be submitting to you an itemized bill for the associated labor and travel expenses. If you have any other questions or concerns please don't hesitate to call me.

Sincerely,

Bill Mahaffey

William R. Mahaffey, Ph.D.
Project Manager

cc: Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

TOLS009417

BZTO104(e)046239

3/19/20

Per Mike Delaschmit

One of the reactor tanks is overflowing.

11:05 gave info to Bill Mahaffey. Said he'd get right on it

1:07 - Mike D. will turn off the sump

Ecova will transfer water into the TOC tank that already is storing water. Just connect some hoses - no change order needed - just incidentals

TOLS009418

BZTO104(e)046240

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TIME
PRODUCTS TIME TESTED

THE TIME IS TIME

TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

March 14, 1990

ECOVA Corp.
Attn: John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

Dear John:

As you requested, the following is my summary of our March 9, 1990 status meeting on the Northwest terminal pentachlorophenol cleanup project:

ECOVA expressed the position that the project has gotten "far afield of the original contract." Over the last year, ECOVA has invested much research and development into trying to solve the problem of interference created by the presence of "solvents." Accordingly, ECOVA is faced with an "impossibility of performance" situation. ECOVA suggested an entirely new contract.

Time pointed out that a new contract would reopen the entire bid process. An alternate approach would be to issue two major change orders. The first would cover negotiations with the DEQ to set a cleanup level that everyone can live with. ECOVA's billing on this task would be on a time & materials basis as provided for in Task 2.3.2 of the Work Plan. The second change order would address ECOVA's costs incurred as a result of the "solvents." ECOVA agreed that the change order approach would be preferable to a new contract. ECOVA pointed out that negotiations with the DEQ might result in changes being required in the Work Plan, which would necessitate another change order.

It was agreed by ECOVA that a higher cleanup standard, negotiated with the DEQ, would substantially solve their technical problems. ECOVA pointed out that the negotiation process will need to address both the solvents and dioxin.

ECOVA stated that $505,000 has been spent to date on this project. Time again asked for a detailed breakdown so that it could be seen how the money was spent. (This request was made at our last status meeting on 2/7/90.) ECOVA promised to provide a cost breakdown late this week (3/16). It is necessary to be able to identify what costs could properly be attributed to interference from the solvents. ECOVA was not very hopeful that their cost records would be detailed enough to show that. Time suggested that ECOVA's changes in personnel have caused project management inefficiencies that could account for a substabtial portion of the over-run. ECOVA did not agree. Time pointed out that the work ECOVA has done on soil washing is part of the contract, in that it is called for in the Work Plan.

Time asked for a complete identification of ECOVA's problems and what it will take to fix it, including a detailed letter proposing contract changes. ECOVA agreed and also promised to provide an analysis of project correspondence to support their position.

Sincerely,

Fred Proby
Environmental Specialist

TOLS009420

M E M O R A N D U M

March 13, 1990

TO: File Seattle

FROM: Fred Proby Seattle

SUBJECT: NW PENTA PROJECT MARCH STATUS MEETING

On March 9, 1990, Joe Sanzo and myself met with John Kinsella, Bill Mahaffey and Rod Carr of ECOVA to discuss the status of the Northwest Terminal pentachlorophenol cleanup project. My summary of the meeting follows:

Rod Carr expressed ECOVA's position that the project has gotten "far afield of the original contract." Over the last year, ECOVA has invested much research and development into trying to solve the problem of interference created by the presence of "solvents." Accordingly, ECOVA is faced with an "impossibility of performance" situation. Rod suggested an entirely new contract.

It was pointed out that a new contract would reopen the entire bid process. An alternate approach would be to issue two major change orders. The first would cover negotiations with the DEQ to set a cleanup level that everyone can live with. ECOVA's time on this task would be on a time & materials basis as provided for in Task 2.3.2 of the Work Plan. The second change order would address ECOVA's costs incurred as a result of the "solvents." ECOVA agreed that the change order approach would be preferable to a new contract. ECOVA pointed out that negotiations with the DEQ might result in changes being required in the Work Plan, which would necessitate another change order.

It was agreed by ECOVA that a higher cleanup standard, negotiated with the DEQ, would substantially solve their technical problems. The negotiation process will need to address both the solvents and dioxin.

ECOVA stated that $505,000 had been spent by them to date on this project. Time again asked for a detailed breakdown so that it could be seen how the money was spent. (This request was made at our last status meeting on 2/7/90.) ECOVA promised to provide a cost breakdown late this week (3/16). It is necessary to be able to identify what costs could properly be attributed to interference from the solvents. ECOVA was not very hopeful that their cost records would be detailed enough to show that. I suggested that ECOVA's changes in personnel have caused project management inefficiencies that could account for a substabtial portion of the over-run. ECOVA did not agree. [See my analysis below] Joe pointed out that the work ECOVA has done on soil washing is part of the contract, in that it is called for in the Work Plan.

Joe asked for a complete identification of ECOVA's problems and what it will take to fix it, including a detailed letter proposing contract changes. Rod Carr promised to provide an analysis of project correspondence to support their position.

The following points were not brought up at the meeting, but are relevant to ECOVA's claim that personnel changes are not responsible for the cost over-run:

In the 17 months since the Contract was signed, there have been three project managers - Mark Anderson, Dave Edwards and Bill Mahaffey, two site managers - Charles Thayers and Jim Borthen and at least three main project engineers - John Hancock, Jeff Powell and Jack Kash. I became concerned enough about the personnel changes that I requested a meeting on the subject on August 10, 1989 (at the Mark Anderson - Dave Edwards transition). ECOVA assured me they could complete the work. The personnel changes were, in most cases, quite abrupt so that the new man basically had to start from scratch. For example, when Jim Borthen took over field operations, nothing had been written down about how the equipment was supposed to work, so he had to figure it all out for himself. After Mark Anderson and John Hancock left, Dave Edwards decided to abandon the soil washing approach. I argued against the idea in a meeting held on August 18, 1989, but Dave Edwards was convinced that the sand would stay in suspension, so the first batch was run to test Dave's theory. Since that time, ECOVA has continued to experiment with soil washing. This lack of consistency and tinkering with the plan can not help but eat up money.

3/9/90 PLP

Status Meeting - NW Pentex

Joe & Fred, Kinsella, Mahaffy & Carr

Rod Carr

- We've gotten far afield of the original contract.
- Solvent interference was discovered a year ago.
- Ecova is faced with "impossibility of performance" under contract
  ∴ needs a new contract.

Joe

- We need a complete identification of the problem & what it takes to fix.
- Washing is an original component of the project.

Bill

- One ques. is how will DEQ respond to solvents?

Rod

- $505,000 spent to date - should have a breakdown late next week

Joe

- We need a detailed letter proposing contract changes.

TOLS009423

BZTO104(e)046245

COVA

February 20, 1990

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

P.N. 821401

Dear Fred:

During the February 7, 1990 meeting with you and Joe Sanzo, we discussed the need to negotiate a cleanup level for PCP, other chlorinated phenols as well as uncharacterized hydrocarbons present in the soil stockpile at the Northwest Terminal. You specified this as an item that would be covered on a time and materials basis under the heading of Agency Interaction. In our discussions we identified four activities as part of the scope of work to be performed under this task.

- Groundwater sampling and analysis
- Further characterization of stockpile contaminants
- Revision of the Work Plan
- Reports and Meetings with ODEQ

Groundwater Sampling and Analysis

Execution of this activity will require the preparation of a sampling plan, actual site sampling and chemical analysis. We have made the assumption that there are 11 wells which will be sampled and analyzed for PCP and other chlorinated phenols as well as for total petroleum hydrocarbons. To meet QA/QC requirements one duplicate and one equipment blank will be required for the analytical method performed.

Further Characterization of Stockpile Contaminants

Under this activity two composite samples, each a composite of five discrete samples from the stockpile, will be analyzed for chlorinated dioxins and furans. In addition, a characterization of the hydrocarbon/solvent component will be performed by gas chromatographic fingerprinting analysis and some GCMS profiling.

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

E C O V A

Work Plan Revision

As we have discussed, due to the interferences of the hydrocarbon/solvent component the cleanup level of 0.5 ppm total PCP and associated chlorophenols is no longer an achievable target. In addition it will be necessary to implement a soil washing process which was not covered in the original scope of work. Therefore to proceed with a remedial action program the Work Plan will require substantial revision before presentation to Time Oil and ODEQ.

Reports and Meetings

I anticipate that you will be requiring summary reports of the work performed under each of these activities. In addition there will probably be a significant number of discussions between Ecova, Time Oil and ODEQ. For budgeting purposes I have assumed that there will be a minimum of two meetings at ODEQ which will require my presence.

Below is the estimated budget for the activities I have outlined above. Please contact me at your convenience if you have any questions with this proposed scope of work.

Groundwater Sampling and Analysis	$12,650
Further Characterization of Stockpile	$12,420
Work Plan Revision	$ 6,210
Reports and Meetings	$12,190
Project Management	$ 1,955
TOTAL	$45,400

The above estimates are based on our current T & M rate schedule (attached) and do not include any sales or use tax applied by governing bodies on labor equipment or materials used or purchased for this project.

Sincerely,

William R. Mahaffey

William Mahaffey, Ph.D.
Project Manager

TOLS009425

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

February 16, 1990

ECOVA Corporation
Attn: Mr. John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

Dear John:

I have just read your memo dated February 13, 1990 in which you summarized our February 7 status meeting. I feel it necessary to immediately respond to your comment regarding the Portland project budget. Time Oil Co did not agree to "underwrite a percentage" of any costs. Joe Sanzo and I did agree to discuss the issue of potentially out-of-scope work related to the presence of unanticipated chemicals which ECOVA claims to be interfering with the treatment process. Bill Mahaffey was asked to provide a detailed breakdown of ECOVA's costs for the purpose of identifying those that may be legitimate extra work items. We certainly cannot be expected to agree to costs that have not even been defined yet. Ecova's burden, which you, Bill and I have discussed on a number of occasions, is to demonstrate that work which is not covered by our contract was performed by ECOVA. Once that is established, then we have to deal with the question of why such work, being outside of the scope, was performed without a written change order.

Please call me as soon as possible next week (after 2/20) so we can discuss this further and clear up any misunderstanding.

Sincerely,

Fred Proby
Environmental Specialist

cc: Bill Mahaffey
Rod Carr

FLP.4

TOLS009426

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

February 15, 1990

Fred Proby, Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Dear Mr. Proby:

Enclosed are the results of the analyses of samples submitted on February 7, 1990 from Project NW Terminal Penta, 03-123 under PO #11018. As you can see from the enclosed chromatograms, none of the samples contain substantial amounts of either KB-3 or B-11.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Andrew John Friedman, Chemist

AJF

Enclosures

TOLS009427

BZTO104(e)046249

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 15, 1990
Date Submitted: February 7, 1990
Project: NW Terminal Penta, 03-123 under PO #11018

RESULTS OF ANALYSES OF SOIL SAMPLES
FOR PENTACHLOROPHENOL (PCP) BY GC/ECD
Results Reported as µg/g (ppm)

Sample #	PCP (ppm)
P1	4
P2	<1[a]
P3	2,500[b]

Quality Assurance

Method Blank	<1
P3 (Duplicate)	2,100
P3 (Matrix Spike) Spiked @ 100 ppm Percent Recovery	[c]

[a] - This sample contained a significant amount of a compound that elutes at a time consistent with a tetrachlorophenol.

[b] - Value reported exceeded the calibration range established for the sample.

[c] - The amount spiked was insufficient to give meaningful recovery data.

TOLS009428

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 15, 1990
Date Submitted: February 7, 1990
Project: NW Terminal Penta, 03-123 under PO #11018

RESULTS OF ANALYSES OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY

Sample #	GC Characterization
P1	The gas chromatographic trace was indicative of a mixture of products present at very low levels. The pattern is typical of waste oils. This characterization is based on the presence of a several relatively smooth envelopes of peaks, each indicative of at least one petroleum distillate. The first envelope in this sample begins at ca *n*-C_{15}, and merges with a second out at ca *n*-C_{22} and continues out beyond *n*-C_{35} (the end of our chromatographic range for this analysis).
P2	The gas chromatographic trace was indicative of low levels of what appear to be mostly biogenic compounds. This characterization is based on the presence of asymmetrical peaks indicative of polar compounds, eluting out beyond *n*-C_{20}, similar to those found in waxes and heavy plant oils.
P3	The gas chromatographic trace was indicative of a mixture of oils, the first with a retention pattern similar to a diesel fuel, and the other somewhat heavier, such as a heavy fuel oil. Both products appear to be fairly heavily weathered and degraded. There is a large polar peak in the middle of the chromatogram that is probably pentachlorophenol.

TIME OIL CO. SAMPLE LOG

Biz-D

Name: NW Terminal Penta | Prop. No: 03-123 | Address: N. Burgard
Sampler: Ecova | Date: 1/15/90 | Portland OR
Purpose: Identify unknowns | Method: Grab ☒ S.Spoon ☐ Bailer ☐ Pump ☐
Lab Name: F&B | Preserved: Ice ☒ Acid ☐ None ☐
Lab Address: | Phone: | PO No.: 11018

Sample #	Location/Description	Type*	Analysis Instructions	EPA Method
1	P1 - NE side of Soil Pile composite	(S) W P	Penta and Id unknowns	10811
2	P2 - NE side of Soil Pile	(S) W P	" " " "	12
3	P3 - Center W. side soil Pile	(S) W P	" " " "	13
4	-	S W P		
5	-	S W P		
6	-	S W P		
7	-	S W P		
8	-	S W P		
9	-	S W P		
10	-	S W P		
11	-	S W P		
12	-	S W P		
13	-	S W P		
14	-	S W P		
15	-	S W P		
16	-	S W P		
17	-	S W P		
18	-	S W P		
19	-	S W P		
20	-	S W P		
21	-	S W P		
22	-	S W P		

Other Instructions:

Sample Count = *Check sample jar count against Log!* * S = Soil W = Water P = Product

CHAIN OF CUSTODY RECORD

Relinquished By:	Received By:	Date & Time
Relinquished By:	Received For Lab By:	Date & Time: 2/7/90 2:30

GENERAL LAB INSTRUCTIONS

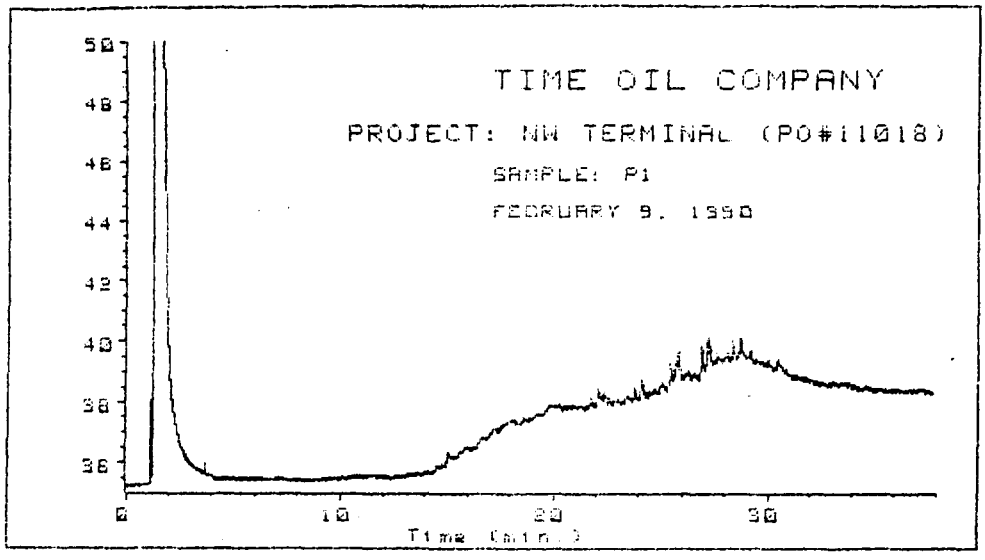
Please provide the requested information

1. Sample numbers assigned by Lab: _____ to _____ Date Analyzed: _____
2. Person performing analysis: _____ Data Reviewer: _____
3. Scheduled sample disposal date: _____ *NOTIFY TIME OIL CO. BEFORE DISPOSAL*
4. Provide copies of ALL chromatograms, including QA/QC runs.

IMPORTANT! PLEASE RETURN A COPY OF THIS FORM WITH YOUR REPORT TO TIME OIL CO.
Attn: Environmental Manager, PO Box 24447 Terminal Sta., Seattle, WA 98124 (206) 285-2400

TOLS009430

BZTO104(e)046252



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Z: null).
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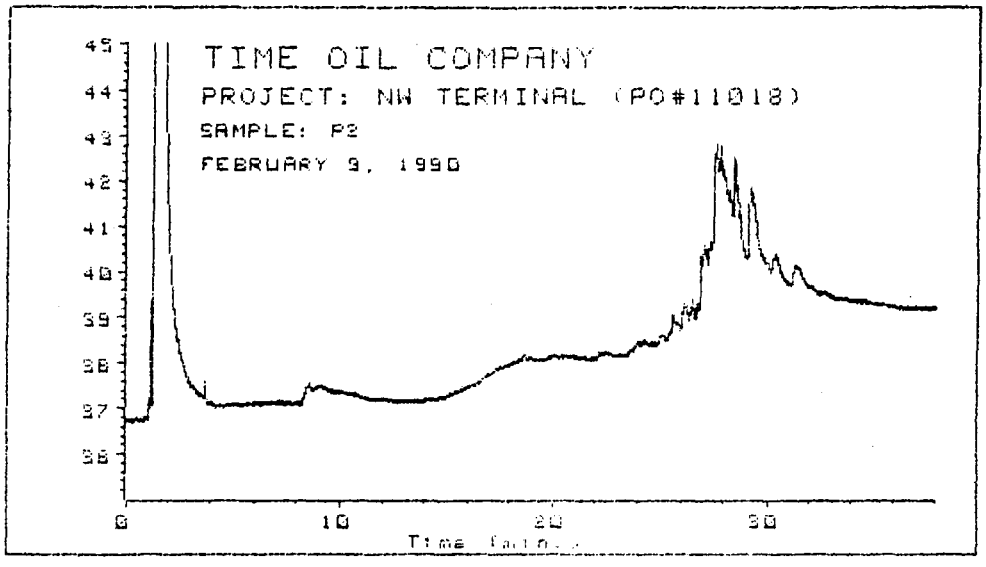
[DE]



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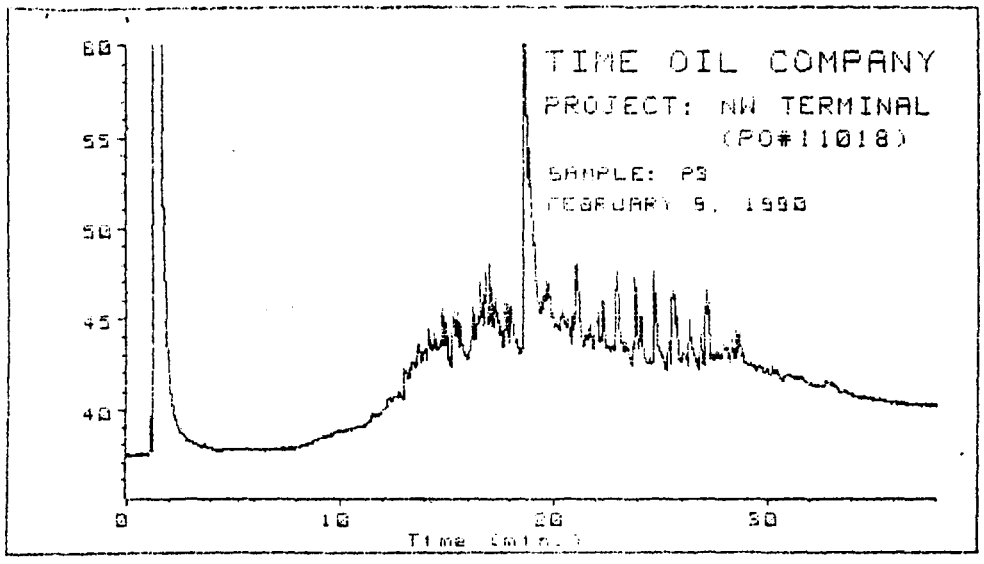
[DE]

TOLS009431



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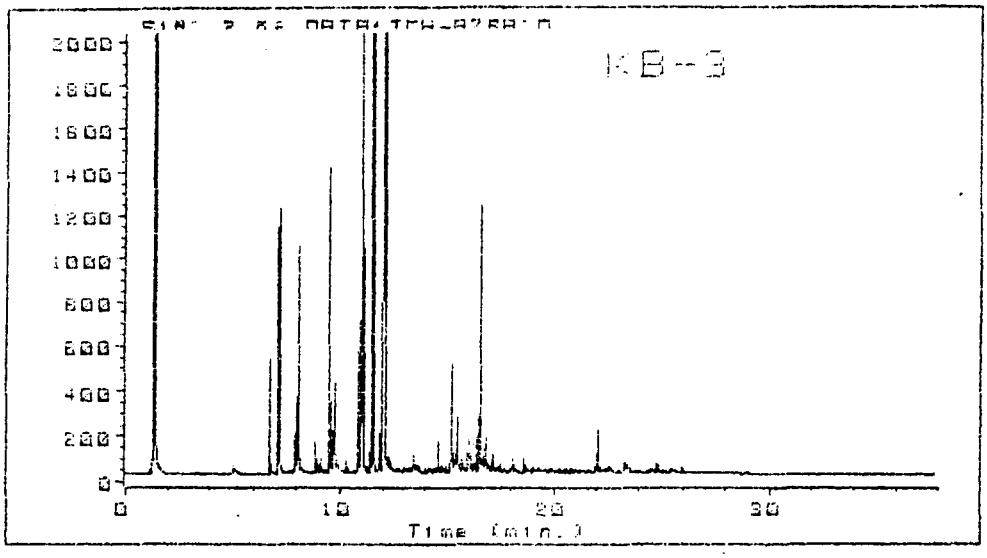
X: Sig. 1 of DATA:JLH_A80A.D

[DE]

New Data File | CHROMAT KEYS | GRAPHICS KEYS | MATH & LIST | Zoom In | Zoom Out | HELP | QUIT

TOLS009432



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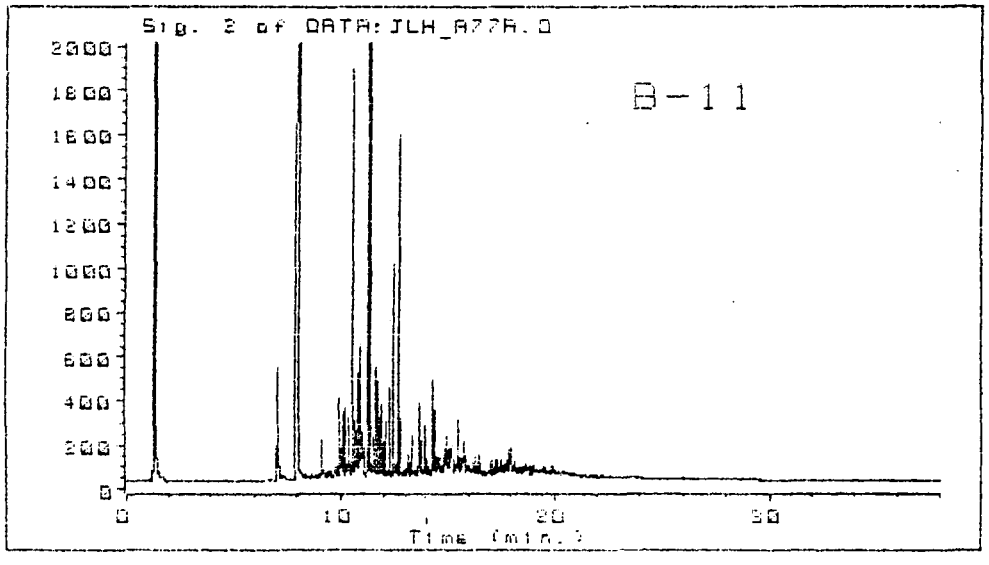

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Y: Sig. 2 of DATA:JLH_A77A.D
X: Sig. 1 of DATA:JLH_A77A.D

[DE]

TOLS009433

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

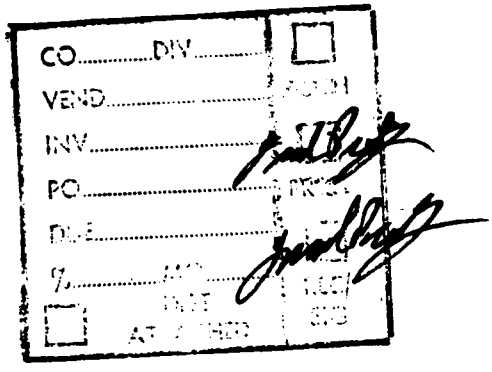
INVOICE #90TOC0215-1

February 15, 1990

Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Re: Billing for the analyses of environmental samples submitted on February 7, 1990 from Project NW Terminal Penta, 03-123 under PO #11018 and reported to Fred Proby, Environmental Specialist.

3 soil samples analyzed for Pentachlorophenol (PCP) by GC/ECD @ $85 per sample		$ 255.00
3 soil samples characterized by capillary gas chromatography @ $125 per sample	**PREFERRED CLIENT**	187.50
Amount Due		$ 442.50



TOLS009434

TIME OIL CO.

PURCHASE ORDER

BILL TO:
P.O. BOX 24447, TERMINAL STATION
SEATTLE, WASHINGTON 98124-0447

SHIP TO:
2737 WEST COMMODORE WAY
SEATTLE, WASHINGTON 98199-1233

PHONE (206) 285-2400

No. 11018
PLACE THIS NUMBER ON YOUR INVOICE AND ALL CORRESPONDENCE

TO Friedman & Bruya
3008 B 16th
Seattle WA

DATE 1/7/90

SHIP BY

V	QUANTITY	PART NO.	DESCRIPTION	LIST UNIT PRICE	NET UNIT PRICE	AMOUNT
	3		Analyze Soil From NW Terminal		125	375.00

FOR RESALE ☐ TAXABLE ☐

WASHINGTON STATE RESALE CERTIFICATE #C178-47526

TIME OIL CO.

BY _____

THIS PURCHASE IS EXPENSE OF: ☒ T.O.C. ☐ OTHER

DATE WANTED

IF T.O.C.

DEPARTMENT: Environmental

SERVICE STATION (SHOW ADDRESS AND OPERATOR):

EXPLANATION: Back-up analysis to ID unknown hydrocarbons

ACCOUNT NO

REQUESTED BY

APPROVED BY

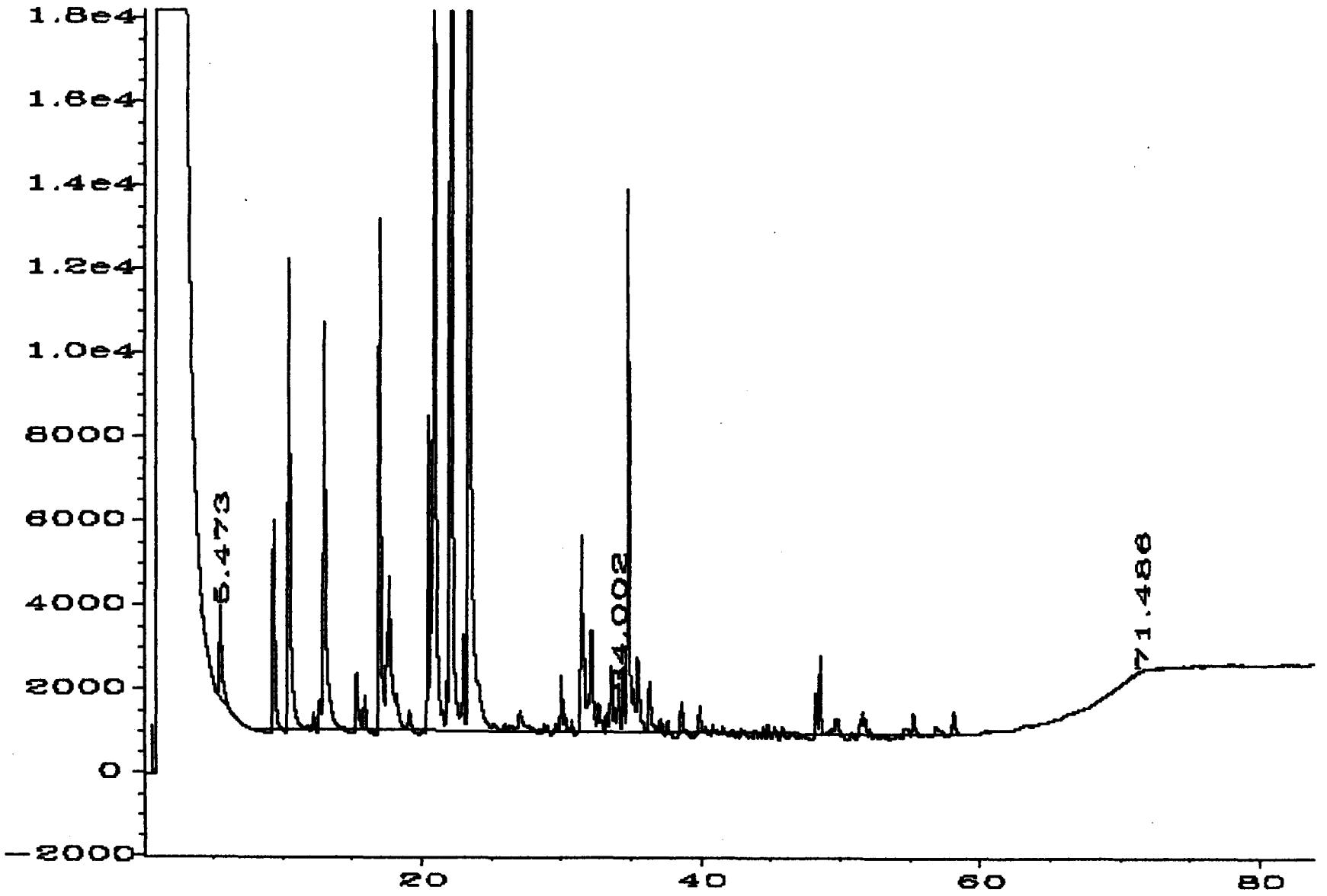
TAP-130 12/85

TOLS009435

BZTO104(e)046257

BZTO104(e)046258

TOLS009436



Sig. 2 in C:\HPCHEM\2\DATA\0030STD1.D

KB-3 standard

Ecova
2/7/90

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\0030STD1.D
Operator : John M. Ennis
Acquired on : 30 Jan 90 01:47 PM
Sample Name : 200 ppm standard
Run Time Bar Code:
Instrument Method: TPH.MTH
Analysis Method : TPH.MTH

Instrument : Perkin El
Vial Number :
Injection Number:
Sequence Line :

Sig. 2 in C:\HPCHEM\2\DATA\0030STD1.D

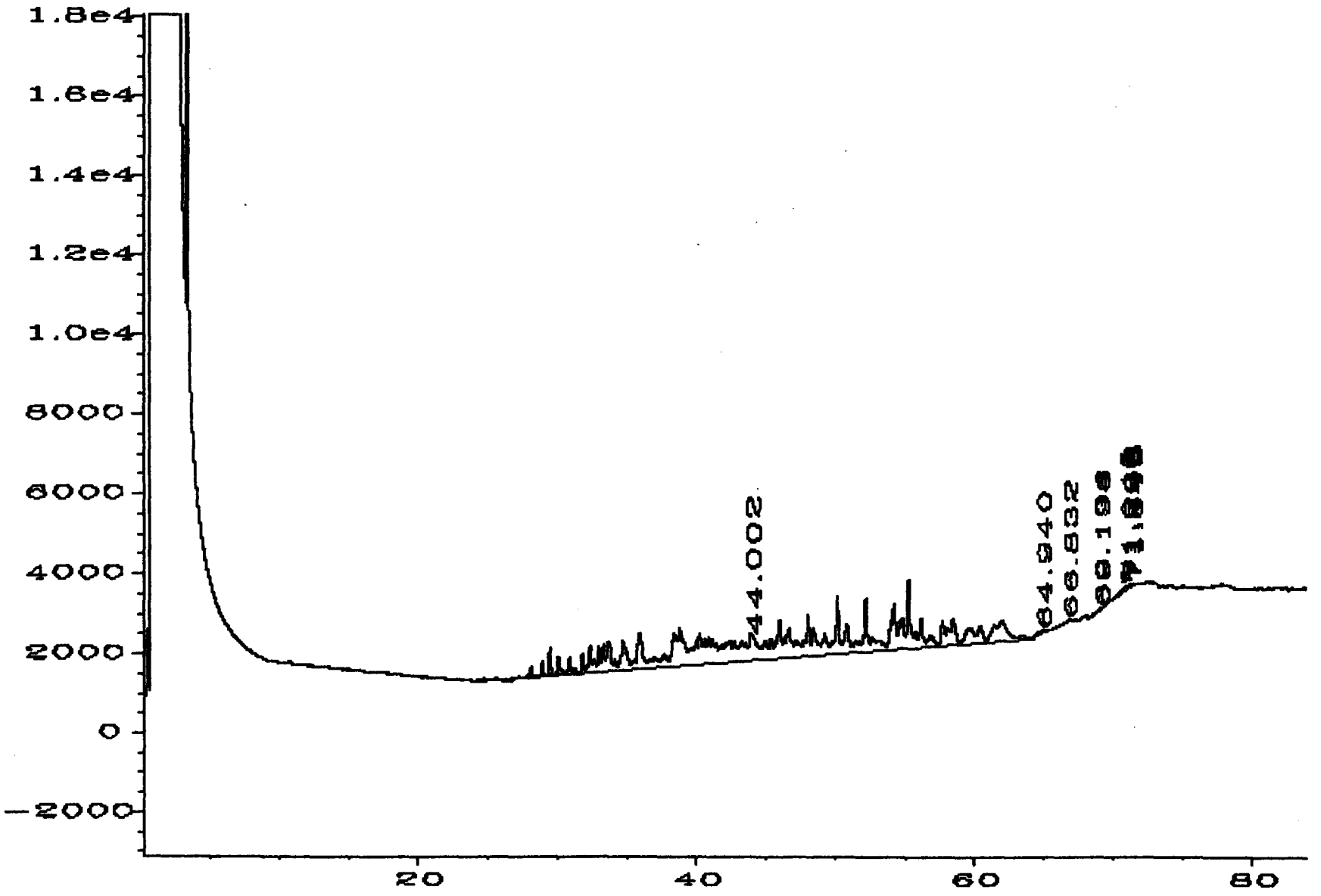
Pk#	Ret Time	Area	Height	Type	Width	Area %
1	5.473	26482	2176	BB	0.170	1.0107
2	34.002	2591623	89060	BB +	0.000	98.9138
3	71.486	1977	17	BV	1.390	0.0755

Total area = 2620083

TOLS009437

BZTO104(e)046260

TOLS009438



Sig. 2 in C:\HPCHEM\1\DATA\200343.D

#P1

Ecova
2/7/90

Area Percent Report

Data File Name : C:\HPCHEM\1\DATA\200343.D
Operator : jessie macmurchie
Acquired on : 27 Jan 90 12:51 PM
Sample Name : 200-34-3
Run Time Bar Code:
Instrument Method: TPH.MTH
Analysis Method : TPH.MTH

Instrument : Perkin El
Vial Number :
Injection Number:
Sequence Line :

Sig. 2 in C:\HPCHEM\1\DATA\200343.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	44.002	707834	1993	BB +	0.000	98.1067
2	64.940	1464	58	VB	0.307	0.2030
3	66.832	2245	93	VB	0.290	0.3111
4	69.134	1217	33	BV	0.436	0.1687
5	69.196	51	21	VV	0.038	0.0071
6	71.045	6856	112	PV	0.722	0.9502
7	71.236	1054	85	VV	0.150	0.1461
8	71.286	145	62	VV	0.039	0.0200
9	71.448	569	61	VV	0.116	0.0789
10	71.543	59	20	VV	0.039	0.0082

Total area = 721494

Area Percent Report

Data File Name : D:\200344.D
Operator : jessie macmurchie
Acquired on : 27 Jan 90 02:27 PM
Sample Name : 200-34-4
Run Time Bar Code:
Instrument Method: TPH.MTH
Analysis Method : TPH.MTH

Instrument : Perkin El
Vial Number :
Injection Number:
Sequence Line :

Sig. 2 in D:\200344.D

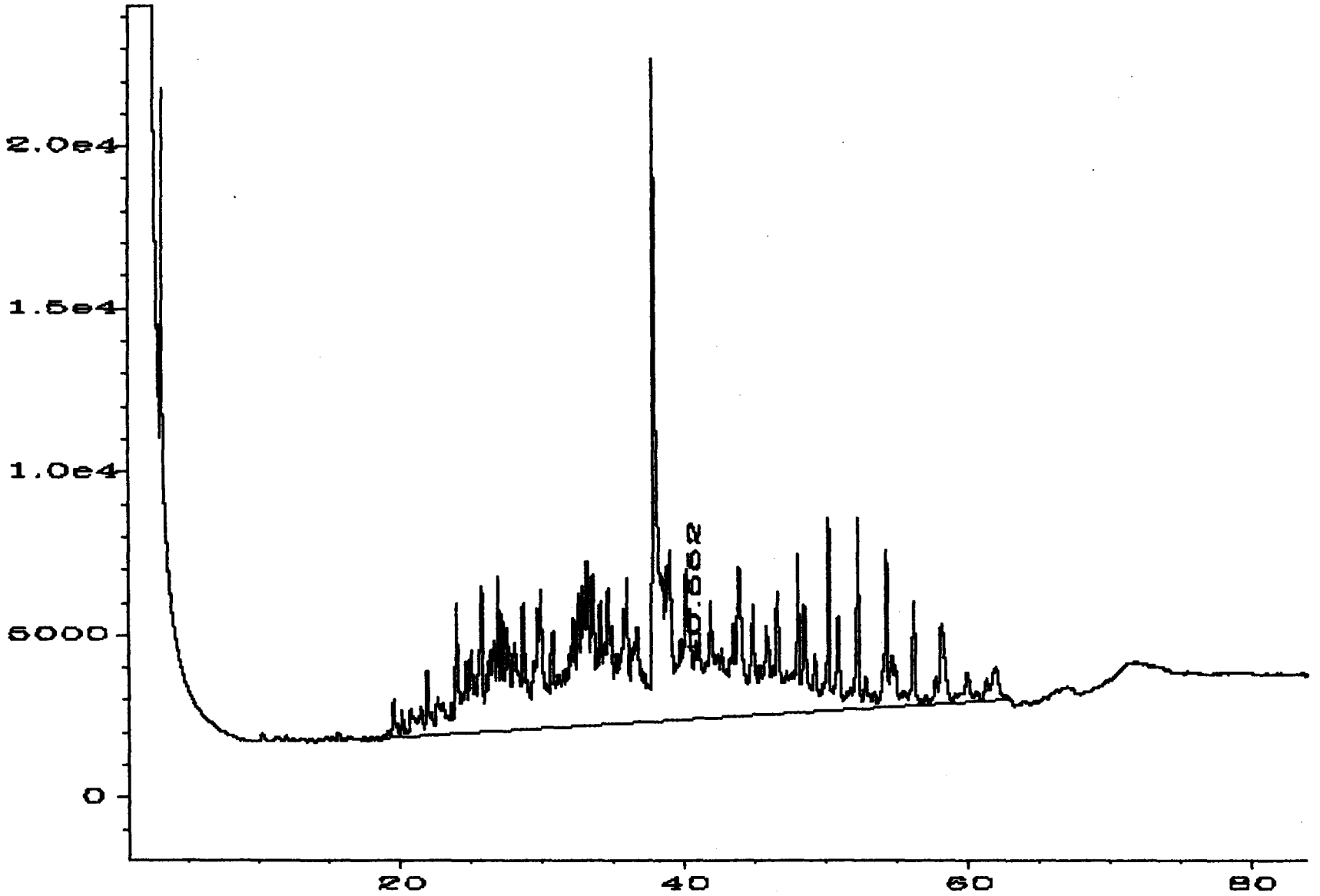
Pk#	Ret Time	Area	Height	Type	Width	Area %
1	47.032	3721706	17139	BB +	0.000	100.0000

Total area = 3721706

TOLS009440

BZTO104(e)046263

TOLS009441



Sig. 2 in D:\200345.D

P3

Ecova
2/7/20

Area Percent Report

Data File Name : D:\200345.D
Operator : jessie macmurchie
Acquired on : 27 Jan 90 04:09 PM
Sample Name : 200-34-5
Run Time Bar Code:
Instrument Method: TPH.MTH
Analysis Method : TPH.MTH

Instrument : Perkin El
Vial Number :
Injection Number:
Sequence Line :

Sig. 2 in D:\200345.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	40.552	4211539	20261	BBA+	0.000	100.0000

Total area = 4211539

TOLS009442

E C O V A

To: Fred Proby

From: John Kinsella

Date: February 13, 1990

RE: SUMMARY OF STATUS MEETING (02/07/90)

The following summarizes the status of the Visalia and Portland projects together with agreed action items and deliverables per our meeting of 2/7/90.

VISALIA (821407)

DHS Letter

A letter responding to the Tulare County DHS letter of 01/16/90 was submitted for your review. We agreed that soil chemistry data for the E- and M-series soil borings will support our contention that additional soil sampling and analysis is not required. Fred will supply this information to Don who will incorporate it into the letter. Don will also revise Figure 4 of the letter to reflect all well designations. He will then send the revised letter to Fred who will forward it to the DHS.

Free Product Recovery

The free product plume is currently centered on well M-2 and can be removed. The time taken to obtain approval of the full groundwater recovery and treatment system is 3-6 months; we should take interim action to capture the free product now before it moves further off site. We agreed that Jack Kash will contact DHS to explain the situation and put forward our plan to restart product recovery activities. We plan to proceed with this activity at the same time that the monitoring wells are being installed. We will bring a Baker Tank on site to store any recovered groundwater; free product will be removed by a recycler approved and contracted by Time Oil.

Monitoring Well Installation

A list of property owners of the proposed monitoring well locations have been identified and forwarded to Fred. Following owner, city and county approvals we will begin field work. At the present time we are targeting February 26, 1990 as a start date. The field program will be modified to take account of greater monitoring well

Corporate Office
3820 159th Avenue
Redmond, WA 9805.
(206) 883-1900
(206) 867-2210 FA

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

depths, no installation of the well nest (assuming DHS approves) and no soil sampling and analysis.

Budget and Schedule

The project budget will be adjusted to account for the additional drilling and the time taken in the current permit discussions with the DHS, RWQCB, and City of Visalia. A letter requesting a formal change order to the contract is enclosed. A new project schedule will be issued once a firm date for the drilling has been defined.

PORTLAND (821401)

Technology Development

The soil pile has been randomly tested and found to contain a range of contaminants in addition to PCP and mineral spirits. These contaminants (primarily solvents and heavy hydrocarbons) have prevented biological treatment of the PCP to the contracted 0.5ppm level. An alternative treatment method utilizing soil washing in conjunction with biotreatment has been extensively tested in the lab and in the field. While improving the level of cleanup, the 0.5ppm level has not been attained. The details of this work have been summarized in the January, 1990 monthly report. ECOVA has devoted extensive time and resources to this problem and believe we have developed a very efficient treatment process for a complex waste problem.

Project Budget

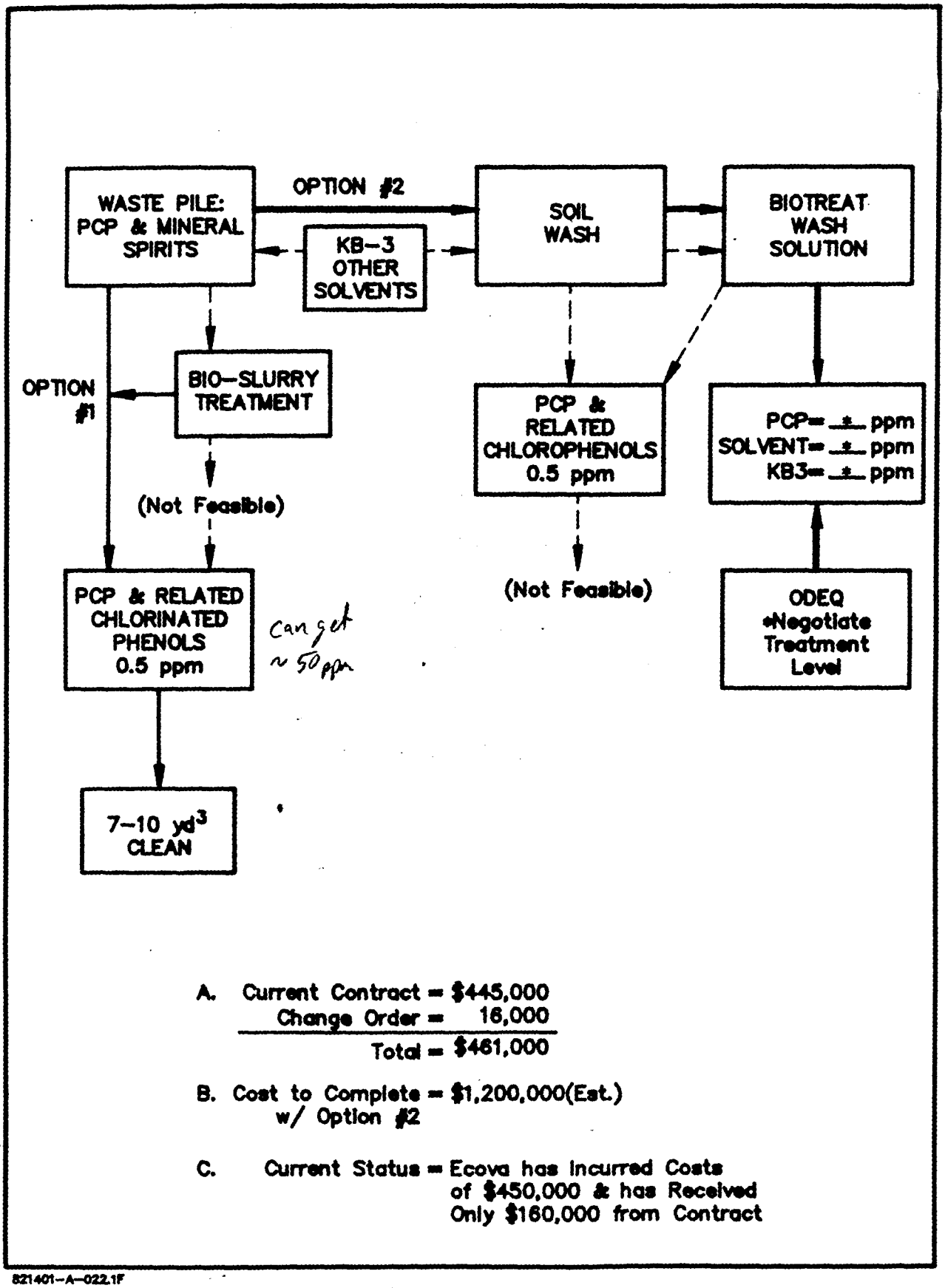
The total contract amount is $461,000; we have incurred costs of $450,000 and received $160,000 in payment. Time Oil agrees that it will underwrite a percentage of these costs due to the unforeseen site conditions. Bill Mahaffey will prepare a detailed listing of the costs incurred and forward for Fred and Joe's approval.

Cleanup Strategy

It was agreed that a cleanup plan for the site should be developed for submission and approval by Oregon DEQ. Bill will submit an estimate to perform this work on a T&M basis. Site operations have been shut down until resolution of the above items are achieved.

cc: Bill Mahaffey
Don Lance

Flow Diagram Current Status



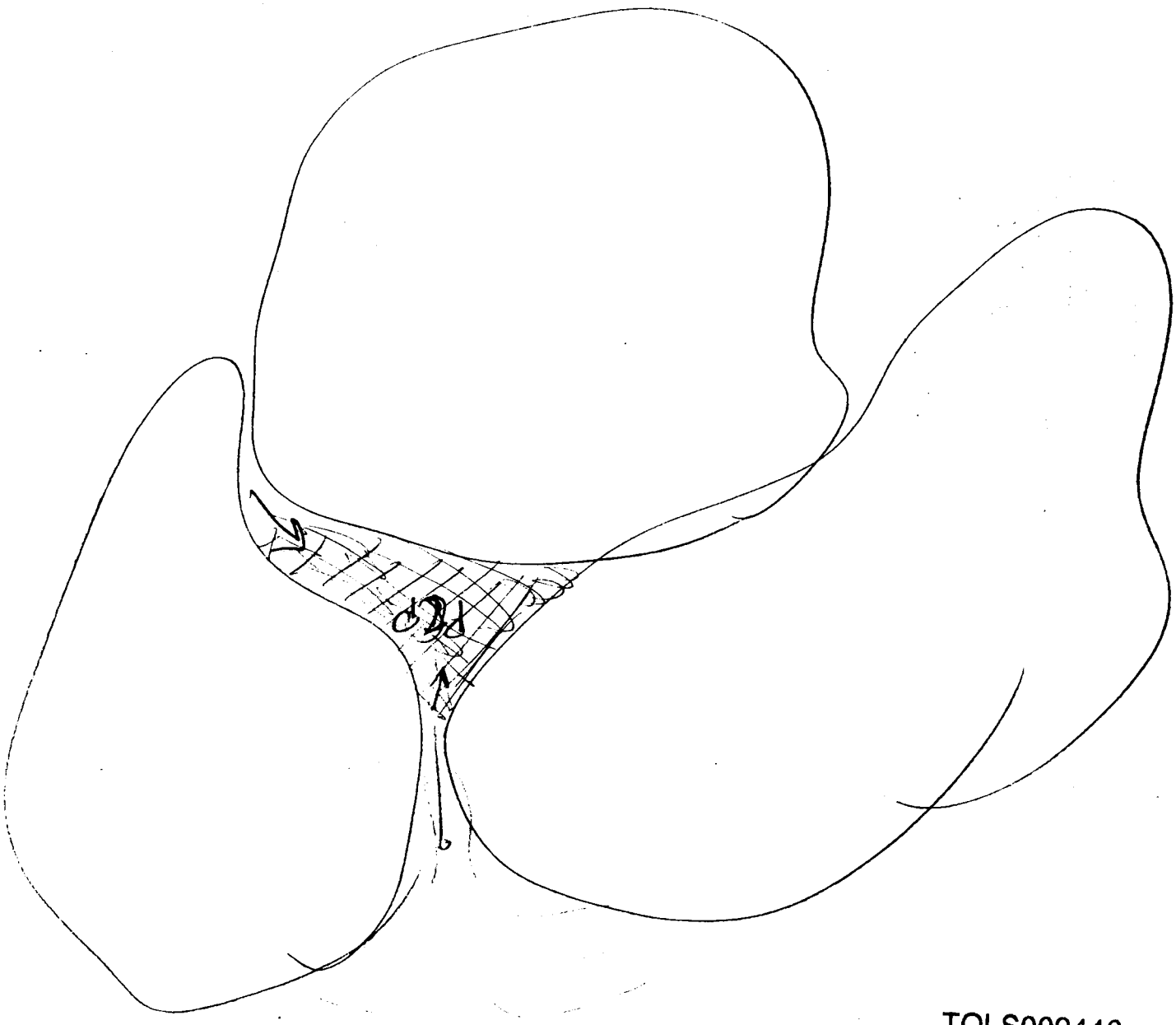
A. Current Contract = $445,000
Change Order = 16,000
Total = $461,000

B. Cost to Complete = $1,200,000(Est.)
w/ Option #2

C. Current Status = Ecova has Incurred Costs of $450,000 & has Received Only $160,000 from Contract

© 1990 ECOVA Corporation

821401-A-022.1F



TOLS009446

2/7/90

NW Penta Progress Meeting - Bill Mahaffey

Can't biotreat soil - need to soil wash & biotreat water.
KB3, et al are keeping penta on soil

Soil Pile is not uniform

Getting a 300 ppm TPH residual after soil is washed.
DEQ may want these cleaned up.
Ecova's spent $450K to date

Washing experiment ~ 200 ppm PCP → ~ [illegible]

Hydrocarb is absorbing to soil, PCP is partitioning [illegible]

F&B

Ecova Proposes

Ecova to budget

(3) Talk to DEQ Negotiate 50-100 ppm PCP cleanup
(1) Define all HCs on site
(2) Draft Revised work plan R
(5) Revise contract
(4) Final revised work plan
(1A) G. Water samples

Fred get TOC OK

- Need Dioxin analysis 2 composite of 5 @ $1200 ea

* What are Ecova's expenses? - Bill will provide breakdown for negotiation

TOLS009447

BZTO104(e)046269

ECOVA

January 29, 1990

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

P.N. 821401

RE: Monthly Progress Report

Dear Fred:

As I have discussed with you previously, Ecova is conducting several activities to assist Time Oil in meeting realistic cleanup criteria at the Portland site. We are making process modifications to our bioslurry system to achieve enhanced degradation, and we are evaluating a soil washing system to remove contamination. Both of these activities are focussed on attaining the 0.5 ppm cleanup criteria. However, due to the extraordinarily low value of this criteria we are also exploring means of satisfying regulatory requirements without attempting to stretch technology beyond reasonable limits. More specifically, we would like the Oregon DEQ to set a clean up level that is commensurate with other sites in Oregon or the U.S.

Field Activities

During the month of December we pumped the liquid phase of slurry reactor T1 to the 38 K tank. This was done for two reasons. First the liquid phase was judged to have nondetectable PCP levels and therefore an active biomass, which should enable processing of the liquid in this tank. Second, it was necessary to reduce the total amount of soil in T1 so that we could evaluate treatment at a lower solids ratio. The excess soil was pumped into T3 leaving approximately 12 yards of material in T1. Analysis of these soils indicated that the PCP levels were approximately 120 ppm. Reactor T1 was recharged with water to yield a 20% slurry. Our rationale was that increased agitation along with the lower solids concentration would increase the contact efficiency of the slurry and yield better cleanup. After 4 weeks of treatment the PCP concentration has been reduced to 30 ppm.

Soil Washing Feasability Studies

We have been performing treatability evaluations with a new soil washing system developed by Ecova. Results of the bench scale soil washing test were encouraging from the perspective of volume of material which could be processed per unit time. However, it was not possible to routinely reduce the levels below 3.0 ppm. Again, there appears to be a very strong impact by solvent and other hydrocarbons present on the soil even after several washes. These results reaffirm those obtained with the soil washing performed in November using the cement mixer process. In these experiments the PCP was reduced from 440 ppm to no lower than 17 ppm after three washes. Hydrocarbon analysis by IR demonstrated that initial TPH concentration was 550 ppm. After the third wash cycle the concentration had been reduced to 317 ppm, not a very encouraging result. This residual represents a potential sink for PCP, which the soil washing is not capable of handling at the present target cleanup level. I have recently requested GC analyses, of the hydrocarbon fraction, for these experiments and will present the results to you when they become available. We will be minimizing site operations for the next several weeks

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until we have the results from our pilot soil washing test which will occur the week of 1-29-90. I will keep you posted on the developments of this new technology as it pertains to site operations.

Cleanup Levels

While progress has been slow in attaining the 0.5 ppm cleanup criteria, I would like you to know that Ecova is achieving levels of cleanup which are still 2 to 10 fold lower than many other sites around the country. I am most excited about this accomplishment particularly when faced with the ever challenging problem of solvent contamination. We have tested a number of different techniques, in the field as well as at the bench scale level, to try and remedy this problem. I believe we have reached a juncture where some hard decisions must be made. The first option is to continue to attempt to attain the 0.5 ppm cleanup level for PCP and "related chlorinated phenols." This would continue to push the technology to unreasonable limits, not result in the satisfactory remediation of the site, and cause Ecova to sustain large losses. In fact we already have sustained considerable losses on this job. The second option is to enlist the support of Oregon Department of Environmental Quality (ODEQ) and negotiate a reasonable cleanup level. Ecova is prepared to support Time Oil in these negotiations. In fact, we believe strongly that it is in the best interest of Time Oil to do so.

We have discretely probed the regulatory agencies to ferret out clean up levels for PCP. The maximum allowable PCP level in soil, the Health Based Soil Level, is currently 2000 ppm but will soon be reduced to 500 ppm. ODEQ, as stated in their regulations, requires cleanup levels to background or detection limit. However ODEQ will modify the background requirement based on conditions existing at the site and based on available technology. This means that the level can be anywhere from 0 to 500 ppm.

DEQ gives the impression that they are reasonable about what this level should be. In order to the cleanup level, the polluter must petition DEQ stating the evidence, data, and justification for any particular level. DEQ will not write a letter stating a cleanup level until they have been consulted.

The ODEQ has identified projects where the cleanup levels were 200 and 500 ppm. At the Cascade Wood Products site, soil with PCP levels greater than 500 ppm were disposed of off site at a sanitary landfill. Of the soil under 500 ppm, that in excess of 20 ppm was consolidated and capped. Cascade is required to maintain groundwater monitoring for 3 years.

In view of the difficulties encountered at the Portland site it would seem appropriate and timely to enter into discussions with ODEQ for the purpose of negotiating a reasonable cleanup level. I also think it would be in Time Oil's best interest to consider the dioxin issue in greater detail before contacting DEQ. As I have indicated in several of our past discussions this could be a significant health and safety issue for on site operations. Finally, we have demonstrated, using site soil, the feasibility of soil washing. Cleanup levels in the range of 20 ppm to 50 ppm are well within the practical limits for removing PCP from the soil at the site using the soil washing technology.

Sincerely,

Bill Mahaffey

William R. Mahaffey, Ph.D.
Sr. Scientist/Project Manager

1/5/90 RLP

NW Penta Status - John Kinsella

Solvents are causing retention of penta

Is 0.5 ppm a fixed cleanup standard?
NO. Ok to discreetly approach DEQ about higher cleanup levels

Can wash soil down to 1 ppm with solvent present

Presently building an auger soil washing system. Might be able to get it on site late February.

1/29 Bill Mahaffey
Will start soil washing test w/ auger tomorrow 1/30
One-week test, then auger will go to Phoenix.
If it works, they'll bring the auger back or build another one.

Can't get penta off of soil due to hydrocarbons -
Waiting for GC Analysis

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BZTO104(e)046272

March 23, 1990

MEMORANDUM

TO: TIME OIL NORTHWEST TERMINAL PROJECT FILE, J.N. 821401

FROM: ROD CARR RAC

SUBJ: ANALYSIS OF MANPOWER ALLOCATION FOR PHASE II

1. One question that can be asked of the Phase II activities is whether the level of manpower allocation was reasonable. Do the hours charged to the effort represent a reasonable approach to the kind of activity that was underway? Is there evidence that hour were being charged in an inefficient, haphazard or unjustifiable manner?

2. In response to these questions the following can be gleaned from the data shown in the attached table:

   a) Senior and management time over the 12 month period appears to be quite reasonable. Full time equivalent of only 0.44 of a person was charged during the entire period. Good control was exercised over hours accepted by the project. Hours in this category carry a potential heavy impact given the higher billing rates.

   b) Project level charges totaled 0.63 of a person, mostly in the area of Project Engineer, the individual responsible for equipment related efforts as the Phase II work unfolded.

   c) Staff level charges totaled 0.22 of a person, this was mostly as engineering support for the equipment related activities.

   d) Field Technician resources came to 2.02 full time equivalents a direct reflection of the focused field effort that was underway, and indicative of the need for a pair of field personnel to operate together for health and safety reasons.

   e) Job charged internal support totaled 0.09 of a person and reveals the careful control of support services which were required for assistance to the job.

The overall picture is one of tight project management, protection of job resources, and allocation of manpower to support the dynamic and changing field activities which were underway for the 12 month period that Phase II required.

There is no evidence to suggest that the project was in anyway out of control. To the contrary, all evidence points to ECOVA's desire and success in minimizing costs as much as possible.

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MANPOWER ALLOCATION ANALYSIS - PHASE II (12 MONTH PERIOD)

TITLE	TOTAL HOURS	FULL TIME EQUIV.	HOURS BY ACTIVITY 200	510	520	600	651
PRINCIPAL	6	0.29%	--	--	2	4	--
SR. PROJECT MANAGER	674	32.40%	40	65.5	115	358.5	95
SR. SCIENTIST	138.5	6.66%	23	105	--	10.5	--
SR. HYDROGEOLOGIST	78	3.75%	--	--	22	56	--
SR. ENGINEER	20	0.96%	--	14	6	--	--
PROJECT ENGINEER	1156	55.58%	--	--	--	924	232
PROJECT GEOLOGIST	4	0.19%	--	4	--	--	--
PROJECT SCIENTIST	122	5.87%	--	--	31	61	30
PROJECT HYDROGEOLOGIST	13.5	0.65%	--	--	--	13.5	--
STAFF ENGINEER	445	21.39%	271	119	13	32	10
STAFF GEOLOGIST	19	0.91%	--	--	--	19	--
ASST. SCIENTIST	124	5.96%	2	--	--	92	30
SR. FIELD TECH.	761	36.59%	--	743	18	--	--
FIELD TECH.	2932	140.96%	24.5	1298	671.5	831	107
LABORATORY TECH.	511.5	24.59%	--	--	--	463	48.5
HEALTH & SAFETY	44	2.12%	1	17	25	1	--
DRAFTER/CAD	58	2.79%	40	7.5	--	10.5	--
WORD PROCESSING	3.25	0.16%	--	--	0.25	2	1
CONTRACT ADMIN.	80.5	3.87%	--	--	--	80.5	--
PURCHASING MGR.	9.5	0.46%	--	--	--	8	1.5
PROPERTY MGR.	1	0.05%	--	--	--	1	--
	7200.75	346.19%					

During the 12 months, resources equivalent to 3.5 full time personnel were committed to the effort, of which the project manager was 32% full time.

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May 7, 1990

ECOVA Corporation
Attn: John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

Re: ECOVA's March 23, 1990 Analysis of Northwest Terminal Penta Project

Dear Mr Kinsella:

Time has carefully reviewed your analysis of our pentachlorophenol cleanup project and compared it with our files. Enclosed with this letter is a point-by-point response to your March 23, 1990 document. In general, we were very disappointed with the analysis.

First, Time can not accept ECOVA's division of the project into phases based on the discovery of solvents, since the contract is clear as to how the project is to be divided. The first phase of the project consists of design, mobilization, excavation and well installation. ECOVA supposedly completed this phase in July 1989.

Secondly, ECOVA has not provided the kind of project cost analysis needed to support a claim for $280,437 in extra work. The principal issue is "how did ECOVA spend the money?" The analysis that Time was looking for was an objective assessment of exactly what work was accomplished, when it was accomplished and how much money was spent to accomplish it. Is ECOVA able to provide such an analysis? Has ECOVA employed basic project management tools such as comparing actual versus budgeted expenses against achieved progress? If so, that data should be provided to Time so that the validity of ECOVA's claim can be fairly judged. If ECOVA can not produce such an analysis, then we can only conclude that the project was out of control; not because of the solvents, but because ECOVA was not properly managing the project budget.

In light of the above, the following are our conclusions:

1. ECOVA claims that all work since the discovery of solvents in March 1989 was outside of the scope of the contract. However, ECOVA's progress reports from that time up to at least November 1989 describe work that is called for in the contract.

2. ECOVA claims that Time gave verbal directions to incur out-of-scope work. However, all verbally-authorized extra work was covered by negotiated change orders signed in October 1989.

3. The presence of solvents is not anticipated in our contract, so to the extent that the project design or field operations must be modified to accommodate the solvents, a revision to the scope of work and contract price is warranted. However, ECOVA has not provided sufficient project cost information to determine what, if any, impact the presence of solvents has had on project design or field operations.

4. Based on Time's review of the project record, the following may be valid claims for which an increase in the contract may be negotiated once ECOVA has provided information on actual costs incurred:

   a. Additional incurred cost of excavation and other field operations due to the use of a higher level of personal protective equipment. ECOVA needs to demonstrate that higher PPE was actually used, the time period during which it was used and the cost impact.

   b. August 1989 treatability test in the on-site reactor, discounted for not using soil washing and for poor conduct of test.

   c. Labor to pump water from leaking Time tank 10002 into tank 16804 ($400 was approved in the 8/10/89 change order negotiation meeting, but was inadvertently omitted from the subsequent change order).

5. At various times in the project ECOVA has identified work that it believes should be performed. Time's review of the record indicates that the following may be appropriate additions to the scope and price of the contract pending written approval of ECOVA's technical and cost proposals:

   a. Modifications to original treatment system design required to accommodate solvents.

   b. Mobilization costs for excavation of penta contamination near the sump ("septic tank") and the "38K" tank.

   c. Groundwater modeling study.

   d. Soil borings and chemical analyses to define the full extent of solvent contamination.

   e. Treatment of approximately 425,000 gallons of contaminated water from the excavation and from Time's operations that is presently being held in tank number 16804.

   f. Determine concentrations of dioxin in the contaminated soil.

g. Negotiate a cleanup level acceptable to the Oregon Department of Environmental Quality.

It is hoped that ECOVA can quickly provide the necessary cost basis for continuing this discussion so that an equitable solution may be reached.

Sincerely,

Joseph G. Sanzo
Environmental Manager

Enclosure a/s

JGS\flp\may

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May 4, 1990

RESPONSE TO ECOVA ANALYSIS OF THE NORTHWEST TERMINAL PENTACHLOROPHENOL CLEANUP PROJECT

The following comments are keyed to the format of ECOVA's March 23, 1990 presentation of and comment on communications regarding the Time Oil Co./ECOVA Corporation contract for remediation of pentachlorophenol contamination at 12005 N. Burgard Road, Portland, Oregon.

EXECUTIVE SUMMARY

1. Page 3, paragraph 5 beginning "As recently as November 1989..." This quote from Time's 11/10/89 letter is taken out of context. The reference to a "shakedown stage" was intended as a mild criticism of ECOVA's failure to properly assemble and operate the cleanup system. It illustrates a patient and cooperative attitude on Time's part, not unqualified approval of ECOVA's performance.

2. Page 3, paragraph 6 beginning "ECOVA has determined..."

   a) ECOVA's separation of the project into two phases based on discovery of the solvents ignores the basic structure of our contract. The two contractual phases of this project are: 1) design, mobilization, excavation and well installation and 2) treatment operations. Phase 1 concluded with the successful treatment of the first batch of soil. ECOVA documented completion of this phase on 7/20/89 (attachment 1) and was paid $160,000 as called for in the contract. This is an important milestone overlooked in ECOVA's analysis of the project.

   b) Research and development was never "requested" by Time. ECOVA may have undertaken certain tests or experiments, with or without Time's knowledge, but it was Time's understanding that most, if not all, of this work was part of ECOVA's in-scope project design process. This understanding was reinforced by ECOVA's silence on the subject of these costs until now. With the exception of analyses and other work covered by change orders, ECOVA has never advised Time that it was accumulating several hundred thousand dollars in work that was not, according to ECOVA's present interpretation, covered by the contract.

3. Page 4, paragraph 2 beginning "Status of the dollars...".

   a) The $130,779 that ECOVA attributes to it's artificial "Phase I" does not include in-scope work, such as mobilizing and assembling the treatment equipment, that ECOVA performed from March 2 to July 20, 1989. As a result, ECOVA's summary of costs is inadequate and unacceptable. As stated in Time's 3/14/90 letter, ECOVA was asked to provide a "detailed breakdown" of expenditures. In order to properly allocate expenses with respect to contractual milestones, we must know all charges made to each task on a month-by-month basis from the beginning of the job to the present. Considering the magnitude of ECOVA's claim for out-of-scope costs, we believe such a request to be quite reasonable.

Encl. 1

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b) Two costs are cited for "Phase I"; $316,556 and $315,946. This $610 discrepancy is not explained.

c) The $5,898 "groundwater study adjustment" is not explained. Is a 40% cost overrun on this task due to out-of-scope work or to poor cost control? If it is the latter, then the possibility exists that the rest of this project suffered to a similar extent.

4. Page 4, paragraph 3 beginning "With a contract modification..." ECOVA has not developed a convincing argument that all of the work performed since 3/1/89, the artificial "Phase II", is out-of-scope. Hence, this request for $280,437 is not supported. The figure is also cited as $281,437 which does not give reason for confidence in ECOVA's cost analysis.

INTRODUCTION

5. Page 5, paragraph 1 beginning "The goal of this document..." An essential goal for a document of this sort is conspicuously absent; namely, "identify actual work accomplished that is out of the scope of the contract."

6. Page 5, paragraph 4 beginning "The assumptions upon which..." As stated previously, Time does not accept ECOVA's division of the project into phases based on the discovery of solvents. The contract is clear as to how the project is to be divided. The principal issue is "how did ECOVA spend the money?" The four "assumptions" listed here are, in fact, conclusions. The remainder of ECOVA's analysis merely attempts to justify this position. The analysis that Time was looking for was an objective assessment of exactly what work was accomplished, when it was accomplished and how much money was spent to accomplish it. Is ECOVA able to provide such an analysis? Has ECOVA employed basic project management tools such as comparing actual versus budgeted expenses against achieved progress? If so, that data should be provided to Time so that the validity of ECOVA's claim can be fairly judged. If ECOVA can not produce such an analysis, then we can only conclude that the project was out of control; not because of the solvents, but because ECOVA was not properly managing the project budget.

PROJECT CHRONOLOGICAL DOCUMENTATION OF SITE CONDITIONS/WORK SCOPE

7. Page 8, paragraph 2 beginning "COMMENT - Here is clear..." What "both parties realized" may seem clear to ECOVA in retrospect, but ECOVA's present interpretation is not supported by this letter. Page 5 of ECOVA's 3/14/89 letter lists three out-of-scope work items. It was agreed to shelve the problem of PCP under the "septic tank" (item 1) until the soil pile had been treated and a change order was issued for the analytical costs (items 2 and 3). ECOVA continued excavation because, with resolution of the health and safety concerns, there was no reason to stop. If there were other out-of-scope costs, why were they not identified at this point so they could be dealt with?

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8. Page 8, paragraph 3 beginning "In a like manner..." It was necessary to use the bioslurry reactor without soil washing because ECOVA had not yet mobilized that equipment. It is incorrect to construe that Time was directing ECOVA to abandon soil washing. The context of this decision was our discussion on whether or not a PCP and solvent mixture was treatable. Rather than run lab treatability tests, which could only simulate field conditions, it was agreed by Time and ECOVA (Mark Anderson and Bill Mahaffey) that more applicable results could be obtained by using the full-scale treatment system, assembly of which had just begun (see ECOVA's 3/14/89 letter, Page 2, paragraph 2). The basic plan was to carefully monitor treatment of a load of soil heavily contaminated with PCP and solvents. This was an "experiment" to get a definitive answer on what impact the solvents had on treatability. In a status meeting on 8/22/89, ECOVA's new project manager (Dave Edwards) held the opinion that soil washing could be eliminated from the process. So, at his insistence, the experiment was also to be monitored to test that theory.

   Time considers this experiment to be, at least in part, a valid extra work item comparable to a treatability test. However, the experiment did not begin until 8/22/89, when the first batch of solvent-contaminated soil was loaded into reactor T3. This date is documented in ECOVA's September 1989 progress report (attachment 2), another important milestone that ECOVA has overlooked in it's analysis of the project. The experiment ended when the incompletely treated soil was pumped out of the reactors during the week of September 25-29, 1989. Time's 11/10/89 letter criticized ECOVA for the manner in which this experiment was handled and ECOVA returned the soil to the stockpile at its own expense. Any reimbursement for this work on the grounds that it was an out-of-scope treatability test will have to be discounted to compensate for the unprofessional conduct of the test.

   The first batch of soil treated in July of 1989 was not part of this experiment. In a progress meeting on July 11, 1989, Mark Anderson explained that the soil for that batch was selected from an area of the stockpile that did not have appreciable solvent contamination and the PCP concentration was only 50 ppm. The intention was to demonstrate that PCP could be treated so payment could be made on Phase 1.

9. Page 8, paragraph 5 beginning "COMMENT - The likelihood..." The paragraph quoted from ECOVA's 4/24/89 letter states that remaining contamination "will be left in place." It is illogical for ECOVA to now claim that the paragraph raises the "likelihood of additional excavation."

10. Page 9, paragraph 2 beginning "COMMENT - This excerpt provides..." ECOVA may interpret the 4/24/89 letter as proof that ECOVA was "willing" to undertake out-of-scope work, but the fact is that the full-scale treatability experiment had not been conducted at this point because the equipment had not been assembled. So, as of this date, there were no out-of-scope costs related to the experiment for Time to accept or reject. This letter concludes by listing two out-of-scope items. Additional laboratory analyses (item 1) have been covered by a change order and additional borings (item 2) were never performed. ECOVA called these

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"significant items". If other out-of-scope costs were being incurred at this time, as ECOVA now claims, why were they not identified? ECOVA's silence on the subject in April 1989 is more compelling than it's present argument.

11. Page 10, paragraph 2 beginning "COMMENT - Time Oil apparently..." Time agrees, as ECOVA recognized in May 1989, that the solvents are not anticipated in our contract.

12. Page 10, paragraph 3 beginning "COMMENT - ECOVA provides notice..." The two key phrases in the paragraph quoted from ECOVA's 5/2/89 letter are, "...we do not presently know..." and "Additional testing is required...". This does not, as ECOVA now claims, constitute a conclusion with regard to the suitability of the treatment system or the price for doing the job. Rather, it is an honest admission of a lack of knowledge. The additional tests refer to the "experiment", discussed above, which was intended to address the treatability issue in a scientific manner. ECOVA concludes that this paragraph flags current (May 1989) work as being out-of-scope ("work content is"). This is a distorted interpretation, since the tests were only being contemplated in ECOVA's 5/2/89 letter; the experiment was not conducted until September 1989.

13. Page 10, paragraph 6 beginning "COMMENT - The discovery of..." Again, ECOVA goes beyond the clear meaning of it's own correspondence. The 5/2/89 letter states that the unknown compounds "delayed us". If that delay caused increased costs for the excavation and manning of the site, then ECOVA did not identify them at the time and has failed to identify them to date.

14. Page 11, paragraph 2 beginning "The presence of unknown..." ECOVA's 5/2/89 letter lists five health and safety items related to the unknown compounds. Item number 1, update the H & S plan, was covered by a change order. No claim for additional costs has been made for the other four items. We question whether item 3, upgrade all employees to level B protective gear, was actually implemented or if it was, for what period of time.

15. Page 12, paragraph 2 beginning "COMMENT - As of the date..." ECOVA's point regarding involvement by the Oregon DEQ is not clear.

16. Page 12, paragraph 3 beginning "Proposed Program..." The status of the seven elements of ECOVA's 5/2/89 proposal for revising the project can be summarized as follows:

    1) Stop work - in the last paragraph on page 2 of ECOVA's 5/2/89 letter, ECOVA reiterated its belief that the compounds were biodegradable, so Time judged that there was no justification for halting assembly of the treatment system. Also, since the on-site treatment system was to be used to verify treatability of the compounds, it was desirable to complete that system. ECOVA was concerned that failure of the test could leave us with a disposal problem. This was a risk which Time was willing to assume and

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is a factor to be considered in reimbursing ECOVA for some portion of the cost of the treatability "experiment". [Time does not, however, accept the risk of improper conduct of the experiment or premature discharge of the soil.]

2) Backfill - this was accomplished as required by the contract. No rationale for extra work has been identified for this task.

3) Sampling and characterization - a change order was issued to cover this work.

4) Soil washing and biotreatability assessment - this is a legitimate extra work item, but ECOVA has not provided a cost proposal for Time's approval.

5) Change health and safety plan - A change order was issued for revisions to the plan, but ECOVA has not identified what changes were actually implemented in the field, nor what their cost impact has been.

6) Sampling program - ECOVA did not provide a cost proposal. The work has not been done, so no costs have been incurred.

7) Revise treatment design - this is a legitimate out-of-scope item to the extent that the redesign is made necessary by the solvents, but it requires a technical and cost proposal for approval. We have not been advised that any work along these lines has been performed, nor has a technical or cost proposal been submitted for such work.

17. Page 13, paragraph 2 beginning "COMMENT - Here ECOVA has..." ECOVA did lay out a plan for modifying the contract, but that is not enough to justify proceeding with out-of-scope work in the absence of written authorization. Furthermore, ECOVA has not produced evidence that it actually performed any of the work proposed in the 5/2/89 letter, other than those items that were covered by the change orders issued in October 1989.

18. Page 13, paragraph 4 beginning "Out of Scope Items..." ECOVA never followed up with a technical or cost proposal for the three out-of-scope items listed in ECOVA's 6/16/89 letter. No work has been performed on these subjects, so no costs outside of the scope of the contract could have been incurred.

19. Page 14, paragraph 3 beginning "Out of Scope Items..." The twelve out-of-scope items listed in ECOVA's 7/14/89 letter included work that had been performed on Time's verbal authorization as well as future work that was being proposed. The following is an explanation of how each item was handled:

1) Original change order and power drop - Change Order #1, 10/30/89.

2) - 4) Excavate and treat PCP under septic tank and near 38K tank -can not get to these areas until the stockpile has been treated. This work is covered by the contract under the provision for excavating and treating

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soil in excess of 3,440 cubic yards. The average of the excavation and stockpile volumes is 2,836 cubic yards as calculated according to the contract. Therefore, excavation and treatment of any quantity of soil over 604 cubic yards (3,440 - 2,836) would be reimbursed at a rate of $90 per cubic yard as specified in the contract. However, the contract did not anticipate re-mobilizing for additional excavation, so mobilization costs would be reimbursable in addition to the $90 per cubic yard. This does not represent any past or present costs which may be disputed.

5) & 6) Lab costs for solvents - Change Order #1, 10/30/89.

7) Modify health & safety plan - Change Order #1, 10/30/89.

8) Pump water from leaking tank - valid extra work. Time authorized $400 requested in 8/10/89 meeting, but this amount was inadvertently omitted from change orders issued in October 1989.

9) Regulatory preparation - Change Order #1, 10/30/89.

10) Treatment of slop tank water - this is a separate action requiring a technical and cost proposal. ECOVA claimed out-of-scope costs in pumping water from the excavation into this tank, but Time rejected the claim in our 8/10/89 meeting on the grounds that the excavation needed to be pumped prior to backfilling whether or not there were solvents present.

11) Groundwater modelling - Time has not authorized ECOVA to proceed on this proposal, so no costs should have been incurred.

12) Disposal pit area - ECOVA presented a technical and cost proposal for this work on 8/10/89. Time has not authorized ECOVA to proceed on this proposal, so no costs should have been incurred.

20. Page 15, paragraph 7 beginning "COMMENT - This listing includes..." ECOVA's comment that "Work continued at the site..." is correct, but the work being performed was within the scope of the contract. The list of out-of-scope items in ECOVA's 7/14/89 letter was preceded by a more significant list of "Major tasks completed on the project to date..." Of this first list, only two items are not called for in the contract (testing for unknowns in the excavation and disposal pit) and these have been covered by a change order. This progress report disproves ECOVA's present contention that all work since 3/1/89 was out-of-scope.

21. Page 15, paragraph 9 beginning "This letter with..." ECOVA has again omitted a significant milestone from it's analysis of the project. In August 1989, Time learned of the imminent departure of Mark Anderson, project manager and principal author of the Work Plan. This alone should not have been a serious problem, but other key personnel had also left the firm, such as John Hancock, who engineered the materials handling system, including the soil washing step. This trend caused Time to question "ECOVA's overall ability to perform in a timely manner" (letter dated 8/8/89, attachment 3). Time requested a complete listing of ECOVA's personnel, which was provided in a meeting on 8/10/89. Also at that meeting, Time and ECOVA discussed a detailed breakdown of ECOVA's claims

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for extra work (attachment 4). Each line was negotiated in light of the contract, with the result that Time accepted some claims as being legitimate out-of-scope work and ECOVA withdrew some claims that were agreed to be covered by the contract.

This is the background to ECOVA's 9/12/89 letter which transmitted ECOVA's summary of our 8/10/89 meeting. The key phrase in ECOVA's letter is "Change Orders that cover the work to date." It was both Time's and ECOVA's intention that the 8/10/89 meeting would deal with every change order request that had been made or was contemplated. This was satisfactorily accomplished and resulted in the issuance of three change orders in late October 1989; two dealing with costs and the third with schedule. The total cost increase was $11,490 ($4,763 of which was offset by Time's payment of the power drop). The change orders signed in October 1989 were comprehensive, and ECOVA has not provided evidence to the contrary.

22. Page 16, paragraph 2 beginning "Should work outside..." Time's 10/31/89 letter transmitting the approved change orders included an admission that Time had given ECOVA verbal authorization to perform out-of-scope work. However, the books were brought "up to date" by the change orders. What ECOVA characterizes as a "disclaimer" is more correctly understood as an admonition for both parties to be more responsible to the terms of our contract.

23. Page 16, paragraph 6 beginning "COMMENT - This statement seems..." ECOVA's evaluation of Time's 11/10/89 letter is essentially correct, in that Time had accepted the work performed by ECOVA and was aware that soil treatment had not yet begun. However, as is documented by ECOVA's progress reports, the work that had been accomplished was within the scope of the contract and the tasks that were not within the scope had been covered by negotiated change orders.

24. Page 17, paragraph 2 beginning "During the week of..." In November 1989 ECOVA "rented a cement mixer to test the original design configuration for this project." Four months had passed since July, when ECOVA completed the contractual Phase 1 of the project by successfully treating a batch of soil. Under the terms of the contract, ECOVA should have already installed the soil washing equipment specified in the Work Plan.

    There were three reasons explained to Time for the soil washing stage originally engineered by ECOVA:

    1) Removing PCP from the surface of the larger sand grains would reduce the volume of material to be treated in the bioslurry reactors. The project schedule (which affects cost) was predicated on a significant portion of the soil bypassing the reactors after the washing stage.

    2) PCP was observed to degrade more readily in an aqueous solution. Accordingly, the wash water would be treated in the "38K" tank which was lined and fitted with air sparging lines to convert it into an aqueous bioreactor.

TOLS009462

BZTO104(e)046284

3) Any material not in suspension in the slurry reactors would not be well oxygenated and would biodegrade more slowly. Adding enough horsepower to the mixers to keep sand suspended would add significantly to the treatment cost.

According to the August 1989 monthly report (attachment 5), which is not addressed in ECOVA's analysis, the soil washing equipment had not yet been installed. It is important to note that the original project designers were not involved at this point. Quoting from the site manager's report,

> "The original design called for washing the soil, and then removing the soil from the slurry leaving the PCP in the water.
>
> We are working towards that design, but are doing so tentatively to avoid costly expenditures on equipment that might not work, or may be unneeded."

It appears that ECOVA's departure from the work plan was promoted by cost considerations, even though soil washing had been proven effective in ECOVA's pre-contract treatability studies. In a meeting held on 8/18/89 (attachment 6), Time was advised that ECOVA was not planning on using the soil washing approach on the theory that the sand could be kept in suspension. The batch that ECOVA planned to load the next day would test that theory. The theory's fallacy was demonstrated by a buildup of several feet of sand on the floor of the reactor and by incomplete treatment of the PCP. ECOVA's test with a cement mixer in November 1989 did not shed much new insight on the necessity for soil washing.

The soil washing issue is entirely distinct from the question of what impact the solvents have on treatability. ECOVA experimented with abandoning the soil washing stage as a way to save money, not as a way to deal with the solvents. Time did not authorize this departure from the work plan and argued against it when given the opportunity. ECOVA now admits that soil washing is a necessary step, but how much money was spent to reach that conclusion?

25. ECOVA's 3/23/90 memo not bound with the other documents. The separate manpower analysis provided by ECOVA has two major deficiencies. First, it only covers ECOVA's artificial "Phase II" of the project. Time does not accept this division of the project; the contractual standard for completing Phase 1 was met by ECOVA on July 20, 1989. Second, the analysis does not include reference to the project budget. The work being performed during the period in question was, according to ECOVA's progress reports, within the scope of the contract. A proper manpower allocation should compare actual hours and costs versus budgeted hours and costs.

TOLS009463

BZTO104(e)046285

REORDERS — One type & size per envelope
ROLLS — One per envelope
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File	Last Name	First Name	
	Time Oil (Chevron Murphy)		100316

Date	Telephone	Called	Called	# Of Orders
5/17/90				1

Address	Clerk Init.	Return Date/Time
	CC	Mon 9

REORDERS

TYPE - SIZE - EXP.	# of Negs. or Slides enclosed	Total # of Prints to be made
RPS GA-35		18

No. of Prints to be made from ea. neg. or slide: 1 EA.

PRINTS MADE: 18

1

Roll I.D.

Enlargements & Special Instructions

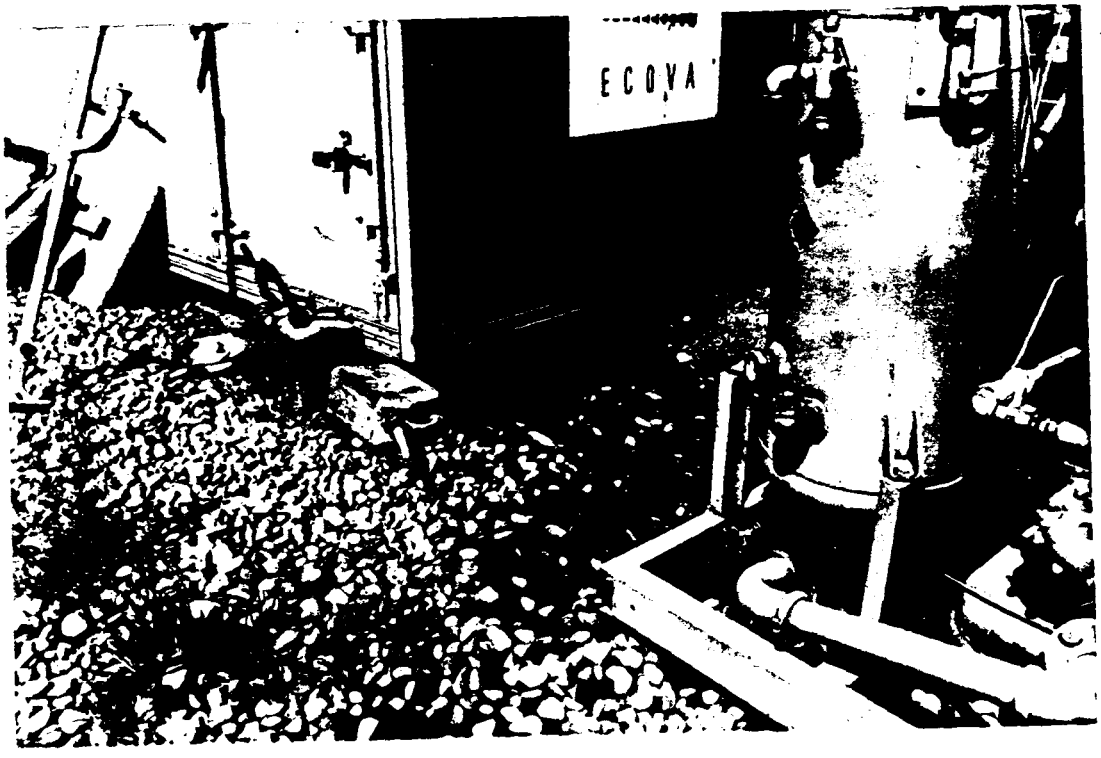
NW 5/90
Penta

Price	
Photo-finishing	
$	•
	•
	•
Sub Total	•
Tax	•
Total	

FILM STOP

TOLS009465

BZTO104(e)046287



TOLS009466

5/10/20

(1)

overturned open Fuel Containers

Leaking hydraulic oil from Equipment

TOLS009467

BZTO104(e)046289

TOLS009468

5/10/20

Hydraulic Oil leak

TOLS009470

5/10/90 (3)

unsecured Lab

Lights on.

TOLS009471

TOLS009472

5/15/40

(4)

Electrical Equipment unarmed.

TOLS009474

(5)

5/10/20

Unsecured Equipment

Electric motors and
Gasoline engines
Exposed to elements and inoperable

Oil in open buckets.

TOLS009476

5/10/20 (6)

Open Fuel containers

Equipment in the open

TOLS009478

BZTO104(e)046300

5/15/20

(7)

Contaminated soil washing out into a previously decontaminated area.

TOLS009480

5/10/20

Contaminated clothing improperly disposed of.

(8)

TOLS009482

5/18/90

@

Contaminated soil breaching
the containment area

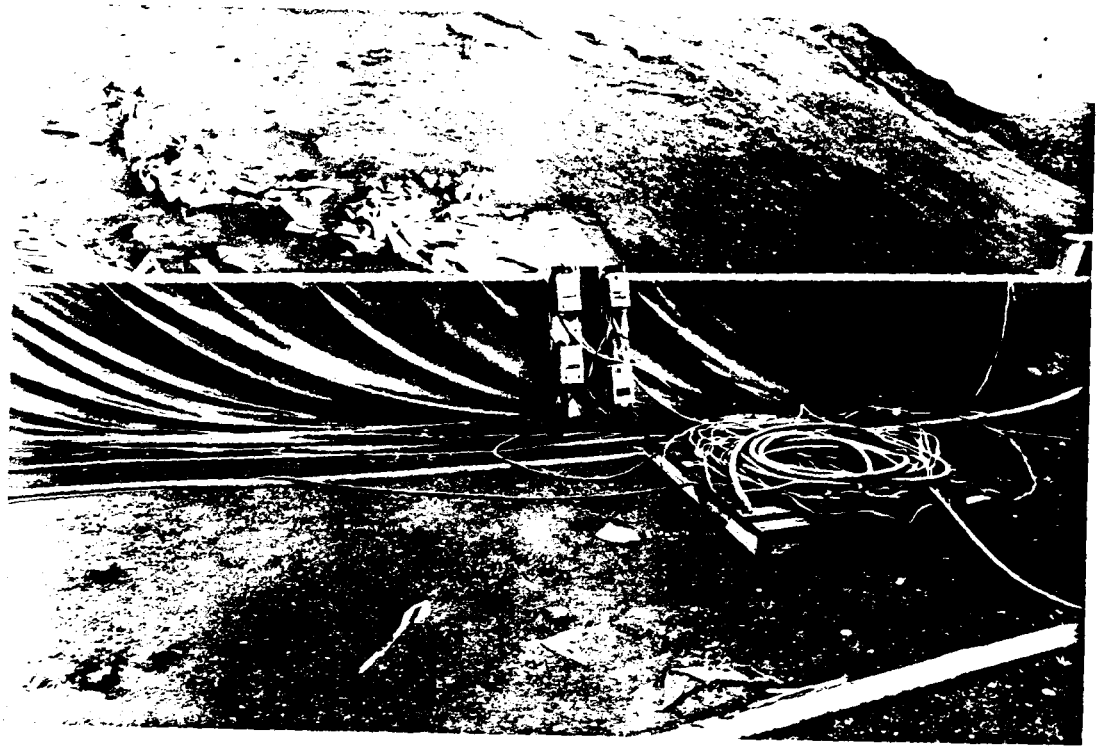
TOLS009484

BZTO104(e)046306

5/15/20

(10)

UNCovered Soil Pile - Contamination carried by wind.



5/15/90.

(11)

Electrical Apparatus - after being placed in upright position - previously laying in water

Jumbled wires.

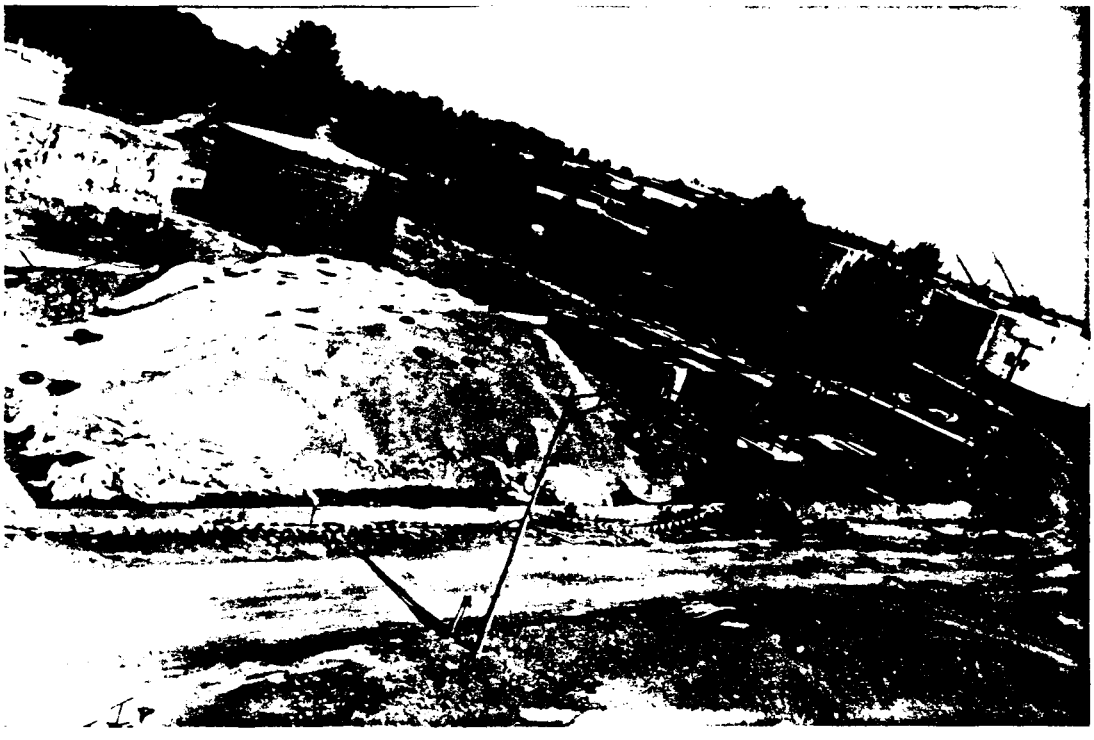
TOLS009488

TOLS009489

BZTO104(e)04631

TOLS009490

BZTO104(e)046312



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TOLS009493

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TOLS009496

BZTO104(e)046318

TOLS009498

BZTO104(e)046320

TOLS009499

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

May 22, 1990

ECOVA Corporation
Attn: Bill Mahaffey
3820 159th Avenue NE
Redmond, WA 98052

Re: Penta cleanup jobsite conditions

Dear Bill:

ECOVA's pentachlorophenol cleanup operation at the Northwest terminal was visited on May 15, 1990 in conjunction with a routine internal safety inspection of our terminal. Eight deficiencies were noted and documented in a memo to me. A copy of this memo, with accompanying photographs, is enclosed.

It was my understanding that you would take measures to secure the site following my March 19, 1990 telephone notice regarding a reactor that was overflowing. It is apparent that nothing substantial has been accomplished. Please take immediate steps to protect our mutual investment in this site and equipment.

Your March 19, 1990 letter refers to billing Time Oil for the cost of securing the site. Please be advised that a change order has not been authorized for such work; if you believe that one is justified, you may submit a proposal for our consideration.

Sincerely,

Fred Proby
Environmental Specialist

Enclosure a/s

FLP\may

TOLS009502

BZTO104(e)046334

M E M O R A N D U M

May 18, 1990

TO: Fred Proby — Seattle
Joe Sanzo — Seattle

FROM: Doug Bicknell — Seattle

SUBJECT: ECOVA JOB SITE (NORTHWEST TERMINAL, PORTLAND OREGON)

On May 15, 1990, an inspection was conducted of the Northwest terminal by the Hazard Safety Department. During this inspection the following conditions were observed by the inspector to exist in and around the ECOVA Job Site which need to be addressed.

1. All trailers and portable buildings have been left in an unsecured state. In some cases our personnel have had to secure doors and other openings to protect interior contents from rain and wind. The office and laboratory trailers contain valuable instrumentation and documents. The tool trailer contains many valuable tools. The loss of any of the above would incur additional excessive costs towards completion of this project.

2. Excavation on this site has resulted in a large pile of contaminated soil. This pile has become exposed to the elements, and as a result, high wind and heavy rain (frequent site occurrences) have caused large amounts of contaminated soil to migrate into recently cleaned and/or previously uncontaminated areas. Particular note was taken of this piles' north face which has slumped and now breeches the containment berm. Heavy rainwater runoff has formed a delta of contaminated soil that extends fifty feet into a recently cleaned major work site.

3. On the access road south of the processing unit are two pallets of Slacked Lime and Urea which have broken open and are now leaching into the soil. Additionally, there are two five gallon buckets of Muratic Acid at this location which should be secured.

4. On the south side of the lab trailer several pumps and other pieces of electrical equipment have been left exposed to the elements and show marked signs of deterioration due to that exposure.

5. On the east side of the tool trailer leaking hydraulic equipment has caused soil contamination. Time Oil Co. employees have secured this leak, but soil cleanup needs to be addressed.

6. In front of the office trailer several (6) ice chests have been left unsecured and are full of chemical samples which either need to be processed or disposed of in an appropriate manner. Additionally, several sample bottles (with contents) are scattered about this site at various locations (these should be secured in an appropriate manner).

7. On the face of the east center berm is an electrical utility board with numerous switch and junction boxes, lines entering this board are hot. At the time of inspection this board was lying on the ground and exposed to running rainwater. This board needs to be either secured or the power discontinued. Time Oil Co. employees are not trained electricians and could not accomplish this task. Shutting down power would have meant discontinuing power to the lab trailer where equipment was in operation.

8. At the northwest corner of the excavation area are five large bags of contaminated protective clothing which have broken open. These need to be disposed of in an appropriate manner.

DB/ch

ECOVA

July 9, 1990

Mr. Fred Proby
TIME OIL COMPANY
2737 West Commodore
Seattle, Washington 98119-1233

P.N. 821401

Dear Fred:

In response to your letter of May 22, 1990, I sent Jim Borthen to the site on May 29 and 30, and again on June 11 and 12, 1990 to take corrective actions on the eight deficiencies documented. Please find attached a copy of the interoffice memorandum prepared by Jim Borthen addressing the disposition of the eight deficiencies.

Please be advised that subsequent to your March 19, 1990 telephone notice regarding the overflowing reactor, Dan Schweigel was in fact sent to the site to implement steps to alleviate the problem. It is my opinion that the problem was substantially corrected.

If I can be of further assistance, please do not hesitate to contact me at (206) 883-1900.

Sincerely,

William R. Mahaffey
Director of Bioremediation

Enclosure

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(206) 883-1900
(206) 867-2210 FAX

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(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
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INTER-OFFICE MEMORANDUM

ECOVA

Date: 7/3/90

To: Bill Mahaffey
John Kinsella

From: Jim Borthen

RE: Letter to ECOVA from Fred Proby dated May 22, 1990, concerning problems with the Time Oil - Portland site.

The referenced letter (copy attached) lists eight deficiencies found at our facilities in Portland.

I traveled to the Portland Site on May 29 and 30 and again on June 11 and 12, and took the following corrective action or have the following explanation for each of the items on their list (listed in the order given in their letter):

1) The electrical trailer and the fermenter lab now have pad locks locking them shut. A key was found for the laboratory and it is locked, and the office is locked. A copy of all keys is in the Redmond office, and a copy of the keys for the office and the two pad locks is at Time Oil's office in Portland.

2) Their explanation of soil overflowing is not correct, although it is easy to understand how they came to this conclusion. On the north side of the pile, a ramp was made out of clean dirt to enable a bull dozer to get inside the bermed area to work on the pile. This ramp looks as though the pile spilled over the berm, but that simply is not the case. That material should be clean. Pictures have been taken which should illustrate this.

   At the time of my visit there was no soil spilling over the berm. However there is the potential for this to occur in a couple of areas, most notably in the SE corner. Occasional maintenance on the pile by the Kabota is necessary, and should probably be done within a week or two.

3) The pallets of Slacked Lime and Urea are now covered with a large sheet of visqueen. It is worth noting one more time, visqueen is not always a very effective long term solution to protection from the elements. It does not make a good weather tight seal at the edges, the edges catch the wind causing the material to get blown around by high winds, and if it flaps in the breeze it eventually breaks and splits making the situation worse.

   The Muratic Acid was moved inside the electrical trailer.

   Chemicals, cement, and other products which will be stored for long periods of time (over 1 year, for example, should be kept inside (i.e. in trailers).

4) During this trip, equipment was consolidated, cleaned up, and covered with visqueen. An inventory is available upon request. Additionally, a complete inventory of the site is on file in Ron Neidecker's office.

5) The large compressor blew a gasket this winter during operation and spilled ATF over this area. The Kabota will be needed to clean this up appropriately.

6) The samples bottles out at the process area were cleaned out and the sample materials were dumped on the pile. The bottles were cleaned out, boxed and are ready for appropriate disposal.

   The samples in the coolers in front of the office have been moved inside the office and the

office is presently locked. This is admittedly not a good final solution, however there is a solid waste problem on site which needs to be addressed (see below) before the bottles are emptied.

7) The board in question is for the submersible pumps which pump out the sumps. There is no question that this is not an appropriate electrical installation. Two plastic bags have been used to protect the board from the elements.

The best and safest solution is to have an electrician wire these pumps from the electrical trailer (their power currently comes from the Time Oil warehouse). On my next trip to Portland an electrical contractor will be hired to correct this problem.

8) These suits have been placed in new plastic bags, and the bags placed inside the lab until they can be properly disposed of. Proper disposal procedures are currently being evaluated.

This covers all the points listed in the referenced letter. There are still several items which must be taken care of:

* The Kabota should be taken down to Portland to shape the pile, and clean up the area where ATF was spilled.

* Solid waste has become a problem on site. There is a fair amount of material which as been in contact with the pile, and therefore needs special disposal (i.e. sample jars).
This was discussed several months ago, and it was decided that we would get several barrels and collect the waste in these, and then dispose of the barrels. However, everyone became busy on other projects and no action was taken on this.

The issue of proper disposal of sample jars is currently under review due to the problems with Microsoft. Disposal procedures will be established soon.

* The pile should have better coverage to protect it from wind and rain.

* The FAX line has been disconnected.

I suggest that another trip be made to Portland next week with the Kabota to clean up those items in the referenced letter which were not taken care of on this trip.

The Time Oil site is not completely self sufficient. It will require some inspection every 2 to 4 weeks. Each trip will have the following expenses:

Travel to and from Portland	$100.00
Hotel	40.00
Per Diem	50.00
Man Hours (16 hours x $80.00)	1280.00
	=======
	$1470.00

If D. Schweigel is in Vancouver and available the only expenses will be his time - 16 hours x $40.00 = $640.00.

PHONE 285-2400
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(FAX)206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

May 22, 1990

ECOVA Corporation
Attn: Bill Mahaffey
3820 159th Avenue NE
Redmond, WA 98052

Re: Penta cleanup jobsite conditions

Dear Bill:

ECOVA's pentachlorophenol cleanup operation at the Northwest terminal was visited on May 15, 1990 in conjunction with a routine internal safety inspection of our terminal. Eight deficiencies were noted and documented in a memo to me. A copy of this memo, with accompanying photographs, is enclosed.

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Sincerely,

Fred Proby
Environmental Specialist

Enclosure a/s

FLP\may

TOLS009508

BZTO104(e)046340

M E M O R A N D U M

May 18, 1990

TO: Fred Proby — Seattle
Joe Sanzo — Seattle

FROM: Doug Bicknell — Seattle

SUBJECT: ECOVA JOB SITE (NORTHWEST TERMINAL, PORTLAND OREGON)

On May 15, 1990, an inspection was conducted of the Northwest terminal by the Hazard Safety Department. During this inspection the following conditions were observed by the inspector to exist in and around the ECOVA Job Site which need to be addressed.

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8. At the northwest corner of the excavation area are five large bags of contaminated protective clothing which have broken open. These need to be disposed of in an appropriate manner.

DB/ch

ECOVA

July 10, 1990

Mr. Joe Sanzo
Environmental Manager
TIME OIL COMPANY
2737 West Commodore Way
Seattle, WA 98119-1233

P.N. 821401

Dear Mr. Sanzo:

This letter is a summary of the issues discussed at our last meeting and of a detailed project evaluation. The following items are presented below:

- Out of Scope Experimental Operations
- Change Orders
- Ongoing Maintenance Costs

An explanation of each of these, together with associated costs is presented below.

A. EXPERIMENTAL OPERATIONS

ECOVA has completed a detailed analysis of the charges placed against our Job Number 821401, "Time Oil Northwest Terminal". Attached is a month by month accounting of the costs incurred which are identified as being part of Task 651 - Experimental Operations, the task established by Bill Mahaffey in the month of November 1989. Prior to November 1989, we conclude that efforts occurring on the site were within the work scope.

The following summarizes the activities occurring on the site during the time between November 1989 and March 1990 when the Experimental Operations task was in effect. The original description of the activities is to be found in the monthly reports prepared for Time Oil by the Project Manager.

A.1 November 1989

Soil was loaded into tanks T1, T2, and T3 for slurry phase processing. Both physical problems with settlement of the

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Suite 2009
New York, NY 10017
(212) 682-0882
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sand sized particles, and biodegradation rate changes were observed, leading the project team to carry out experiments with soil washing. Observations of solvent films and odors were made, and soil washing was observed in some cases to not reduce the PCP concentrations as had the original treatability studies.

A.2 December 1989

The 38K Bio-reactor was set up for running thinner slurries and materials from T1 and T3 tanks were introduced. Bench scale soil washing tests were carried out using a spiral classifier, as was a bench scale silt processing bioreactor. Concern that there is an impact of the newly encountered solvents was voiced and further study on the PCP contents of the silt fraction was started.

A.3 January 1990

Soil washing feasibility tests continued with evidence being gathered that the solvents were interfering with the washing step by not allowing a reduction below 17 ppm in the experiments conducted.

A.4 February 1990

Cleanup to 0.5 ppm appears to be prevented by the solvent interferences as reported in the February monthly report.

A.5 March 1990

Site activities are suspended with only routine maintenance work and site support going on in Portland. In summary, we believe that ECOVA invested considerable time and effort in attempting to solve the problem of solvent interference during this effort.

COST OF TASK 651 - EXPERIMENTAL OPERATIONS

Enclosed as Attachment A is a summary of monthly costs charged to Task 651 for the months of November 1989 to March 1990 inclusive. Detail for each month is also included. These charges are for efforts required to respond to the new conditions encountered at the site, for which ECOVA is requesting reimbursement.

Labor charges incurred for the period totaled $93,650. Expenses related to Task 651 totaled $3,255 for the period.

B. CHANGE ORDERS

B.1 Negotiations with Oregon DEQ

To obtain an achievable cleanup standard, it will be necessary to negotiate this with the Oregon DEQ. ECOVA will support Time Oil in this effort on a Time and materials (T&M) basis. At this time, we estimate that $12,190 will be required for this task. This covers the costs of technical personnel (Mahaffey, Borthen and Kinsella) to provide information to Time and attend one meeting in Portland. Should the actual effort be more or less than the estimated amount our costs would be adjusted accordingly.

C. ONGOING OPERATIONS

At our last meeting, Time informed ECOVA that the site had an untidy appearance that needed attention. ECOVA responded immediately by dispatching our Engineer (Jim Borthen) to the site who carried out necessary work and prepared a written report that was subsequently forwarded to Time Oil. This work was performed at ECOVA's cost.

Original ECOVA Proposal

Based on Jim's inspection, we believe that routine (i.e., once a month) maintenance of the site is required during shutdown. In addition, we believe it is fair and reasonable to receive a monthly rental for the equipment not in use during shutdown. We propose the following nominal costs:

Monthly Maintenance Inspection:	$1,700
Monthly Equipment Rental:	$3,000
Total	**$4,700**

These costs would be billed monthly beginning July, 1990 and terminate upon resumption of cleanup operations. We recommend that this item be added to the project as a fixed priced change order, effective for a maximum of six-months.

D. OTHER ITEMS

There are other items that Time believes are appropriate additions to the Scope of work and price of the contract that will be required as we move forward with site cleanup. These are:

- System modification
- Mobilization costs for penta contamination
- Groundwater modeling study

- Solvent soil boring study
- Treatment of contaminated water in Tank-16804
- Soil dioxin testing

These items have not been costed at this time.

We look forward to discussing the details of this presentation and of establishing new cleanup criteria with the regulatory agency which will allow further progress on remediation of the site.

If you have any questions, please call either of us, or Rod Carr at 883-1900.

Sincerely,

William B. Mahaffey, Ph.D.
Project Manager

John V. Kinsella, P.G.
Vice President, Operations

Attachments

cc: Rod Carr
Jim Borthen

SUMMARY SHEET - TIME OIL TASK 651 - EXPERIMENTAL OPERATIONS

MONTH	LABOR COST	EXPENSE COST	TOTAL MONTHLY COST
NOVEMBER 1989	$41,055	$550	$41,605
DECEMBER 1989	$16,020	$373	$16,393
JANUARY 1990	$23,350	$1,181	$24,531
FEBRUARY 1990	$8,250	$1,116	$9,366
MARCH 1990	$4,975	$35	$5,010
TOTALS	$93,650	$3,255	$96,905

TOLS009515

TIME OIL NORTHWEST TERMINAL - TASK 651 EXPERIMENTAL OPERATIONS

MONTH: MARCH 1990

PERSONNEL	HOURS	RATE	EXTENS'N
BORTHEN	34	$50	$1,700
EDWARDS		$95	$0
MAHAFFEY		$95	$0
MARSHALL-NOLL		$40	$0
SCHWEIGEL	71	$40	$2,840
BRINKMANN		$40	$0
ENNIS	2	$60	$120
LOMBARD		$30	$0
MACMURCHIE		$40	$0
MAZIARZ		$70	$0
NEIDECKER	0.5	$70	$35
MONTOYA		$60	$0
SKOGERSON		$40	$0
CHERBERG	1	$30	$30
PAULSEN		$30	$0
LANCE		$60	$0
KINSELLA	2	$125	$250
MONTH SUBTOTAL	110.5		$4,975

ASSOCIATED EXPENSES

$4,975

TOLS009516

TIME OIL NORTHWEST TERMINAL - TASK 651 EXPERIMENTAL OPERATIONS

MONTH: FEBRUARY 1990

PERSONNEL	HOURS	RATE	EXTENS'N
-BORTHEN	21	$50	$1,050
EDWARDS		$95	$0
-MAHAFFEY	15	$95	$1,425
MARSHALL-NOLL		$40	$0
-SCHWEIGEL	50	$40	$2,000
-BRINKMANN	11.5	$40	$460
-ENNIS	19	$60	$1,140
LOMBARD		$30	$0
-MACMURCHIE	18	$40	$720
MAZIARZ		$70	$0
-NEIDECKER	1.5	$70	$105
MONTOYA		$60	$0
-SKOGERSON	27	$40	$1,080
CHERBERG		$30	$0
PAULSEN		$30	$0
-LANCE	4.5	$60	$270
KINSELLA		$125	$0
MONTH SUBTOTAL	167.5		$8,250

ASSOCIATED EXPENSES

$8,250

TOLS009517

BZTO104(e)046349

TIME OIL NORTHWEST TERMINAL - TASK 651 EXPERIMENTAL OPERATIONS

MONTH: JANUARY 1990

PERSONNEL	HOURS	RATE	EXTENS'N
BORTHEN	124	$50	$6,200
EDWARDS		$95	$0
MAHAFFEY	48	$95	$4,560
MARSHALL-NOLL		$40	$0
SCHWEIGEL	147	$40	$5,880
BRINKMANN	3	$40	$120
ENNIS	17	$60	$1,020
LOMBARD		$30	$0
MACMURCHIE	30.5	$40	$1,220
MAZIARZ	30	$70	$2,100
NEIDECKER		$70	$0
MONTOYA	10	$60	$600
SKOGERSON	30	$40	$1,200
CHERBERG	1	$30	$30
PAULSEN	14	$30	$420
LANCE		$60	$0
KINSELLA		$125	$0
MONTH SUBTOTAL	454.5		$23,350

ASSOCIATED EXPENSES

$23,350

TOLS009518

BZTO104(e)046350

TIME OIL NORTHWEST TERMINAL - TASK 651 EXPERIMENTAL OPERATIONS

MONTH: DECEMBER 1989

PERSONNEL	HOURS	RATE	EXTENS'N
BORTHEN	116	$50	$5,800
EDWARDS		$95	$0
MAHAFFEY	22	$95	$2,090
MARSHALL-NOLL		$40	$0
SCHWEIGEL	112	$40	$4,480
BRINKMANN		$40	$0
ENNIS	3	$60	$180
LOMBARD	36	$30	$1,080
MACMURCHIE	58	$40	$2,320
MAZIARZ		$70	$0
NEIDECKER	1	$70	$70
MONTOYA		$60	$0
SKOGERSON		$40	$0
CHERBERG		$30	$0
PAULSEN		$30	$0
LANCE		$60	$0
KINSELLA		$125	$0
MONTH SUBTOTAL	348		$16,020

ASSOCIATED EXPENSES

$16,020

TOLS009519

BZTO104(e)046351

TIME OIL NORTHWEST TERMINAL - TASK 651 EXPERIMENTAL OPERATIONS

MONTH: NOVEMBER 1989

PERSONNEL	HOURS	RATE	EXTENS'N
BORTHEN	175	$50	$8,750
EDWARDS	50	$95	$4,750
MAHAFFEY	132	$95	$12,540
MARSHALL-NOLL	6.5	$40	$260
SCHWEIGEL	192	$40	$7,680
BRINKMANN	5	$40	$200
ENNIS	19	$60	$1,140
LOMBARD	112.5	$30	$3,375
MACMURCHIE	55.5	$40	$2,220
MAZIARZ	2	$70	$140
NEIDECKER		$70	$0
MONTOYA		$60	$0
SKOGERSON		$40	$0
CHERBERG		$30	$0
PAULSEN		$30	$0
LANCE		$60	$0
KINSELLA		$125	$0
MONTH SUBTOTAL	749.5		$41,055

ASSOCIATED EXPENSES

$41,055

TOLS009520

BZTO104(e)046352

ECOVA Corporation.....FAX

We are transmitting 2 page(s), including this cover page.

DATE: 7/17/90 **FAX #:** 283-8036

TO: FRED PROBY, TIME OIL

FROM: JOHN KINSELLA

COMMENTS:

ATTACHED "DUTIES PERFORMED" Information per your request.

John

If you did not receive this transmission clearly or have any questions, contact our office at: (206) 883-1900/FAX 867-2210

Mailing address: 3820 159th Avenue Northeast, Redmond, WA 98052

SUMMARY OF ECOVA COSTS 11/89 - 3/90
Task 651 "Experimental Operations"

		Nov 89		Dec 89		Jan 90		Feb 90		Mar 90		TOTALS		
Person	Rate	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	DUTIES PERFORMED
Borthen	50	175	8,750	116	5,800	124	6,200	21	1,050	34	1,700	470	23,500	ON-SITE SUPPORT FOR OPERATIONS
Edwards	95	50	4,750		0		0		0		0	50	4,750	PROJECT MANAGER
Mahaffey	95	132	12,540	22	2,090	48	4,560	15	1,425		0	217	20,615	SR. MICROBIOLOGIST → PROJECT MANAGER
Marshall	40	6.5	260		0		0		0		0	7	280	Laboratory-(MICRO) SUPPORT
Schweigel	40	192	7,680	112	4,480	147	5,880	50	2,000	71	2,840	572	22,880	ON-SITE SUPPORT FOR OPERATIONS
Brinkmann	40	5	200		0	3	120	11.5	460		0	20	780	Laboratory (chem.) Support
Ennis	60	19	1,140	3	180	17	1,020	19	1,140	2	120	60	3,600	Laboratory (Chem.) SUPPORT
Lombard	30	112.5	3,375	36	1,080		0		0		0	149	4,455	ON-SITE SUPPORT FOR OPERATIONS
MacMurchie	40	55.5	2,220	58	2,320	30.5	1,220	18	720		0	162	6,480	Laboratory (Chem.) SUPPORT
Mazierz	70	2	140		0	30	2,100		0		0	32	2,240	SR. CHEMIST FOR SOIL WASHING
Neidecker	70		0	1	70		0	1.5	105	0.5	35	3	210	PURCHASING MANAGER - PROCUREMENT
Montoya	60		0		0	10	600		0		0	10	600	ENGINEERING SUPPORT
Stegerson	40		0		0	30	1,200	27	1,080		0	57	2,280	ENGINEERING SUPPORT
Oberberg	30		0		0	1	30		0	1	30	2	60	CLERICAL/ADMINISTRATIVE
Paulsen	30		0		0	14	420		0		0	14	420	Laboratory (MICRO) SUPPORT
Lance	60		0		0		0	4.5	270		0	5	270	ENGINEERING/GEOLOGICAL
Kinsella	125		0		0		0		0	2	250	2	250	ECOVA PRINCIPAL-IN-CHARGE
Expenses			550		373		1,181		1,116		35	0	3,255	OTHER DIRECT EXPENSES
TOTALS		749.5	41,605	348	16,393	454.5	24,531	167.5	9,366	110.5	5,010	1,830	96,905	

JUL-17-1990 14:24 FROM ECOVA Corporation TO 9672210 P.02
JUL-17-1990 08:44 FROM TIME OIL SEATTLE, WA TO 9672210 P.02
TOTAL P.02
BZT0104(e)046354
TOLS009522

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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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

August 9, 1990

ECOVA Corporation
Attn: John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

Dear John:

Our negotiations over ECOVA's extra work on the Northwest penta project have reached a successful conclusion. Enclosed for your signature is change order number 4 for the $59,290 in "experimental" costs incurred in resloving the solvent interference problem as identified in your letter dated August 7, 1990. This covers all costs for work that has been done by ECOVA up to this date. You may submit an invoice for this amount at your earliest convenience. (I note that you have not returned signed copies of the previous change orders; please include those when you return this one.)

As we have discussed, there are two key areas of effort needed to get this project moving again. These are negotiations with the Oregon Department of Ecology to set an acceptable cleanup level and design modifications to the treatment system to effectively deal with the solvents. Both are outside of the scope of work. Accordingly, I would like you to prepare cost estimates for this work so that we may prepare two new change orders.

It will also be necessary to prepare a new project schedule, and a corresponding change order, once we have a handle on how long the DEQ negotiations will take.

I want to thank you and the others from ECOVA for your honest good faith effort to reach a fair settlement. I am now confident that we can bring this project to a successful conclusion.

Sincerely,

Fred Proby
Environmental Specialist

Enclosure a/s

FLP\aug

TOLS009523

BZTO104(e)046355

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 4
Date: August 9, 1990

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date November 9, 1988

Description of Extra Work	Actual Cost
1. Experimental operations from project initiation to date per ECOVA letter dated August 7, 1990.	$ 59,290.00
Total this Change Order	$ 59,920.00
Revised Contract Price	$511,647.005

Requested By: [signature] Date: 8/9/90

Approved By: [signature] Date: 8/9/90

Contractor: _____ Date: _____

FLP\con

TOLS009524

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

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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

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 4
Date: August 9, 1990

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date November 9, 1988

Description of Extra Work	Actual Cost
1. Experimental operations from project initiation to date per ECOVA letter dated August 7, 1990.	$ 59,290.00
Total this Change Order	$ 59,~~920~~ 290.00 JK FLP
Revised Contract Price	~~$511,647.00~~ RAK 511,617.00 FLP

Requested By: [signature] Date: 8/9/90

Approved By: [signature] Date: 8/9/90

Contractor: [signature] Date: 8/13/90

FLP\con

TOLS009525

BZTO104(e)046357

E C O V A

August 13, 1990

Mr. Fred Proby
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

Dear Fred:

Enclosed is the signed original of Change Order #4. Though it has been signed by all parties, I suggest that we amend or replace it with a corrected document that will correct the error in the next to the last dollar amount and the resulting summation of Revised Contract Price. The Revised Contract Price should be $59,290 added to the value after Change Order #3 of $451,727 for a total of $510,317.

Since your August 9, 1990 cover letter accompanying Change Order #4 was clear on the amount of the change, i.e. $59,290, ECOVA will place that amount in the que to be invoiced.

Also enclosed are xeroxes of the copies of Change Orders 1, 2, and 3 from our Original Contract File. Since I have only copies of the Change Orders on file here, I believe that the originals were properly returned to you upon our acceptance and bearing my signature.

A search of both the Project File, the Original Contract File, and my Working Contract File did not turn up the originals of these change orders confirming that the originals were returned to you as required. If your file for this job is as big as mine, I would fully understand if the originals had hidden themselves from ready retrieval.

Sincerely,

Roderick A. Carr

Roderick A. Carr
Contract Administrator

cc. John V. Kinsella

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
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New York, NY 10017
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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 4
Date: August 9, 1990

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date November 9, 1988

Description of Extra Work	Actual Cost
1. Experimental operations from project initiation to date per ECOVA letter dated August 7, 1990.	$ 59,290.00
Total this Change Order	290 JK FLP $ 59,920.00
Revised Contract Price	~~$511,647.00~~ BK 511,017.00 FLP

Requested By: _____ Date: 8/9/90

Approved By: _____ Date: 8/9/90

Contractor: _____ Date: 8/13/90

FLP\con

TOLS009527

BZTO104(e)046359

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
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SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 3
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Reason For Schedule Change	Weeks Added
1. Power drop to site delayed by Portland Electric due to bad weather	5
2. Discovery of solvents in excavation	3
3. Delay in locating clean soil for backfilling	5
Total Weeks Added to Schedule	13
Performance Period Extended To	September 9, 1990
Impact on Contract Price	None

Requested By: [signature]

Approved By: [signature]

Contractor: Roderick A. Carr
Contract Administrator
ECOVA CORP.

TOLS009528

BZTO104(e)046360

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 2
Date: October 31, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Collect eight soil samples for PCB analysis outside of Crosby & Overton dike wall	$ 700.00
Total this Change Order	$ 700.00
Revised Contract Price	$451,727.00

Requested By: Kirk Crosby

Approved By: R A Lundseth

Contractor: Roderick A. Carr
Contract Administrator
ECOVA CORP.

TOLS009529

BZTO104(e)046361

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX)206-283-8036

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TIME OIL COMPANY

2737 WEST COMMODORE WAY
P.O. BOX 24447, TERMINAL STATION

SEATTLE, WASHINGTON 98199-1233
SEATTLE, WASHINGTON 98124-0447

CONTRACT CHANGE ORDER

Contractor: ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Change Order Number: 1
Date: October 30, 1989

Project: Northwest Terminal
Pentachlorophenol Cleanup

Contract Date: November 9, 1988

Description of Extra Work	Actual Cost
1. Survey reference elevations of existing wells	$ 330.00
2. Use gasoline-compatible liner on Tank 38002	$ 670.00
3. Characterize contamination encountered in clean soil borrow area	$ 3,960.00
4. Evaluate additional solvents (eg. KB3) encountered during penta excavation:	
Collect additional samples	$ 930.00
Sample analysis	$ 3,620.00
Revise Health and Safety Plan	$ 360.00
5. Analyze water from Time Oil "slop tank"	$ 110.00
6. Additional effort on groundwater study:	
Extra pump test	$ 1,500.00
Analyze water for solvents	$ 300.00
7. Provide consultation on Oregon DEQ rules	$ 360.00
Total	$ 10,790.00
Less credit for power drop paid for by Time	$(4,763.00)
Total this Change Order	$ 6,027.00
Revised Contract Price	$451,027.00

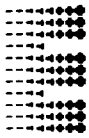
Requested By: _____

Approved By: _____

Contractor: Roderick A Carr
Contract Administrator
ECOVA Corp.

TOLS009530

F C O V A



August 14, 1990

Mr. Fred Proby
TIME OIL COMPANY
2737 West Commodore Way
Seattle, WA 98199-1233

Dear Fred:

In response to your letter of August 9, 1990, please find enclosed invoice #102484 for $66,017.00 which includes change order numbers 1, 2, and 4.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

John Kinsella
Project Manager

cc: Lorie Johnson
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
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Eastern Region
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ECOVA CORPORATION
3820 159TH AVENUE NE
REDMOND, WA 98052

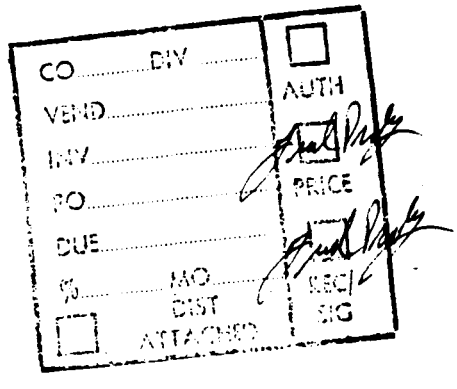
(206) 883-1900

INVOICE NUMBER: 0102484-IN
INVOICE DATE: 08/14/90
JOB MANAGER: MAHAFFEY
CUSTOMER NO: TIM0001
JOB NUMBER: 0821401

TIME OIL COMPANY
P.O. Box 24447
Terminal Station
Seattle WA 98124-0447 TERMS: Net 30 Days
CONTACT: Mr. ~~Don Butler~~ Fred Proby
CONTRACT # N/A Pipeline
COMMENT:

ORIGINAL CONTRACT AMOUNT:	445,000.00
TAXABLE AMOUNT:	.00
NON-TAXABLE AMOUNT:	66,017.00
AMOUNT BILLABLE THIS INVOICE:	66,017.00
INVOICE TOTAL:	66,017.00

PLEASE REMIT PAYMENT TO P.O. BOX 94081,
SEATTLE, WA 98124-9481



TOLS009532

JOB DESC: Time Oil, Portland Terminal

INVOICE NUMBER: 0102484-IN
INVOICE DATE: 08/14/90
JOB NUMBER: 0821401

COST CODE	TYPE	DESCRIPTION / BILL METHD	TX?	U/M	UNITS	TRAN DATE / BILL RATE	BILL AMOUNT
		CHANGE ORDER #1					
			N				6,027.00
		CHANGE ORDER #2					
			N				700.00
		CHANGE ORDER #4					
			N				59,290.00

NET INVOICE: 66,017.00

TOLS009533

E C O V A

August 20, 1990

P.N. 821401

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

RE: Contract Change Orders, Northwest Terminal Project

Dear Fred:

The purpose of this correspondence is to initiate the next phase, Phase II, of operations of our remediation effort at the NW Terminal in Portland. As mentioned previously to you, we feel this next phase should be divided into three tasks:

Task 1 — Assist Time Oil in approaching the Oregon Department of Environmental Quality (DEQ) and in initiating discussions with them. The purpose of those discussions should be three fold:

1) Negotiate a clean-up criteria which is achievable and will guarantee future compliance with all DEQ regulations.

2) Ensure that all work performed on this project meets their specifications

Task 2 — Perform an enhanced characterization of the stockpile. In particular, perform Dioxin analyses. It is expected that the presence or absence of Dioxin will play a major part in Task 1 discussions.

Task 3 — Redesign operations at the NW Terminal to account for presence of solvents, and any additional contaminants found in Task 2.

At the completion of Phase II, a third phase will be initiated which will use the results of Phase II to carry the project to completion. A more detailed description of each task follows.

Corporate Office
3820 159th Avenue
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
[illegible]
Suite 201
Dallas, TX [illegible]
[illegible]
[illegible] FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY [illegible]
(212) 682-[illegible]
(212) 661-[illegible] FAX

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TASK 1 - ASSIST TIME OIL IN NEGOTIATIONS WITH OREGON DEQ

This task will be performed on a Time and Material basis, with a Not-To-Exceed amount.

At this time it is unclear how much effort this task may require. Negotiations with environmental agencies can be very unpredictable. From working with the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology, and Oregon DEQ we believe that a proactive stance will yield the best results in the shortest time frame.

For cost purposes, we assumed that the following activities will be performed:

1) Communicate with DEQ as requested by Time Oil. To the greatest extent possible, communication with DEQ will be done via telephone, conference calls, or mail.

2) Perform research as requested by Time Oil. This may involve investigating EPA Records of Decision on similar projects, or doing investigative work required by DEQ.

3) Two trips to Portland to meet with DEQ officials are expected. One of these will presumably involve a site visit by DEQ.

4) It is expected that DEQ will want a report detailing the information that is currently available on the site. This may include an assessment of Best Available Technology and our experiences to date with this project.

5) Other activities as requested by Time Oil.

TASK 2 - ENHANCED CHARACTERIZATION OF STOCKPILE

This specifically means analysis of the stockpile for Dioxin. The following activities will be included in this:

1) Travel to the site and take two composite samples from the stockpile.

2) Ship samples to a lab which can perform Dioxin analysis and have them each analyzed.

3) Upon receipt of analytical results, interpret the results and convey the interpretation to all involved parties.

Our cost estimate does not include matrix spike or matrix spike duplicate (QA/QC) costs.

TASK 3 - REDESIGN OF PROCESS

Based on our experience with the site material, it is evident that the final slurry process used will be highly dependent upon the cleanup level. For example, a 100 ppm cleanup level will probably require less equipment redesign than a 20 ppm cleanup level. Therefore, following the Task 1 agreement, ECOVA will redesign the process and inform you of any major hardware required to achieve the specified cleanup goal. At this time, we assumed that the Project Engineer/Manager and Senior Microbiologist will be involved in this task.

Below is the estimated budget for the Tasks that have been outlined above:

Task 1	Negotiations with DEQ	$12,874
Task 2	Enhanced Characterization of Stockpile	5,790
Task 3	Redesign of Process	21,700
		$40,364

The attached table provides a detailed breakdown.

We would like to discuss this with you via a conference call at your earliest convenience, and discuss any obvious differences that may exist between your ideas and ours. Then, after review, meet with you to finalize these change orders into the contract.

We look forward to pursuing this project with renewed vigor.

Sincerely,

James Borthen
Project Manager

John Kinsella
V.P. Operations

	A	B	C	D	E	F	G	H	I	J
1	CLIENT:		TIME OIL			ECOVA CORPORATION				
2	LOCATION:		PORTLAND, OR.			PROJECT 821401				
3	FILENAME:		TIMEDEQ							
4										
5	ACTIVITY				QUANTITY		RATE			PRICE
6	ACTIVITY:		075 - REPORTS AND MEETINGS							
7	LABOR									
8		TECHNICAL PRINCIPAL			6	HRS	150			900
9		SENIOR MICROBIOLOGIST			40		125			5000
10		PROJECT MANAGER			50		115			5750
11		TECHNICAL WRITER			2		60			120
12		WORD PROCESSOR			2		36			72
13		DRAFTING			2		60			120
14										
15		SUBTOTAL LABOR			102	HRS				$11,962
16										
17	EXPENSES									
18		REPROGR./TELEPH			1	LS	240			240
19		TRAVEL			4	DY	60			240
20		SUBSISTANCE			4	DY	108			432
21										
22		SUBTOTAL EXPENSES								$912
23										
24	TOTAL - 075									$12,874
25										
26	ACTIVITY				QUANTITY		RATE			PRICE
27	ACTIVITY		030 - FURTHER ANALYSIS OF STOCKPILE							
28										
29	LABOR									
30		PROJECT MANAGER			10	HRS	115			1150
31		SENIOR MICROBIOLOGIST			10		125			1250
32		TECHNICAL PRINCIPAL			1		150			150
33										
34		SUBTOTAL LABOR			21	HRS				$2,550
35										
36	EXPENSES - ANALYTICAL									
37		DIOXIN ANALYSIS			2	EA	1500			3000
38		SHIPPING			1	LS	240			240
39										
40		SUBTOTAL EXPENSES								$3,240
41										
42	TOTAL - 030									$5,790

TOLS009537

BZTO104(e)046369

	A	B	C	D	E	F	G	H	I	J
43										
44	ACTIVITY				QUANTITY		RATE			PRICE
45	ACTIVITY:		040 - REDESIGN OF PROCESS EQUIPMENT							
46										
47	LABOR									
48		PROJECT MANAGER			150	HRS	115			17250
49		SENIOR MICROBIOLOGIST			20		125			2500
50		TECHNICAL PRINCIPAL			5		150			750
51		DRAFTING			20		60			1200
52										
53		SUBTOTAL LABOR								$21,700
54										
55	TOTAL - 040				175	HRS				$21,700
56										
57	TOTAL PHASE II									$40,364
58										

TOLS009538

BZTO104(e)046370

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

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

TELEPHONE: (206) 285-2400
FAX #: (206) 283-8036
CONFIRMATION: (206) 285-2400

CABLE ADDRESS: TIMOIL
TWX/TELEX: 9104442039
EASYLINK: 62073685

FACSIMILE TRANSMITTAL

FROM: Fred Proby

DATE 8/31/90

NO. OF PAGES INCLUDING COVER 4

TO: John Kinsella / Jim Borthen

COMPANY Ecova Corp

ADDRESS

CITY/STATE Redmond, WA

RECEIVING FAX # 867-2210

☐ IF THIS BOX IS CHECKED PLEASE CONFIRM THAT YOU HAVE RECEIVED LEGIBLE COPIES OF ALL PAGES AT 206-285-2400 EXT. ~~378~~ 444

John & Jim

You're getting the original via the mail, [illegible] gives you a head start.

Fred

[illegible] draft a response [illegible] meeting. My comm[illegible]

[illegible]

TOLS009539

BZTO104(e)046371

PHONE 285-2400
CABLE ADDRESS TIMOIL
FAX:206-283-8036

SEATTLE
TACOMA
PORTLAND
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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

August 31, 1990

ECOVA Corporation
Attn: Mr. John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

RE: Contract Change Orders, Northwest Terminal Penta project

Dear John:

I have reviewed your August 20 letter outlining requested Change Orders for the Northwest Terminal Penta project and have the following comments, suggestions and questions:

Task 1

The goals of Task 1, which if approved would become Change Order number 5, are well stated, but the objectives do not appear to have been defined. I recognize that it may be difficult to forsee everything that the Department of Environmental Quality may request. However, it would be helpful to be more specific as to what we will ask the DEQ to approve. That, to my way of thinking, is what it means to be "proactive". The following are suggested objectives that we can discuss among ourselves and refine. I am sure that you will be able to think of others.

1. Establish a penta cleanup criteria of 50 ppm in soil and ??? 0.5 ppm in water.

2. Establish a solvent cleanup criteria of 200 ppm in soil and ??? ppm in water.

3. No further action required in the area of the penta excavation (except for the known contamination near the corner of the stockpile).

3. No restrictions placed on air or fugitive dust emissions.

4. No restrictions imposed with respect to dioxin and no dioxin monitoring required.

5. Downgradient water quality monitoring for penta and solvents at no more than three points at a frequency no greater than quarterly for no more than two years beyond project completion.

6. Reporting to the DEQ at a frequency no less than quarterly.

7. A dollar limit placed on the level of oversight that DEQ is allowed to charge to Time Oil Co.

With respect to the budget for Change Order number 5, it is not clear to what extent you may be relying on my participation in the negotiation process. You have only budgeted 2.4 man-weeks of technical time and only a few hours for support staff. For example, whom do you forsee taking the lead role for correspondence? If my participation is to be extensive, then we need to better define the tasks to be accomplished and who has responsibility for each one.

The personnel that will be working on this task are not identified, but it appears that the hourly rates on which your estimate is based are substantially higher than those that have been charged to this project as listed on the "Summary of ECOVA Costs" table provided to us on 7/17/90. I assume that you are the technical principal; from $125 per hour ~~to $150~~ per hour represents a 20% increase. If Bill Mahaffey is the senior microbiologist, then his rate reflects a 31.6% raise. How do you justify these increases? Have these new rates been adopted, or is this a portent of the future? [As an aside, are your rates consistent on all of our jobs? It seems that you have been charging $95 per hour on Visalia.]

↳ On the JVK is PM

Finally, what level of documentation of your work to date do you anticipate the DEQ will require? Have you budgeted sufficient time to gather and summarize all pertinent project data?

Task 2

I find it difficult to justify such a high administrative cost to collect and ship two soil samples. Consequently, we will handle this task ourselves.

Task 3

Task 3, if approved, would become Change Order number 6. Unfortunately, your letter provides no information at all on what would actually be done. What is the nature of the design changes that you anticipate making? It is our understanding that any "redesign" will be limited to changes that are needed to address the solvent problem, since the presence of solvents is ECOVA's demonstrated reason for failing to meet the original cleanup level. Time Oil Co should not have to pay for a complete "back to the drawing board". If this is not your understanding, then we need more discussion on the subject.

^

TOLS009541

BZTO104(e)046373

"Phase III"

The last sentence on the first page of your letter mentions a "third phase" to the project. This appears to refer to soil treatment, but the wording of the sentence makes me a little nervous. The word "initiate" implies something new, but soil treatment has already been negotiated. The purpose of Change Order number 5 is to set a new penta cleanup criteria and establish a criteria for the solvents. The purpose of Change Order number 6 is to modify the treatment system as needed to attain the new cleanup criteria. Once those tasks have been accomplished, we should be back on the track laid out by our contract; namely, treatment of 3,440 cubic yards of soil for $285,000 plus $90 per cubic yard for any amount of soil in excess of 3,440 cubic yards. (Plus a Change Order for mobilization costs to excavate the areas of known remaining contamination.) Again, if this is not your understanding, then we need more discussion on the subject.

Finally, it appears from the signature block that Jim Borthen has been promoted from field operations to project manager. That makes four project managers in two years.

I will be out of town the first part of next week, so I suggest we get together on Thursday or Friday (September 6 or 7) to discuss the questions I have raised. Both Don and I could come to your offices and we will go over both this and the Visalia project.

Sincerely,

Fred Proby
Environmental Specialist

FLP\aug

TOLS009542

TOTAL P.04

PHONE 285-2400
CABLE ADDRESS: TIMOIL
FAX)206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

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

August 31, 1990

ECOVA Corporation
Attn: Mr. John Kinsella
3820 159th Avenue NE
Redmond, WA 98052

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Sincerely,

Fred Proby
Environmental Specialist

FLP\aug

The 3rd phase (treatment) is already covered by our contract. The purpose of this C.O. is to get us back on that track.

E C O V A

August 20, 1990 P.N. 821401

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

RE: Contract Change Orders, Northwest Terminal Project

Dear Fred:

The purpose of this correspondence is to initiate the next phase, Phase II, of operations of our remediation effort at the NW Terminal in Portland. As mentioned previously to you, we feel this next phase should be divided into three tasks:

Task 1 Assist Time Oil in approaching the Oregon Department of Environmental Quality (DEQ) and in initiating discussions with them. The purpose of those discussions should be three fold:

1) Negotiate a clean-up criteria which is achievable and will guarantee future compliance with all DEQ regulations.

2) Ensure that all work performed on this project meets their specifications

Delete

Task 2 Perform an enhanced characterization of the stockpile. In particular, perform Dioxin analyses. It is expected that the presence or absence of Dioxin will play a major part in Task 1 discussions.

Task 3 Redesign operations at the NW Terminal to account for presence of solvents, and any additional contaminants found in Task 2.

At the completion of Phase II, a third phase will be initiated which will use the results of Phase II to carry the project to completion. A more detailed description of each task follows.

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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TASK 1 - ASSIST TIME OIL IN NEGOTIATIONS WITH OREGON DEQ

This task will be performed on a Time and Material basis, with a Not-To-Exceed amount.

At this time it is unclear how much effort this task may require. Negotiations with environmental agencies can be very unpredictable. From working with the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology, and Oregon DEQ we believe that a proactive stance will yield the best results in the shortest time frame.

For cost purposes, we assumed that the following activities will be performed:

1) Communicate with DEQ as requested by Time Oil. To the greatest extent possible, communication with DEQ will be done via telephone, conference calls, or mail.

2) Perform research as requested by Time Oil. This may involve investigating EPA Records of Decision on similar projects, or doing investigative work required by DEQ.

3) Two trips to Portland to meet with DEQ officials are expected. One of these will presumably involve a site visit by DEQ.

4) It is expected that DEQ will want a report detailing the information that is currently available on the site. This may include an assessment of Best Available Technology and our experiences to date with this project.

5) Other activities as requested by Time Oil.

TASK 2 - ENHANCED CHARACTERIZATION OF STOCKPILE

This specifically means analysis of the stockpile for Dioxin. The following activities will be included in this:

1) Travel to the site and take two composite samples from the stockpile.

2) Ship samples to a lab which can perform Dioxin analysis and have them each analyzed.

3) Upon receipt of analytical results, interpret the results and convey the interpretation to all involved parties.

not to DEQ unless we choose

Our cost estimate does not include matrix spike or matrix spike duplicate (QA/QC) costs. plus a blank (QA/QC should be included in cost of analysis)

TASK 3 - REDESIGN OF PROCESS

Based on our experience with the site material, it is evident that the final slurry process used will be highly dependent upon the cleanup level. For example, a 100 ppm cleanup level will probably require less equipment redesign than a 20 ppm cleanup level. Therefore, following the Task 1 agreement, ECOVA will redesign the process and inform you of any major hardware required to achieve the specified cleanup goal. At this time, we assumed that the Project Engineer/Manager and Senior Microbiologist will be involved in this task.

Any re-design should be limited to that necessary to deal with the solvents. Time shouldn't have to pay for a complete "back to the drawing board"

E C O V A

Below is the estimated budget for the Tasks that have been outlined above:

Task 1	Negotiations with DEQ	~~$12,874~~ 300
~~Task 2~~	~~Enhanced Characterization of Stockpile~~	~~5,790~~
Task 3	Redesign of Process	21,700
		~~$40,364~~ 34,600

The attached table provides a detailed breakdown.

We would like to discuss this with you via a conference call at your earliest convenience, and discuss any obvious differences that may exist between your ideas and ours. Then, after review, meet with you to finalize these change orders into the contract.

We look forward to pursuing this project with renewed vigor.

Sincerely,

James Borthen
Project Manager

John Kinsella
V.P. Operations

	A	B	C	D	E	F	G	H	I	J
1	CLIENT:		TIME OIL			ECOVA CORPORATION				
2	LOCATION:		PORTLAND, OR.			PROJECT 821401				
3	FILENAME:		TIMEDEQ							
4										
5	ACTIVITY				QUANTITY		RATE			PRICE
6	ACTIVITY:		075 - REPORTS AND MEETINGS							
7	LABOR									
8		TECHNICAL PRINCIPAL			6	HRS	150			900
9		SENIOR MICROBIOLOGIST			40		125			5000
10		PROJECT MANAGER			50		115			5750
11		TECHNICAL WRITER			2		60			120
12		WORD PROCESSOR			2		36			72
13		DRAFTING			2		60			120
14										
15		SUBTOTAL LABOR			102	HRS				$11,962
16										
17	EXPENSES									
18		REPROGR./TELEPH			1	LS	240			240
19		TRAVEL			4	DY	60			240
20		SUBSISTANCE			4	DY	108			432
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22		SUBTOTAL EXPENSES								$912
23										
24	TOTAL - 075									$12,874
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27	ACTIVITY		030 - FURTHER ANALYSIS OF STOCKPILE							
28										
29	LABOR									
30		PROJECT MANAGER			10	HRS	115			1150
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37		DIOXIN ANALYSIS			2	EA	1500			3000
38		SHIPPING			1	LS	240			240
39										
40		SUBTOTAL EXPENSES								$3,240
41										
42	TOTAL - 030									$5,790

why both?

?

cut this log
No sense paying Ecova $2,790 for what I can do for $

TOLS009550

	A	B	C	D	E	F	G	H	I	J
43										
44	ACTIVITY				QUANTITY		RATE			PRICE
45	ACTIVITY:		040 - REDESIGN OF PROCESS EQUIPMENT							
46										
47	LABOR									
48		PROJECT MANAGER			150	HRS	115			17250
49		SENIOR MICROBIOLOGIST			20		125			2500
50		TECHNICAL PRINCIPAL			5		150			750
51		DRAFTING			20		60			1200
52										
53		SUBTOTAL LABOR								$21,700
54										
55	TOTAL - 040				175	HRS				$21,700
56										
57	TOTAL PHASE II									$40,364
58										

TOLS009551

BZTO104(e)046383

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)
11/5/90

PRODUCER

CORROON & BLACK, INC.
P.O. Box C-34201
Seattle, WA 98124
(206) 386-7400

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

ECOVA CORPORATION
3820 - 159th Ave. NE
Redmond, WA 98052

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A — National Union Fire Insurance Co.
COMPANY LETTER B — First National Insurance Co. of America
COMPANY LETTER C —
COMPANY LETTER D —
COMPANY LETTER E —

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$ 5,000,000
A	x COMMERCIAL GENERAL LIABILITY	GLCM 8030210	10/30/90	10/30/91	PRODUCTS-COMP/OP AGG.	$ 5,000,000
	x CLAIMS MADE OCCUR.				PERSONAL & ADV. INJURY	$ 5,000,000
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$ 5,000,000
	x WA Stop Gap				FIRE DAMAGE (Any one fire)	$ 50,000
					MED. EXPENSE (Any one person)	$ 5,000
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$ 1,000,000
B	x ANY AUTO	BA 2184357B	10/30/90	10/30/91		
	ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	SCHEDULED AUTOS					
	x HIRED AUTOS				BODILY INJURY (Per accident)	$
	x NON-OWNED AUTOS					
	GARAGE LIABILITY				PROPERTY DAMAGE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	UMBRELLA FORM				AGGREGATE	$
	OTHER THAN UMBRELLA FORM					
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS	
					EACH ACCIDENT	$
					DISEASE—POLICY LIMIT	$
					DISEASE—EACH EMPLOYEE	$
	OTHER					
A	CONTRACTOR'S POLLUTION LIABILITY	CPL 5649410	10/30/90	10/30/91	$1,000,000 Each Loss $2,000,000 Total for All Losses	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Re: Job #821401 - Pentachlorophenol Remediation
The certificate holder is added as an additional insured as respects their interest in the insured's operation

CERTIFICATE HOLDER

Time Oil Company
2737 W. Commodore Way
Seattle WA 98199
Attn: Fred Proby

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
DUNCAN BRONSON Duncan Bronson (26)

ACORD 25-S (7/90)

©ACORD CORPORATION 1990

CORROON & BLACK, INC.

November 5, 1990

Time Oil Company
2737 W. Commodore Way
Seattle WA 98199
Attn: Fred Proby

Re: Ecova Corporation

Gentlemen:

We are pleased to enclose documents indicated below:

X	Certificate of Insurance
	Memorandum of Insurance
	Original Policy (As Captioned)
	Copy of Policy (As Captioned)
	Loss Payable and/or Mortgage Clause
	Contract of Sale Clause
	Cover Note and/or Binder
	Other

The enclosed is issued in connection with:

Evidence of Insurance

We trust you will find the enclosure(s) to be entirely satisfactory.

Very truly yours,

By Jennifer L. Flath
Jennifer L. Flath
(206) 386-7483

JF:mj/Enclosure

cc: Ecova Corporation
National Union Fire Insurance Co.
First National Insurance Co. of America

P.O. Box C-34201 Zip 98124
4200 Columbia Center
701 Fifth Avenue, Seattle, WA 98104
(206) 386-7400 FAX: (206) 386-7960
Insurance • Bonds • Benefits • Risk Management

TOLS009553

BZTO104(e)046385

December 26, 1990

^F1^
^F2^
^F3^

SUBJECT: Voluntary Cleanup Agreement

^F4^

This letter responds to your request to investigate and/or cleanup contaminated property under the review and oversight of the Oregon Department of Environmental Quality (DEQ) Voluntary Cleanup Program. This letter also serves as an agreement between DEQ and ^F2^ regarding DEQ review and oversight of the investigation and/or cleanup of hazardous substances at your property located at _____
_____.

DEQ agrees to review environmental documents submitted by you or on your behalf regarding the investigation and/or cleanup of the above referenced site. Additional DEQ oversight details will be established upon review of the initial site data.

DEQ requires that persons seeking DEQ review and oversight of investigation and cleanup activities provide a minimum deposit of $5,000.00 as an advance against costs which DEQ will incur. The advance deposit must be in the form of a check payable to DEQ. When you have signed this letter to formalize your request, and your deposit has been received by DEQ, a sub-account of the Hazardous Substances Remedial Action Fund will be established to be drawn upon by DEQ as project costs are incurred.

DEQ project costs will include direct costs and indirect costs. Direct costs include site-specific expenses and legal costs. Indirect costs are defined as administrative, clerical and other overhead expenses allocable to DEQ's oversight of activities associated with your property. Review and oversight costs shall not include any unreasonable costs or costs not otherwise recoverable by DEQ under ORS 465.255.

DEQ will provide you with a monthly statement, a sample of which is attached. Because of the limited scope of work envisioned under this Letter Agreement, accounting details above the level of the sample attached will not be provided by DEQ. In the event project costs exceed the sub-account balance, DEQ will submit to you an invoice for any costs in excess of the advance. In the event project costs do not exceed the sub-account balance, DEQ will refund within 60 days of the close of the project any amount of the

SAMPLE ACCOUNTING SCHEDULE

Department of Environmental Quality
Accounting Schedule
COMPANY NAME

7/14/88 - 11/30/88

	Current Month (November, 1988)	To Date	
Beginning Balance			- 0 -
Receipts:	$ 0	$ 0	0
Expenditures:			
Personal Services & OPE	$ 0	$ 0	
Attorney General	0	0	
Travel Expenses	0	0	
Services and Supplies	0	0	
Professional Services	0	0	
Indirect Costs	0	0	
Total Operating Expenditures	$ 0	$ 0	0
Balance Due (of Available) at 11/30/88			$ 0

TOLS009556

BZTO104(e)046387

SAMPLE ACCOUNTING SCHEDULE

Department of Environmental Quality
Accounting Schedule
COMPANY NAME

7/14/88 - 11/30/88

	Current Month (November, 1988)	To Date	
Beginning Balance			- 0 -
Receipts:	$ 0	$ 0	0
Expenditures:			
Personal Services & OPE	$ 0	$ 0	
Attorney General	0	0	
Travel Expenses	0	0	
Services and Supplies	0	0	
Professional Services	0	0	
Indirect Costs	0	0	
Total Operating Expenditures	$ 0	$ 0	0
Balance Due (of Available) at 11/30/88			$ 0

TOLS009556

BZTO104(e)046388

Rcd 1/9/91 FLP

ECOVA

January 3, 1991 P.N. 821401

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

RE: NW Terminal Penta Project, Change Orders 5, 6, and 7

Dear Fred:

I have received your letter dated November 21, 1990 concerning the referenced change orders. The following comments pertain to those change orders:

CHANGE ORDER 5 - DEQ NEGOTIATIONS

The total price for this change order has been broken down into three categories, as you had suggested. The cost breakdown is given in Attachment A, and summarized below:

Phase 075 - Reports and Meetings	
Subphase 503 - Regulatory Interface - Historical Report	$ 8,155
Subphase 504 - Regulatory Interface - DEQ Negotiations	9,565
Subphase 505 - Regulatory Interface - Research and Correspondence	20,050
Total	$37,770

It is worth mentioning that these are estimates which ECOVA feels should be adequate to complete the tasks described. However, the process of negotiating with ODEQ is not entirely under the control of ECOVA or Time Oil, and for that reason this work has been costed on a Time and Materials basis.

CHANGE ORDER 6 - COVER FOR SOIL PILE

Having received your authorization, the cover is on order. It is expected that the cover will be on site by the first week in February.

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

California Region
330 Village Lane
Los Gatos, CA 95030
(408) 354-8230
(408) 354-1852 FAX

Eastern Regional Office
3 Bethesda Metro Center
Suite 750
Bethesda, MD 20814
(301) 961-9031
(301) 657-9776 FAX

ECOVA

CHANGE ORDER 7 - ONGOING OPERATIONS

The charge for on going operations (as described in ECOVA's letter to you dated November 9, 1990) consists of two items: maintenance and equipment.

Monthly Maintenance Inspection

In our experience during the last eight months, keeping the site at a minimum level of efficiency requires approximately two work days per month.

Activities performed consist largely of pumping accumulated water to storage, repairing equipment that is currently operating on site, and on site administrative work.

Costs associated with this activity include:

Travel to and from Portland	
Labor (6 hrs x $115.00/hr)	$690.00
Milage (400 miles x $.22/mile)	88.00
Misc. Travel Expenses	100.00
Labor (8 hrs x $115.00/hr)	920.00
Total Charge for one trip	$ 1,798.00

Your comments concerning the labor rate of $115 per hour are well founded. The reason for us showing this rate was to cover the cost of having me personally perform the work (I know the site and am familiar with the equipment). I have made the visits to date, and therefore this rate will apply to past work. It is our intention to train an individual to perform this task at a reduced rate. We will then bill you at this reduced rate.

Monthly Equipment Rental

Obviously, there is a great deal of equipment on site which cannot be released for use on other projects. Additionally, there is equipment which is being used on a regular basis which experiences normal wear, and, there is maintenance and regular repair on this equipment (examples of recent repair expenses are available upon request). Equipment which is being used on a regular basis and typical rental rates are:

3 pumps (2 submersible, 1 diaphragm) $80/week each	$ 960/month
2 storage tanks, 15,000 gallons $900/month each	1,800
Compressor, 250 cfm	600
Total	$3,360/month

We therefore believe that $3,000 is a fair and reasonable monthly fee.

821401/TOC-LJ03:bkh/1

TOLS009558

BZTO104(e)046390

E C O V A

Unfortunately, although the project is currently on hold, ECOVA continues to incur expenses directly associated with the project. It is for that reason that we want to proceed with DEQ negotiations as quickly as possible, and finish the project. It is also for that reason that we feel justified in making a claim for some of the costs which we are bearing.

Please call at the earliest convenient time so we can discuss these changes, iron out any problems, and move forward with the project.

Sincerely,

James Borthen, P.E.
Project Manager

821401/TOC-LJ03:mkh/1

TOLS009559

BZTO104(e)046391

ATTACHMENT A

CLIENT : TIME OIL PORTLAND
LOCATION:PORTLAND
FILENAME: TIMEDEQ3.WK1

ECOVA CORPORATIO
PROJECT NO.

COST ESTIMATE SUMMARY

ACTIVITY	PRICE ($)
PHASE: 075 - REPORTS AND MEETINGS	
SUBPHASE: 503 - REG. INTERFACE - HISTORICAL REPORT	8,155
SUBPHASE: 504 - REG. INTERFACE - DEQ INTERFACE	9,565
SUBPHASE: 505 - REG. INTERFACE - RES. & CORR.	20,050
TOTAL PHASE 075	37,770

TOLS009560

PHASE	QUANTITY	RATE	M/U	PRICE
PHASE: 075 - REPORTS AND MEETINGS				
SUBPHASE: 503 - REGULATORY INTERFACE - HISTORICAL REPORT				
LABOR				
TECHNICAL PRINCIPAL	2	150		300
SENIOR MICROBIOLOGIST	10	125		1,250
PROJECT MANAGER	50	115		5,750
TECHNICAL WRITER	5	60		300
WORD PROCESSOR	2	40		80
DRAFTING	1	60		60
ADMIN. SUPPORT	5	35		175
SUBTOTAL LABOR	75			7,915
EXPENSES				
REPROGR./TELEPH.	1 LS	240		240
SUBTOTAL EXPENSES				$240
TOTAL SUBPHASE 503				8,155

PHASE	QUANTITY	RATE	M/U	PRICE
SUBPHASE: 504 - REGULATORY INTERFACE - MEETINGS AND DEQ INTER				
LABOR				
TECHNICAL PRINCIPAL	4	150		600
SENIOR MICROBIOLOGIST	30	125		3,750
PROJECT MANAGER	30	115		3,450
TECHNICAL WRITER	2	60		120
WORD PROCESSOR	1	40		40
ADMIN. SUPPORT	3	35		105
SUBTOTAL LABOR	70			8,065
EXPENSES				
TRAVEL	10 DAYS	150		1,500
SUBTOTAL EXPENSES				$1,500
TOTAL SUBPHASE 504				9,565

PHASE	QUANTITY	RATE	M/U	PRICE
SUBPHASE: 505 - REGULATORY INTERFACE - RESEARCH/CORRESPONDANC				
LABOR				
TECHNICAL PRINCIPAL	6	150		900
SENIOR MICROBIOLOGIST	40	125		5,000
PROJECT MANAGER	120	115		13,800
TECHNICAL WRITER	3	60		180
WORD PROCESSOR	1	40		40
DRAFTING	1	60		60
ADMIN. SUPPORT	2	35		70
TOTAL SUBPHASE 504				20,050
TOTAL PHASE 075				37,770

TOLS009562

Rcd 12/20

ECOVA

December 17, 1990

Mr. Fred Proby
TIME OIL COMPANY
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #102577 for change order number six.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

James Borthen
Project Manager

Enclosures

cc: Lorie Johnson
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

Printed on Recycled Paper

****** INVOICE ****** PAGE:

ECOVA CORPORATION
3820 159TH AVENUE NE
REDMOND, WA 98052

(206) 883-1900

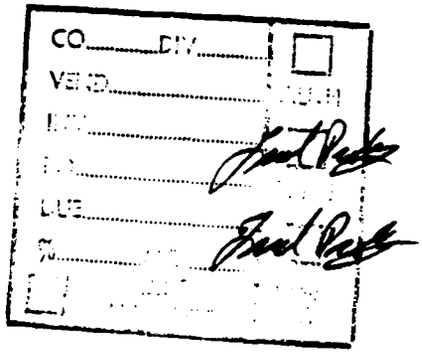
TIME OIL COMPANY
P.O. Box 24447
Terminal Station
Seattle WA 98124-0447
CONTACT: Mr. Fred Proby

CONTRACT #
COMMENT:

INVOICE NUMBER: 0102577-IN
INVOICE DATE: 11/30/90
JOB MANAGER: BORTHEN
CUSTOMER NO: TIM0001
JOB NUMBER: 082140.
TERMS: Net 30 Days

ORIGINAL CONTRACT AMOUNT:	445,000.00
TOTAL CHANGE ORDERS:	66,017.00
REVISED CONTRACT AMOUNT:	511,017.00
TAXABLE AMOUNT:	.00
NON-TAXABLE AMOUNT:	3,760.00
AMOUNT BILLABLE THIS INVOICE:	3,760.00
INVOICE TOTAL:	3,760.00

PLEASE REMIT PAYMENT TO P.O. BOX 94081,
SEATTLE, WA 98124-9481



TOLS009564

BZTO104(e)046396

ECOVA CHANGE ORDER

CLIENT:

PROJECT:

LOCATION:

CHANGE ORDER NO. 6

DATE 9/13/90

ORIGINATOR ECOVA

PROJECT NO. 821401

COST CODE

DESCRIPTION OF CHANGE

Tarp to cover pile of contaminated soil.

CAUSE OF CHANGE

Due to upcoming negotiations with ODEQ and the inevitable site visit, a cover should be placed on the pile to reduce dust and make the site look more presentable and orderly.

SCHEDULE IMPACT

None

QUALITY IMPACT

Reduce Dust

Improve site appearance for site visit.

COST IMPACT

$3,760.00

PROPOSED:

$ 3,760.00 Amount — ECOVA Project Manager — 9/17/90 Date

Roderick A Carr — ECOVA Contract Administrator — 9/17/90 Date

TOLS009565

ACCEPTED:

$ 3,760.00 Amount — Client Project Manager — 4/24/90 Date

BZTO104(e)046397

PHONE 285-2400
CABLE ADDRESS. TIMOIL
(FAX)206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

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

November 21, 1990

ECOVA
Attn: Mr. Jim Borthen
3820 159th Avenue NE
Redmond, WA 98052

RE: NW Terminal penta project Change Orders 5, 6 & 7

Dear Jim:

I have reviewed your change order requests for DEQ negotiations (CO #5), a tarp to cover the soil pile (CO #6) and site maintenance and equipment rental (CO #7). Change Order #6, in the amount of $3,760, is approved and a signed copy is enclosed. I have several questions on Change Orders #5 and #7 that need to be answered before they can be approved.

My initial reaction to Change Order number #5 is that the cost appears to be high. However, I realize that preparing a report documenting the work accomplished to date will take substantial effort and the amount of time that the DEQ will require is unknown. My primary concern is that the $37,770 budget is not broken down into measurable progress goals. Therefore, I would first like to see a task breakdown with a dollar amount allocated to each task. I would suggest that appropriate tasks are report preparation, meeting attendance and research/correspondence. You may wish to identify others. I will expect you to complete the known work on <u>each</u> task for <u>less</u> than the budgeted amount so there will be a contingency available within the $37,770 to cover unanticipated work that the DEQ may require.

I cannot recommend approval of Change Order #7 on the basis of the information provided. First, $1,700 for less than two days work is completly unacceptable for "maintenance." Surely, ECOVA has someone capable of performing those functions for less than $115 per hour. Secondly, no rationale is provided for the $3,000 per month "equipment rental" charge. What is the basis for this figure and how was it derived?

Sincerely,

Fred Proby
Environmental Specialist

Enclosure a/s
FLP\nov

TOLS009566

BZTO104(e)046398

ECOVA CHANGE ORDER

CLIENT:

PROJECT:

LOCATION:

CHANGE ORDER NO. 6

DATE 9/13/90

ORIGINATOR ECOVA

PROJECT NO. 821401

COST CODE

DESCRIPTION OF CHANGE

Tarp to cover pile of contaminated soil.

CAUSE OF CHANGE

Due to upcoming negotiations with ODEQ and the inevitable site visit, a cover should be placed on the pile to reduce dust and make the site look more presentable and orderly.

SCHEDULE IMPACT

None

QUALITY IMPACT

Reduce Dust

Improve site appearance for site visit.

COST IMPACT

$3,760.00

PROPOSED:

$ 3,760.00 Amount — ECOVA Project Manager — 9/17/90 Date

Roderick A Carr — ECOVA Contract Administrator — 9/17/90 Date

ACCEPTED:

$ 3,760.00 Amount — Client Project Manager — 4/24/90 Date

TOLS009567

BZTO104(e)046399

E C O V A

September 17, 1990 P.N. 821401

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

RE: Contract Change Orders, Northwest Terminal Project

Dear Fred:

Resulting from discussions during our meeting on September 7, 1990, Change Orders #5 and #6 are attached and described below.

CHANGE ORDER #5

Change Order #5 is for activities associated with negotiating with the Oregon Department of Environmental Quality (ODEQ) for cleanup levels of PCP and solvents.

Expected activities to be included under Activity 075 include:

* Travel to Portland to meet with ODEQ officials, and for site visits.
* Field Pilot Demonstration Report
* Other reports and activities which are needed to support Time Oil in their negotiations with ODEQ.

The Not To Exceed budget for these activities is attached.

CHANGE ORDER #6

Change Order #6 is for a tarp. The purpose of the tarp is to cover the pile and eliminate the possibility of wind blown contaminated dust, and to give the site more "eye appeal" by making it look neat and clean.

Purchase Price $3,760.00

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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Also included with this letter is a package of information from ODEQ on their Voluntary Cleanup Program.

Sincerely,

James Borthen, P.E.
Project Manager

E C O V A

November 9, 1990

Mr. Joe Sanzo
Environmental Manager
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98119-1233

P.N. 821401/407

RE: Project Status Reports

Dear Joe:

As we move towards the end of the year I thought it would be helpful to summarize where we've been and where we are going on current projects.

Visalia Cleanup

The skid unit arrived at the site this week and is currently being hooked-up. We have experienced more fun and games from the Building Department; they have delayed final approval pending a detailed response plan on how we would deal with spilt carbon on the highway and the rationale for fence slats! Following their approval we will be able to move forward with the Power Company for our hook-up. Assuming no last minute problems, the system should be operational by the end of the month. We then anticipate full-scale cleanup operations in 1991 with routine monitoring visits.

Northwest Terminal

The last time we met on the Northwest Terminal project was on September 7, 1990. At that meeting we agreed to submit two change order requests; No. 5 for DEQ negotiations and system redesign and No. 6 for a tarp to cover the soil stockpile. These were duly submitted on September 17, 1990 and we are currently waiting for a response.

Now that the wet weather has arrived, it will be necessary to make monthly visits for routine maintenance and to ensure that the sumps are operating. Jim Borthen made such a visit this week to replace a pump that was not working. Back in July, we had recommended that a change order be issued to cover these costs ($4,700/month) while we were negotiating with the DEQ. At that time, we had assumed we would be back up and running on-site cleanup and that these

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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visits would not be necessary. This does not now appear to be the case and hence we are submitting change order No. 7 (attached).

To move forward on the project, we need you to: approve change orders 5 and 6; approve change order No. 7 for routine maintenance. With these changes in place, we can make progress at the site.

Joe, 1990 has been a year of defining goals and resolving issues. We will realize those goals in 1991 and demonstrate real progress at both sites. I believe 1991 can be a very productive year for us at both sites.

Sincerely,

John V. Kinsella
Vice President, Operations

Attachments

821401/TO-L_n09:bkh/1

ECOVA CHANGE ORDER

CLIENT: Time Oil

PROJECT: NW Terminal

LOCATION: Portland

821401/JSW.n09:bkh/1

CHANGE ORDER NO.	7
DATE	11/09/90
ORIGINATOR	ECOVA
PROJECT NO.	821401
COST CODE	

DESCRIPTION OF CHANGE
Monthly (Approximate) trip to Portland to do routine maintenance on site.

CAUSE OF CHANGE
Because operations are temporarily discontinued, ECOVA does not have on site personnel to maintain the site, and, because Time Oil personnel are not knowledgeable in our site equipment, ECOVA needs to periodically (monthly) visit the site to perform routine maintenance, as described in letter from ECOVA to Time Oil dated 7/10/90 (attached).

SCHEDULE IMPACT
none

QUALITY IMPACT
It will improve the site appearance, and eliminate potential spillage of sump water.

COST IMPACT
$4,700.00/month

PROPOSED:

$4,700.00/month — Amount
ECOVA Project Manager — 11/9/90 — Date

R. Carr — ECOVA Contract Administrator — 11/9/90 — Date

ACCEPTED:

$ ____ — Amount
Client Project Manager — Date

TOLS009572

E C O V A

July 10, 1990

Mr. Joe Sanzo
Environmental Manager
TIME OIL COMPANY
2737 West Commodore Way
Seattle, WA 98119-1233

P.N. 821401

Dear Mr. Sanzo:

This letter is a summary of the issues discussed at our last meeting and of a detailed project evaluation. The following items are presented below:

- Out of Scope Experimental Operations
- Change Orders
- Ongoing Maintenance Costs

An explanation of each of these, together with associated costs is presented below.

A. EXPERIMENTAL OPERATIONS

ECOVA has completed a detailed analysis of the charges placed against our Job Number 821401, "Time Oil Northwest Terminal". Attached is a month by month accounting of the costs incurred which are identified as being part of Task 651 - Experimental Operations, the task established by Bill Mahaffey in the month of November 1989. Prior to November 1989, we conclude that efforts occurring on the site were within the work scope.

The following summarizes the activities occurring on the site during the time between November 1989 and March 1990 when the Experimental Operations task was in effect. The original description of the activities is to be found in the monthly reports prepared for Time Oil by the Project Manager.

A.1 November 1989

Soil was loaded into tanks T1, T2, and T3 for slurry phase processing. Both physical problems with settlement of the

Corporate Office
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Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

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(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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sand sized particles, and biodegradation rate changes were observed, leading the project team to carry out experiments with soil washing. Observations of solvent films and odors were made, and soil washing was observed in some cases to not reduce the PCP concentrations as had the original treatability studies.

A.2 December 1989

The 38K Bio-reactor was set up for running thinner slurries and materials from T1 and T3 tanks were introduced. Bench scale soil washing tests were carried out using a spiral classifier, as was a bench scale silt processing bioreactor. Concern that there is an impact of the newly encountered solvents was voiced and further study on the PCP contents of the silt fraction was started.

A.3 January 1989

Soil washing feasibility tests continued with evidence being gathered that the solvents were interfering with the washing step by not allowing a reduction below 17 ppm in the experiments conducted.

A.4 February 1989

Cleanup to 0.5 ppm appears to be prevented by the solvent interferences as reported in the February monthly report.

A.5 March 1989

Site activities are suspended with only routine maintenance work and site support going on in Portland. In summary, we believe that ECOVA invested considerable time and effort in attempting to solve the problem of solvent interference during this effort.

COST OF TASK 651 - EXPERIMENTAL OPERATIONS

Enclosed as Attachment A is a summary of monthly costs charged to Task 651 for the months of November 1989 to March 1990 inclusive. Detail for each month is also included. These charges are for efforts required to respond to the new conditions encountered at the site, for which ECOVA is requesting reimbursement.

Labor charges incurred for the period totaled $93,650. Expenses related to Task 651 totaled $3,255 for the period.

B. CHANGE ORDERS

B.1 Negotiations with Oregon DEQ

To obtain an achievable cleanup standard, it will be necessary to negotiate this with the Oregon DEQ. ECOVA will support Time Oil in this effort on a Time and materials (T&M) basis. At this time, we estimate that $12,190 will be required for this task. This covers the costs of technical personnel (Mahaffey, Borthen and Kinsella) to provide information to Time and attend one meeting in Portland. Should the actual effort be more or less than the estimated amount our costs would be adjusted accordingly.

C. ONGOING OPERATIONS

At our last meeting, Time informed ECOVA that the site had an untidy appearance that needed attention. ECOVA responded immediately by dispatching our Engineer (Jim Borthen) to the site who carried out necessary work and prepared a written report that was subsequently forwarded to Time Oil. This work was performed at ECOVA's cost.

Based on Jim's inspection, we believe that routine (i.e., once a month) maintenance of the site is required during shutdown. In addition, we believe it is fair and reasonable to receive a monthly rental for the equipment not in use during shutdown. We propose the following nominal costs:

Monthly Maintenance Inspection:	$1,700
Monthly Equipment Rental:	$3,000
Total	**$4,700**

These costs would be billed monthly beginning July, 1990 and terminate upon resumption of cleanup operations. We recommend that this item be added to the project as a fixed priced change order, effective for a maximum of six-months.

D. OTHER ITEMS

There are other items that Time believes are appropriate additions to the Scope of work and price of the contract that will be required as we move forward with site cleanup. These are:

- System modification
- Mobilization costs for penta contamination
- Groundwater modeling study

- Solvent soil boring study
- Treatment of contaminated water in Tank-16804
- Soil dioxin testing

These items have not been costed at this time.

We look forward to discussing the details of this presentation and of establishing new cleanup criteria with the regulatory agency which will allow further progress on remediation of the site.

If you have any questions, please call either of us, or Rod Carr at 883-1900.

Sincerely,

William B. Mahaffey, Ph.D.
Project Manager

John V. Kinsella, P.G.
Vice President, Operations

Attachments

cc: Rod Carr
Jim Borthen

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

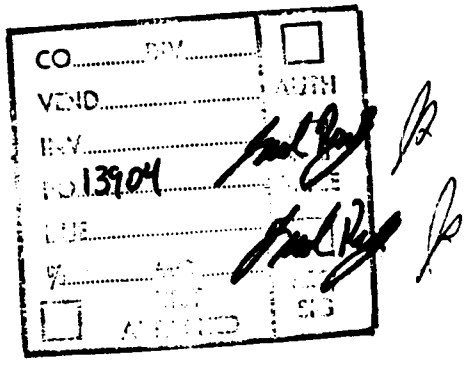
INVOICE #91TOC0109-1

January 9, 1991

Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Re: Billing for the analyses of the environmental samples submitted on September 14, 1990 from Project 03-123, Northwest Terminal under P.O. #13904 and reported to Fred Proby, Environmental Specialist.

8 soil samples analyzed for Pentachlorophenol (PCP) by GC/ECD @ $85 per sample	$ 680.00
2 soil samples analyzed for Chlorinated Furans and Dioxins by Isotope Dilution GC/MS @ $1,220 per sample	2,440.00
Amount Due	$ 3,120.00



03-123-900162

TOLS009577

TIME OIL CO.

PURCHASE ORDER

BILL TO:
P.O. BOX 24447, TERMINAL STATION
SEATTLE, WASHINGTON 98124-0447

SHIP TO:
2737 WEST COMMODORE WAY
SEATTLE, WASHINGTON 98199-1233

PHONE (206) 285-2400

No. 13904

PLACE THIS NUMBER ON YOUR INVOICE AND ALL CORRESPONDENCE

TO ~~Friedman & Bruya~~ Kya, Inc
3008 B 16th Ave W.
Seattle, WA 98119

DATE 9/18/90

SHIP BY

V	QUANTITY	PART NO.	DESCRIPTION	LIST UNIT PRICE	NET UNIT PRICE	AMOUNT
	8		Analyze soil for TPH by method 418.1		50.00	400.00
	4		Analyze soil for TPH by 8015 [if only >100 ppm]		85.00	340.00
	8		Analyze soil for Pentachlorophenol by GC		85.00	680.00
	1		Analyze 8-sample Composite by GC/MS		250.00	250.00
	2		Analyze 2, 4-sample composites for complete Dioxin		1,940.00	3,880.00
			TOTAL			5,550.00
			Site Reference:			
			NW Penta Stockpile			

FOR RESALE ☐ TAXABLE ☐

WASHINGTON STATE RESALE CERTIFICATE #C178-47526

TIME OIL CO.

BY [signature]

THIS PURCHASE IS EXPENSE OF: ☒ T.O.C. ☐ OTHER

DATE WANTED

IF T.O.C.

DEPARTMENT: Loss Control

SERVICE STATION (SHOW ADDRESS AND OPERATOR)

EXPLANATION: Soil characterizations in prep. for DEQ negotiations

03-657-60-123

ACCOUNT NO

REQUESTED BY [signature]

APPROVED BY [signature]

TAP-130 12/85

13904

$ 3,120.00

TOLS009578

BZTO104(e)046410

E C O V A

January 20, 1991

Fred Proby
Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199-1233

RE: Monthly Report for December, 1991 - NW Terminal Project

Dear Fred:

This letter constitutes the Monthly Report for December, 1991.

MONTHLY PROJECT STATUS REPORT

CONTRACT

Change Order No. 8 has been approved (and the signed copy is attached) and will provide for maintenance of the site through the end of February.

SCHEDULE

The schedule is still unclear for the coming six months due to the difficulty of predicting negotiations with ODEQ.

If there are any questions about this information, please call me.

Sincerely,

James Borthen, P.E.
Project Manager

cc John Kinsella
Donna Christianson

enclosure

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

Printed on Recycled Paper

TIME OIL CO.

P.O. Box 24447, Terminal Station
Seattle, WA 98124

WORK ORDER / CHANGE ORDER

TO: ECOVA Corporation 3820 159th Avenue NE Redmond, WA 98052	Work Order Number 8 Place this number on your invoice and all related correspondence.

If this block is checked, [ ] this work order is an addendum to the blanket contract dated _____ and you are authorized to perform the work described below at the stated price(s).

If this block is checked, [X] this work order is an addendum to the standard contract dated November 9, 1988 and you are authorized to perform the work described below at the stated price(s).

Address and city of job site:			Property No:
12005 N. Burgard Rd, Portland, OR			03-123
Requested by: Fred Proby	Authorized By: JDS	Date Job Required:	Date Completed:

This work is at the expense of: [X] Time Oil Co. [ ] Other [ ] Taxable

DESCRIPTION OF WORK	AMOUNT
1. Extend monthly equipment rental to February 28, 1992 (6 months @ $1220/month).	$7,320.00
2. Extend monthly site inspection and maintenance to February 28, 1992 (3 visits remaining in renewal period less two visits budgeted but not used from CO #7 leaves one visit at $880)	$880.00
CONDITIONS:	
1. Authorization of maintenance and equipment charges terminates at the earlier of; February 28, 1992, resumption of soil treatment under negotiated cleanup standards or termination of contract.	
2. This Change Order may be renewed, if needed, after February 28, 1992.	
3. ECOVA accepts full responsibility for the condition and serviceability of all Ecova equipment and materials at the treatment site. Any necessary replacement of Ecova equipment or materials, other than that which has been damaged through some act of Time Oil Co, will be at ECOVA's expense.	FLP FLP
4. ECOVA will prepare a brief report documenting each maintenance trip.	
TOTAL CHANGE ORDER AMOUNT	$8,200.00

Project Description:

Penta cleanup (incident 03-123-900162). Renew equipment rental & maint (CO #7) which expired 8/31/91.

Time Oil Co. (signature):	Date: 11/25/91
Contractor (signature):	Date: 1/17/92

C:\ffp\wo3123-8

TOLS009580

FR 1/30/91

Pg 3606

Penta

MCL

.001 mg/l

"Practical Quantitation level" (PQL)

.001 mg/l

TOLS009581

BZTO104(e)046413

NORTHWEST TERMINAL PROJECT
P.N. 821401
Meeting Agenda
2/8/91

There are two main issues to be addressed today: Preliminary Assessment and Monthly Maintenance Changes.

1. Preliminary Assessment

Our goal is to proceed with cleanup of the N.W. Terminal soils in 1991. A key plan of this program is to set a new cleanup goal based on our treatment test results and approval for the Oregon DEQ. To obtain DEQ approval we must complete a **Preliminary Assessment (PA)**. The PA is performed by the PRP to get "timely DEQ concurrence on a course of action that will identify whether further assessment and/or cleanup is required".

The DEQ recommends that the PA consists of three parts:

PART I	Site description of exposure pathways and receptions
PART II	Evaluation of exposure pathways and receptors
PART III	Sampling and analysis, evaluation of results and recommend action

For the Northwest site we have the database to complete 80 - 90% of Parts I, II and III. However, we must follow the submission protocol:

Task	Activity
Sign-up letter	Initiate PA, submit letter and $2,200 for oversight of Parts I and II.
PA I & PA II	Submit both parts to DEQ simultaneously (this will save time).
Site Visit	DEQ visits site and conducts reviews of our submission and requests further action.
PA III	Submit plan for cleanup (DEQ cost recovery for oversight begins).
Approve PA III	Proceed with cleanup.

TOLS009582

BZTO104(e)046414

The above is the anticipated chain-of-events for the Northwest site. We have estimated (assuming DEQ availability) this would put us in the field by June, 1991.

2. Routine Maintenance Charges

Since shutdown of the site operations we have made several site visits to ensure the sumps have not overflowed and performed maintenance work on the pumps. The following is a listing of these visits and associated costs:

Visit Data	Direct Costs	Hours/Labor	Total
January Trip	$ 354	1,610	$ 1,964.00
February Trip	428	1,610	2,038.00
May Trip	178	1,610	1,788.00
June Trip	191	1,610	1,801.00
November Trip	228	1,610	1,838.00
Sub-total	$1,379	8,050	$ 9,429.00
Equipment Rental - October through January 91' 3,000/mo x 4 =		At Billing Rate of $115	12,000.00
Total			$21,429.00

We have both agreed these visits are necessary for maintenance of the site but we have not agreed on rates. To reach a resolution and to continue this service during DEQ negotiations, we propose the following:

- payment of all expenses associated with the trips (no markup)
- payment of labor costs at a 30% discount
- payment of equipment rental

Under this scenario, the costs incurred to date are $19,014. We would propose to bill you for additional visits as they arise under this procedure. This represents a savings of $3,416 over our previous proposal.

TOLS009583

BZTO104(e)046415

2/8/91

TIME OIL PORTLAND

Preliminary Assessment

PART I

A Historical record search detailing site description
1) Site background/location (including maps)
2) Ownership information

B Site history
1) Waste containment / usage / handling practices, hazardous substance identification
2) Documentation of all waste disposal, recycling, etc. (copies or summaries of all pertinent records

C Waste characterization

D Past and present sampling / monitoring activities (including all reports, studies, laboratory analyses)

E Bibliography of all files, reports reviewed

F Summary and recommendations

PART II

A Evaluation of exposure pathways

1 Groundwater
2 Surface water
3 Soil
4 Vapor

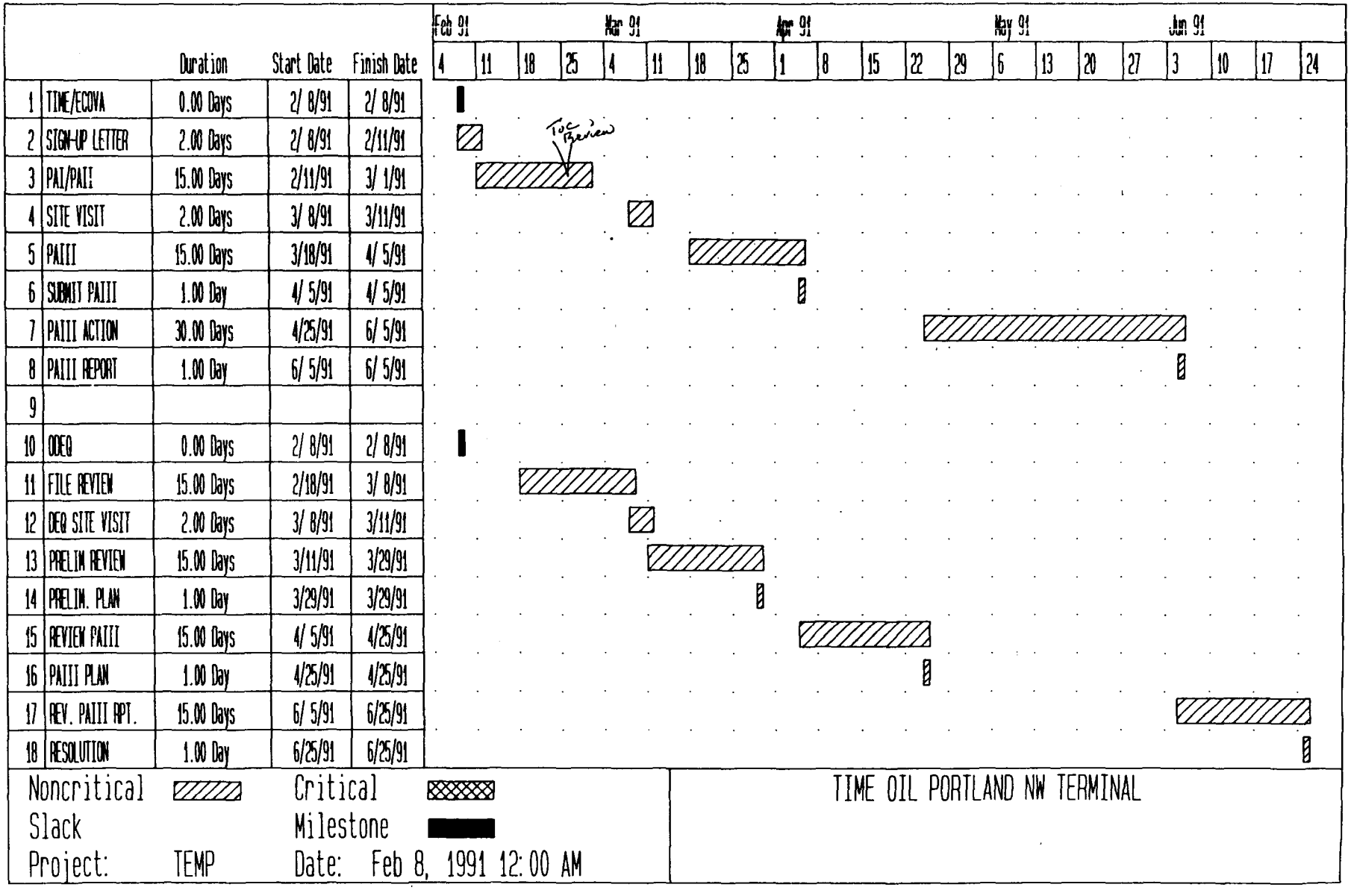
B Potential receptors

PART III DATA EVALUATION REPORT

A Proposal to conduct sampling and analysis to determine whether there has been a release of a hazardous substance to the environment.
B Evaluation of analytical results, reevaluation of potential pathways/receptors

TOLS009584

2/8/91



		Duration	Start Date	Finish Date
1	TIME/ECOVA	0.00 Days	2/ 8/91	2/ 8/91
2	SIGN-UP LETTER	2.00 Days	2/ 8/91	2/11/91
3	PAI/PAII	15.00 Days	2/11/91	3/ 1/91
4	SITE VISIT	2.00 Days	3/ 8/91	3/11/91
5	PAIII	15.00 Days	3/18/91	4/ 5/91
6	SUBMIT PAIII	1.00 Day	4/ 5/91	4/ 5/91
7	PAIII ACTION	30.00 Days	4/25/91	6/ 5/91
8	PAIII REPORT	1.00 Day	6/ 5/91	6/ 5/91
9				
10	ODEQ	0.00 Days	2/ 8/91	2/ 8/91
11	FILE REVIEW	15.00 Days	2/18/91	3/ 8/91
12	DEQ SITE VISIT	2.00 Days	3/ 8/91	3/11/91
13	PRELIM REVIEW	15.00 Days	3/11/91	3/29/91
14	PRELIM. PLAN	1.00 Day	3/29/91	3/29/91
15	REVIEW PAIII	15.00 Days	4/ 5/91	4/25/91
16	PAIII PLAN	1.00 Day	4/25/91	4/25/91
17	REV. PAIII RPT.	15.00 Days	6/ 5/91	6/25/91
18	RESOLUTION	1.00 Day	6/25/91	6/25/91

Noncritical Critical
Slack Milestone
Project: TEMP Date: Feb 8, 1991 12:00 AM

TIME OIL PORTLAND NW TERMINAL

BZTO104(e)046417

TOLS009585

2/8/91

NW Penta - C.O. #5

Joe, Fred, John Winsella & Jim Barthen

DEQ has specific procedures - will follow their outline.

CO#5

Process is initiated by sending DEQ an "intent to participate" and a check for $2,200

Depending on DEQ, expect to be able to start in June '91

Joe: Will we be cleaning solvents?

John - Some will be degraded, some won't. We weren't aiming at solvents. They are a different problem.

Fred. What about solvents in the soil pile?

John - Don't know what level we can bring them to?

Fred: We need to identify the "solvent problem" and deal with it.

Actions

1. TOC to fill out "Intent to Participate."
2. " Provide DEQ air analysis.
3. " " Solvent analyses from wells.
4. Ecova " " detailed paragraph outline of report
5. " " " revised project schedule

Strategy - Give DEQ the whole package - Parts I, II & III - all together.

Maintenance:

Total costs are $21,429 to date.

TOLS009586

BZTO104(e)046418

Ecora Proposed - a maintenance rate will be offred < 115/hr
- a rental rate based on amortized value of equipment

By Tuesday

E C O V A

February 20, 1991

Mr. Fred Proby
Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199-1233

Dear Fred:

As a follow-up to our conversation on Friday February 8, 1991, we have revised our prices for Maintenance Expenses and Equipment Rental at the Portland site from what was included in the January 3, 1991 letter to you. These prices reflect using a Standard Technician rate for site labor and amortizing rental costs. The new prices are presented below.

Maintenance Expenses

The labor rate included in this price is now the rate for a Field Technician.

Travel to and From Portland	
Labor (6hrs x $50.00/hr)	300.00
Mileage (400 x $.22/mile)	88.00
Misc. Travel Expenses	100.00
Labor (8 hrs x $50.00)	400.00
Total Charge per trip	$ 888.00

Equipment Rental

Pumps (3 pumps x $1500/48 months)	93.00
Tanks (2 tanks x $50,000/60 months)	1666.00
Compressor (2500/36 months)	70.00
Total Charge	$1829.00

These numbers should be in agreement with our discussions last week. Therefore, our charges to date would be as follows:

Corporate Office
3820 159th Avenue
Redmond, WA 9805:
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7973 FAX

Printed on Recycled Pa:

Date	Maintenance	Equipment
1/90	$ 888.00	-
2/90	888.00	-
5/90	888.00	-
6/90	888.00	-
10/90	-	$1,829.00
11/90	888.00	1,829.00
12/90	-	1,829.00
1/91	-	1,829.00
	$ 4,440.00	$7,316.00
TOTAL		$11,756.00

Also attached are the minutes from our meeting last week. If you agree with these figures we would appreciate approval for payment.

Sincerely,

James Borthen, P.E.
Project Manager

E C O V A

INTER-OFFICE MEMORANDUM

February 8, 1991 P.N. 821401

To: Project File

From: Jim Borthen

RE: Northwest Terminal Project, Meeting Minutes, February 8, 1991 (1:30 p.m. at Time Oil's office)

Attendees: Jim Borthen Joe Sanzo
John Kinsella Fred Proby

Two primary subjects were on the agenda:

1) DEQ interface
2) Maintenance Expenses

1) DEQ Interface

Fred Proby explained that while the entire change order for DEQ negotiations was authorized, we were not to charge time to subphase 505 without discussions and approval from Time Oil. This restriction was made to the change order and initialled by J.K.

Several issues were discussed related to Time Oil's approach to ODEQ. We discussed the risk of DEQ opening the scope of the project to include other contaminants on site, especially PCP related solvents, but also other potential problems at the site. It was concluded by F. Proby that by focusing the issues on the PCP and soil that ODEQ's interest could be limited to just the PCP in soil and that solvents in groundwater would be separate project.

It was decided that, for at least the time being, that we would submit PAI,PAII,PAIII at the same time, and before the site visit.

Action Items associated with these discussions were:

Time Oil	Submit Intent to Participate to ODEQ
Time Oil	Send ECOVA a copy of dioxin analysis
Time Oil	Perform initial water sampling and analysis for the solvents associated with the PCP
ECOVA	Submit a detailed outline to Time Oil for PAI, PAII, and PAIII by Feb. 25.

2) Maintenance Expenses

Time Oil acknowledged that ECOVA was owed payment for expenses and labor incurred in keeping the site maintained, and ECOVA acknowledged that previous requests were too high.

It was agreed that equipment rental would be repriced to reflect the purchase price of the equipment divided by the useful life of the equipment.

The labor costs would be adjusted to reflect the price for having "maintenance" work done, regardless of who actually performs the work, i.e. a standard technician fee will be billed.
These prices will be adjusted and submitted for approval.

TOTAL P.04

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

TEN TO ONE IT'S TIME

PRODUCTS TIME TESTED

TIME OIL CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

February 8, 1991

Mr. Jim Borthen
ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Dear Jim:

Your Change Order number 5 for the Northwest Terminal penta cleanup project has been approved and a signed copy is enclosed. You may proceed with subphases 503 and 504 as appropriate. However, I am not yet releasing you to incur "research" expenses under subphase 505. Before you are authorized to conduct any additional research in response to requests from the DEQ, I will need a specific research proposal and cost estimate. To incorporate this restriction into the change order, I have added, in the "cost impact" section, a reference to this letter and to your January 3, 1991 letter which gives the following budget breakdown; subphase 503 "Historical Report" ($8,155), subphase 504 "DEQ Negotiations" ($9,565) and subphase 505 "Research and Correspondence" ($20,050). Please initial this change to signify ECOVA's acceptance.

Kindly provide me with a detailed outline of your "historical report" by Monday, February 25. On that date I would also like a schedule for completion of the report and commencement of negotiations with the DEQ.

I have been advised that the dioxin analyses found no 2,3,7,8-TCDD at a detection limit of 5 parts per trillion. I will give you a copy of Friedman & Bruya's report as soon as it is received.

Finally, it is my understanding that the tarp to cover the soil pile has been delivered. Please arrange to have it installed as soon as possible.

Sincerely,

Fred Proby
Environmental Specialist

enclosure a/s

wp51\flp\feb91

TOLS009591

BZTO104(e)046423

ECOVA CHANGE ORDER

CLIENT:

PROJECT:

LOCATION:

CHANGE ORDER NO. 5

DATE 9/13/90

ORIGINATOR ECOVA

PROJECT NO. 821401

COST CODE 075-503

DESCRIPTION OF CHANGE

ECOVA to provide services to Time Oil to support Time Oil's efforts to negotiate a clean up level with Oregon Dept. of Environmental Quality.

CAUSE OF CHANGE

A need to establish an achievable cleanup level for pentachlorophenol and solvents.

SCHEDULE IMPACT

This will delay the project - It is on the critical path.

QUALITY IMPACT

COST IMPACT

As described in attached spread sheet, Ecova letter dated 1/3/91 and Time Oil letter dated 2/8/91.

2/8/91

PROPOSED:

$ 37,770.00 Amount — ECOVA Project Manager — 9/17/90 Date

Roderick Alan — ECOVA Contract Administrator — 9/17/90 Date

ACCEPTED: 2/8/91

$37,770 Amount — Client Project Manager — 2/8/91 Date

TOLS009592

BZTO104(e)046424

	A	B	C	D	E	F	G	H	I	J
1	CLIENT:		TIME OIL			ECOVA CORPORATION				
2	LOCATION:		PORTLAND, OR.			PROJECT 821401				
3	FILENAME:		TIMEDEQ							
4										
5	PHASE				QUANTITY		RATE			PRICE
6	PHASE:		075 - REPORTS AND MEETINGS							
7		SUBPHASE:		503 - REGULATORY INTERFACE						
8		LABOR								
9		TECHNICAL PRINCIPAL			12	HRS	150			1800
10		SENIOR MICROBIOLOGIST			80	Kris	125			10000
11		PROJECT MANAGER			200	Sue	115			23000
12		TECHNICAL WRITER			10		60			600
13		WORD PROCESSOR			4		40			160
14		DRAFTING			2		60			120
15		ADMIN. SUPPORT			10		35			350
16										
17		SUBTOTAL LABOR			308	HRS				$36,030
18										
19		EXPENSES								
20		REPROGR./TELEPH			1	LS	240			240
21		TRAVEL			10	DY	150			1500
22										
23		SUBTOTAL EXPENSES								$1,740
24										
25	TOTAL - 075									$37,770
26										
27										
28										
29										
30										
31										
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33										
34										
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TOLS009593

BZTO104(e)046425

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

February 26, 1991

Fred Proby, Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Dear Mr. Proby:

I am writing to clarify our report of January 9, 1991, for your Project 03-123, Northwest Terminal under P.O. #13904. On September 14, 1990 you submitted 8 samples for screening for pentachlorophenol (PCP) to assure that they represented samples sufficiently contaminated for further analyses. The samples ranged from a low of <1,000 ppb to 1,200,000 ppb PCP. The samples were composited in two groups of four each and sent for analysis for chlorinated dibenzodioxins and chlorinated dibenzofurans.

Neither sample showed contamination with 2,3,7,8-Tetrachlorodibenzodioxin or 2,3,7,8-Tetrachlorodibenzofuran (detection levels of 0.0085 and 0.018 ppb, respectively). Levels of tetrachloro- thru octachlorodibenzodioxins ranged from not detected (<0.0085 ppb) to 170 ppb. Levels of tetrachloro- thru octachlorodibenzofurans ranged from 0.21 to 99 ppb. These levels are comparable to those found in estuarine samples from Grays Harbor and the Columbia River.

We appreciate the opportunity to be of service to you on this project. If you have any questions, or would like to discuss this or any other project, please feel free to call on us at your convenience.

Sincerely,

Andrew John Friedman

Andrew John Friedman, Chemist

AJF/fae

Enclosures

Encl. 3

TOLS009594

BZTO104(e)046426

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 26, 1991
Date Submitted: September 14, 1990
Project: 03-123, Northwest Terminal under P.O. #13904

**RESULTS OF ANALYSES OF SAMPLES
FOR CONCENTRATIONS OF PENTACHLOROPHENOL (PCP)
FOUND IN TIME OIL COMPANY COMPOSITE SAMPLES
Results Reported as ng/g (ppb)**

Sample #	PCP
1	720,000
2	370,000
3	1,200,000
4	960,000
5	620,000
6	370
7	270,000
8	51,000

Date of Report: February 26, 1991
Date Submitted: September 14, 1990
Project: 03-123, Northwest Terminal under P.O. #13904

RESULTS OF ANALYSES OF SAMPLES
FOR CONCENTRATIONS OF CHLORINATED DIBENZODIOXINS
FOUND IN TIME OIL COMPANY COMPOSITE SAMPLES
Results Reported as ng/g (ppb)

Sample #	2,3,7,8-Tetrachloro-Dibenzodioxin	Tetrachloro-Dibenzodioxins	Pentachloro-Dibenzodioxins	Hexachloro-Dibenzodioxins	Heptachloro-Dibenzodioxins	Octachloro-Dibenzodioxins
Composite 1, 2, 3, 4	<0.0085	<0.0085	<0.024	12	170	150
Composite 5, 6 7, 8	<0.0048	<0.0048	<0.020	8.0	110	170

BZTO104(e)046428

Date of Report: February 26, 1991
Date Submitted: September 14, 1990
Project: 03-123, Northwest Terminal under P.O. #13904

RESULTS OF ANALYSES OF SAMPLES
FOR CONCENTRATIONS OF CHLORINATED DIBENZOFURANS
FOUND IN TIME OIL COMPANY COMPOSITE SAMPLES
Results Reported as ng/g (ppb)

Sample #	2,3,7,8-Tetrachloro-Dibenzofuran	Tetrachloro-Dibenzofurans	Pentachloro-Dibenzofurans	Hexachloro-Dibenzofurans	Heptachloro-Dibenzofurans	Octachloro-Dibenzofurans
Composite 1, 2 3, 4	<0.018	0.21	1.4	23	86	99
Composite 5, 6 7, 8	<0.012	0.14	1.9	17	51	68

TOLS009597

BZTO104(e)046429

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

January 9, 1991

Fred Proby, Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Dear Mr. Proby:

Enclosed are the results of the analyses of the samples submitted on September 14, 1990 from Project 03-123, Northwest Terminal under P.O. #13904.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Andrew John Friedman, Chemist

AJF

Enclosures

TOLS009598

BZTO104(e)046430

FRIEDMAN & BRUYA, INC.
ENVIRONMENTAL CHEMISTS

Date of Report: January 9, 1991
Date Submitted: September 14, 1990
Project: 03-123, Northwest Terminal under P.O. #13904

RESULTS OF ANALYSES OF THE SOIL SAMPLES FOR PENTACHLOROPHENOL (PCP) BY GC/ECD
Results Reported as µg/g (ppm)

Sample #	PCP (ppm)
SP-1	720
SP-2	370
SP-3	1,200
SP-4	960
SP-5	620
SP-6	0.37
SP-7	270
SP-8	51

Quality Assurance

Method Blank	<0.01
SP-3 (Duplicate)	510
SP-3 (Matrix Spike) Spiked @ 50 ppm Percent Recovery	a
SP-3 (Matrix Spike Duplicate) Spiked @ 50 ppm Percent Recovery	a

a - The amount spiked was insufficient to give meaningful recovery data.

TOLS009599

BZTO104(e)046431

DIOXIN/FURAN REVIEW SHEET

(Higher Molecular Wt. Ion used in Calculations)

Composite Samples 1-4

Analysis: [redacted] - subst.
LR/HR: LR
Client Name: Friedman & Bruya, Inc.
CAL Project No.: CALLAB-[redacted]
Client Sample ID: [redacted]
Enseco Sample ID: 173461
Date Sampled:
Date Authorized:
Date Analyzed: 13 DEC 90
Sample Wt./Vol.: [redacted]
RRF's from: [redacted]
Units: [redacted] PPb
A = Amount added to the sample

CAL Sample Number: [redacted]
Matrix: SOIL
Date Received: 08 NOV 90
Date Extracted: 05 DEC 90
GC Column: [redacted]
Percent Moisture: NA

Data Prepared by: AALGAZI

	SCANS	TOTAL AREA	TOTAL AREA	DL HEIGHT	AREA RATIO	RRF	AMOUNT FOUND	DETECTION LIMIT	PERCENT RECOVERY
FURANS									
13C-1234-TCDF (tetrachlorodibenzofuran)							2.	(A)	
13C-2378-TCDF	982	38095	45201	18004	0.84	1.63	1.	(A)	86.73
Tetra (total)		43064.00	55096.00	1888	0.78	1.13	0.21	--	
(2378)				1888		1.13	ND	0.018	
Penta (pentachlorodibenzofuran) (total)			350183.00		0.00	3.28	1.4	--	
(12378) (ones that similar ID's)	1095		54564		0.00	3.28	0.22	--	
(23478)	1117		29166		0.00	3.28	0.12	--	
Hexa (total)		3347638.00	2902145.00		1.15	1.55	23	--	
(123478)	1223	101973	85356		1.19	1.55	0.67	--	
(123678)	1227	56239	49248		1.14	1.55	0.39	--	
(123789)	1288	46231	41548		1.11	1.55	0.33	--	
(234678)	1248	112543	99526		1.13	1.55	0.78	--	
Hepta (total)		8222047.00	7711788.00		1.07	1.72	86	--	
(1234678)	1361	1796230	1686310		1.07	1.72	19	--	
(1234789)	1437	98037	94578		1.04	1.72	1.1	--	
Octa (total)		3303190.00	3561650.00		0.93	1.38	99	--	

JAN 7 '91 15:29 FROM ENSECO CAL LAB

PAGE.002

TOLS009600

BZTO104(e)046432

Review, pg 2
CAL Sample ID: CALLAB-[redacted]

DIOXINS	SCANS	TOTAL AREA	TOTAL AREA	DL HEIGHT	AREA RATIO	RRF	AMOUNT FOUND		DETECTION LIMIT	PERCENT RECOVERY
13C-1234-TCDD	995	50997	63947		0.80		2	(A)		
13C-123789-HxCDD								(A)		
13C-2378-TCDD	1000	21085	27290	12074	0.77	0.92	1	(A)		92.77
37Cl-2378-TCDD	1000		49106		0.00	1.95	1	(A)		78.76
Tetra (total)				556		1.06	ND		0.0085	
(2378)				556		1.06	ND		0.0085	
13C-12378	1127	52924	37605	13486	1.41	0.39	2.5	(A)		120.63
Penta (total)				735		1.10	ND		0.024	
(12378)				735		1.10	ND		0.024	
13C-123678	1255	46280	40144	12139	1.15	0.45	2.5	(A)		111.60
Hexa (total)		1340357.00	1051044.00		1.28	1.06	12		--	
(123478)	1256	621926	488093		1.27	1.06	5.6		--	
(123678)	1256	621926	488093		1.27	1.06	5.6		--	
(123789)	1271	55132	41576		1.33	1.06	0.48		--	
13C-1234678	1413	27093	25594	5604	1.06	0.24	2.5	(A)		133.41
Hepta (total)		9815620.00	9913430.00		0.99	1.11	170		--	
(1234678)	1413	6753770	6852470		0.99	1.11	120		--	
13C-~~OCDD~~ HpCDD	1413	27093	25594	5604	1.06	+	5	(A)		N.C.
OCDD (total)		12725100.0	13652600.0		0.93	3.38*	150		--	

*RRF calculated using OCDD vs. ^{13}C-HpCDD

JAN 7 '91 15:29 FROM ENSECO CAL LAB PAGE.003

BZTO104(e)046433

TOLS009601

DIOXIN/FURAN REVIEW SHEET

(Higher Molecular Wt. Ion used in Calculations)

Composite Samples 5-8

Analysis: [redacted]
LR/HR: LR
Client Name: Friedman & Bruya, Inc.
CAL Project No.: CALLAB-[redacted]
Client Sample ID: [redacted]
Enseco Sample ID: 173463
Date Sampled:
Date Authorized:
Date Analyzed: 13 DEC 90
Sample Wt./Vol.: [redacted]
RRF's from: S[redacted]
Units: [redacted]
A = Amount added to the sample

CAL Sample Number.: [redacted]

Matrix: SOIL
Date Received: 08 NOV 90
Date Extracted: 05 DEC 90
GC Column: [redacted]
Percent Moisture: NA

Data Prepared by: AALGAZI

FURANS	SCANS	TOTAL AREA	TOTAL AREA	DL HEIGHT	AREA RATIO	RRF	AMOUNT FOUND		DETECTION LIMIT	PERCENT RECOVERY
13C-1234-TCDF							2	(A)		
13C-2378-TCDF	982	42041	53400	23210	0.79	1.63	1	(A)		108.35
Tetra (total)		30505.00	41906.00	1567	0.73	1.13	0.14		--	
(2378)				1567		1.13	ND		0.012	
									12 Pot	
Penta (total)			503310.00		0.00	3.28	1.9		--	
(12378)	1095		70731		0.00	3.28	0.27		--	
(23478)	1116		17379		0.00	3.28	0.067		--	
Hexa (total)		2628054.00	2303636.00		1.14	1.55	17		--	
(123478)	1181	220990	191986		1.15	1.55	1.4		--	
(123678)	1226	41240	34670		1.19	1.55	0.26		--	
(123789)	1287	33347	29636		1.13	1.55	0.22		--	
(234678)	1247	83572	72667		1.15	1.55	0.54		--	
Hepta (total)		6277910.00	5880612.00		1.07	1.72	51		--	
(1234678)	1361	1492920	1391050		1.07	1.72	12		--	
(1234789)	1436	70440	69362		1.02	1.72	0.60		--	
Octa (total)		2894970.00	3127180.00		0.93	1.38	68		--	

JAN 7 '91 15:30 FROM ENSECO CAL LAB PAGE.004

TOLS009602

BZTO104(e)046434

Review, pg 2
CAL Sample ID: CALLAB-[illegible]

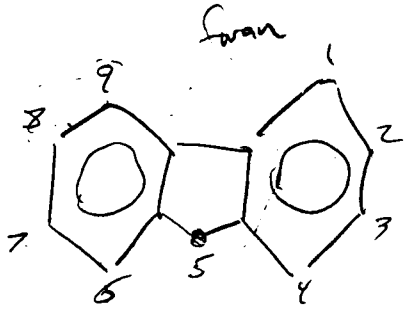
DIOXINS	SCANS	TOTAL AREA	TOTAL AREA	DL HEIGHT	AREA RATIO	RRF	AMOUNT FOUND	DETECTION LIMIT	PERCENT RECOVERY
13C-1234-TCDD	995	51331	60474		0.85		2	(A)	
13C-123789-HxCDD								(A)	
13C-2378-TCDD	999	29079	36453	16154	0.80	0.92	1	(A)	131.04
37Cl-2378-TCDD	1000		53165		0.00	1.95	1	(A)	90.17
Tetra (total)				412		1.06	ND	0.0048	
(2378)				412		1.06	ND	0.0048	
13C-12378	1126	61396	39572	15450	1.55	0.39	2.5	(A)	134.23
Penta (total)				670		1.10	ND	0.020	
(12378)				670		1.10	ND	0.020	
13C-123678	1254	55765	43800	14527	1.27	0.45	2.5	(A)	128.76
Hexa (total)		941976.00	740865.00		1.27	1.06	8.0	--	
(123478)	1255	429707	339480		1.27	1.06	3.7	--	
(123678)	1255	429707	339480		1.27	1.06	3.7	--	
(123789)	1270	39980	33644		1.19	1.06	0.36	--	
13C-1234678	1411	37086	33396	7260	1.11	0.24	2.5	(A)	184.08
Hepta (total)		7732680.00	7867460.00		0.98	1.11	110	--	
(1234678)	1411	5155450	5254420		0.98	1.11	71	--	
13C-OCDD HpCDD	1411	37086	33396	7260	1.11	+	5	(A)	N.C.
OCDD (total)		17563500.0	18845000.0		0.93	3.38*	170	--	

*RRF calculated using OCDD vs $^{13}C_4$PCDD.

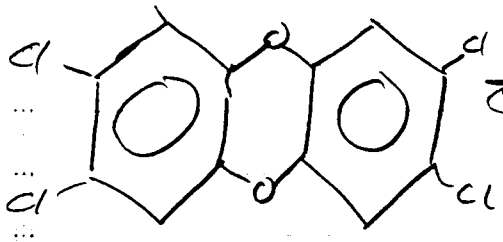
** TOTAL PAGE.005 **

TOLS009603

BZTO104(e)046435



Dibenzo furan



→ Dibenzodioxin

2,3,7,8 Tetra chloro

40 ppt - aquatic

TOLS009604

MEMO

TO: Fred Proby, Time Oil FAX: 283-8036

FROM: Jim Borthen/John Kinsella

DATE: 3/1/91

RE: Outline Remediation Plan for ODEQ

Fred, here is our draft outline for the remediation plan. We have rewritten it several times - the guidelines have a lot of redundancy that we have tried to eliminate but without losing the sequence of reporting that DEQ is looking for. Please mark-up your comments on your copy and return so we can start to "fill-out" with text.

cc: John Kinsella
Jim Borthen

D:\JK-M.M01\bkh/1

TOLS009605

Encl. 1

PRELIMINARY ASSESSMENT/DATA EVALUATION AND PROPOSED REMEDIATION PLAN FOR PCP CONTAMINATED SOIL AT:

NORTHWEST TERMINAL
PORTLAND OREGON

TIME OIL COMPANY

ECOVA Corporation
3820 - 159th Avenue N.E.
Redmond, Washington 98052
February 25, 1991

Project No. 821401

D:TO-RLF25:bkh/3

TOLS009606

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VII SUMMARY AND RECOMMENDATIONS

TOLS009607

BZTO104(e)046439

PAIII - DATA EVALUATION REPORT

I SITE BACKGROUND
- A. Site Summary
- B. Objectives
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II SOILS
- A. Laboratory Treatability Tests
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- A. Treatment of the Soil Pile
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- F. HASP

TOLS009608

BZTO104(e)046440

PAI/II PRELIMINARY ASSESSMENT

TOLS009609

BZTO104(e)046441

I GENERAL SITE DATA

Time Oil operates a petroleum products terminal at 12006 N. Burgard R., Portland, Oregon, that provides tank storage facilities for its products as well as custom storage for outside customers. Until recently, Time Oil also operated a PCP mixing facility at the Northwest Terminal to produce products for a woodtreating chemicals manufacturing and distributing firm. Operations include melting blocks of virgin PCP, mixing with mineral spirits, and repackaging the mixture for shipment. Operations were discontinued at the mixing facility in 19__.

See Time Oil letter to ODEQ 4/91

A Site Description

1 Legal Description
2 Coordinates
3 Road Directions
4 Total Area of Site
5 Description of land uses immediately surrounding site boundaries

B Ownership Information

1 Current Legal Owner and Operator

Time Oil Company
2737 West Commodore Way
P.O. Box 24447
Seattle, WA 98124-0447
206-285-1233

Site contact: Fred Proby

2 Past legal owner(s)

Names
Current Addresses
Current Telephone Numbers
Years of Ownership

3 Type of Ownership

4 Past Lessees or operators

C Site History and Potential Problems

1 Site Operations

During the time of plant operation, soils beneath and nearby the processing units became contaminated with the PCP produce, especially around the drum or tank loading area near the woodtreating chemical warehouse. Since the decommissioning of the plant, all of the PCP processing units have been removed.

Toc Chronology

2 Description of all emergency or remedial actions that have occurred at the site; attach all documentation.

All of the operations related to the Penta Project are considered non emergency for the purposes of this report, and therefore the discussion of those actions is left to later sections of the report.

What does this mean? →

This, of course, assumes TO does not have other emergency or remedial actions to list here that have occurred in the past.

3 Description of all prior spills; attach all documentation.

4 Description of all existing sampling and analysis data and brief summary of data quality.

All sampling data related to the Penta Project is contained in PAII.

FLT files

If TO has any data on sampling unrelated to the Penta Project then it should be described here.

5 Provide bibliography of all files, reports reviewed; attach copies of all relevant documents.

I am not sure what this may include. At this time I see nothing to include here. Everything that ECOVA has will be included elsewhere, and a short statement to that effect should be made here, unless TO has something appropriate to list. The following brief statement is suggested:

All files and reports relevant to the cleanup of this site will be included in later sections which describe the recent activities that have occurred at the site.

D USGS Topographic Map

If TO does not have this then it can be obtained by ECOVA during a trip to Portland for maintenance.

E Site Map

(see Figure 1)

II HAZARDOUS SUBSTANCE / WASTE CHARACTERIZATION

A Waste Characteristics

1 Materials historically generated and/or stored on the site were PCP and mineral spirits.

ECOVA can provide MSDS's for materials related to the Penta Project (PCP and associated solvents).

TO will need to provide information on other materials they feel should be included here.

2 Volumes of hazardous material / waste type used / generated annually and total volume present on site.

☐ TO should provide these estimates for PCP and mineral spirits.

3 Description of any waste treatment systems

No waste treatment systems known.

4 List of permits.

Not aware of any permits.

5 Description and date of all permit violations.

None known.

6 Hazardous waste manifests or documentation certifying proper disposal of hazardous wastes.

TO will provide appropriate information here.

There are ~~no manifests~~ currently for the Penta Project.

B Waste Containment

1 Specific description of methods of hazardous material/waste disposal, storage, and handling.

TO will provide appropriate information here.

2 Description of condition/integrity of each storage/disposal feature or structure.

TO will provide appropriate information here.

D:TO-R.F25:bkh/3

TOLS009612

BZTO104(e)046444

3 Description of secondary containment features.

TO will provide appropriate information here.

4 Size/volume of features/structures that contain hazardous materials.

TO will provide appropriate information here.

5 Volume of hazardous materials spilled on site.

TO will provide appropriate information here.

6 Summarize information and provide records and/or manifests which provide data on volume of hazardous materials/wastes handled, disposed or released on site.

TO will provide appropriate information here.

TOLS009613

BZTO104(e)046445

III SOIL PATHWAY

A Site Geology

Soil type is generally mixed sands, silts and gravels normally associated with a former river channel deposit for the Willamette River. Little clay appears to be present near the surface, although lenses may occur at depth.

B Soil Volumes

Time Oil has identified approximately 2,700 cubic yards of soil with PCP contamination exceeding 500 ppm. Concentrations of PCP have ranged to 8400 ppm in the soil around the loaded area near the southern corner of the warehouse for the plant. Concentrations declined rapidly a few feet away from the "hot spot", generally decreasing to concentrations of under 1500 ppm which is approximately the average concentration.

C Observed Releases

Description of area of contamination, and how it was determined. This would be a description of the sampling and results of subsequent analytical. This would include a description of "hot spots" and a topographic type chart of contamination.

D Hazardous Substances

Discussion of analytical results will examine what contaminants are present, and include MSDS's.

E Targets

1 Onsite population

Number of people on site.

2 One Mile Population

Population within one mile, and approximate demographic description

3 Terrestrial sensitive populations

Description of flora and fauna on site which may be sensitive to the contamination.

TOLS009614

BZTO104(e)046446

IV GROUNDWATER PATHWAY

A Site Hydrogeology

Shallow groundwater exists in the alluvial silts and sands at approximately 20 feet below ground surface (bgs) groundwater is towards the Willimette River, with seasonal fluctuations retreated to river stage.

B Groundwater Quality

A total of monitoring wells have been installed at the site and sampled. A detailed discussion of these results is presented in the Data Evaluation Reports.

C Observed Releases

1 Analytical Results of Direct Release

In my way of thinking, a direct release of contaminant to groundwater never occurred. Contamination of groundwater is indirect via contaminated soil.

2 Support Information

D Hazardous Substances

Discussion of analytical results will examine what contaminants are present, and include MSDS's.

E Targets

Discussion of potential pathways and ultimate receptors of the Penta.

TOLS009615

BZTO104(e)046447

V SURFACE WATER PATHWAY

A Surface water features

B Observed releases

C Hazardous Substances

D Targets

TOLS009616

BZTO104(e)046448

VI AIR PATHWAY

A Observed Releases

b Hazardous Substances

C Targets

TOLS009617

BZTO104(e)046449

VII SUMMARY AND RECOMMENDATIONS

Time Oil identified soil contamination as a result of PCP mixing activities at the Northwest terminal.

Based on an evaluation of the situation, Time Oil decided to excavate and stockpile the contaminated soil. The purpose of this was to; (i) quantify the soil volume and, (ii) perform a pilot test to biodegrade the PCP. These activities were performed in 1989; the results of that effort are presented in the following Data Evaluation Report and 1990:

TOLS009618

BZTO104(e)046450

PAIII - DATA EVALUATION REPORT

TOLS009619

BZTO104(e)046451

I SITE BACKGROUND

The details of the site are presented in PAI/II report. The pertinent points are summarized below.

A Site Summary

B Objectives

The objectives of the data evaluation were to excavate and stockpile the contaminated soil and to perform limited biological treatment to ascertain potential cleanup levels.

C Variances

TOLS009620

BZTO104(e)046452

II SOILS

A Analytical Methods and Results

Soil sampling and analyses.

B Laboratory Treatability Tests

PCP Biodegradation of slurries.

C Soil Excavation and Sampling

Discuss 1989 field work, procedures, methods, etc.

D Field Pilot Test

Results of field slurry treatment, PCP reduction, solvent interference.

E Summary of Soil Data

TOLS009621

BZTO104(e)046453

III GROUNDWATER

A Monitoring Wells

B Lithologic Logs

C Well Sampling and Analyses

Present latest (1991) water quality data here.

D Summary of Groundwater Data

Discuss groundwater contamination and how it should be addressed as a separate issue from soil contamination.

TOLS009622

BZTO104(e)046454

IV SURFACE WATER

The soil pile has not impacted surface water (that we know). Discuss the relationship between groundwater and surface water.

TOLS009623

BZTO104(e)046455

V AIR

Discuss potential for airborne transport of particulate, covering of the soil pile. Vapor emissions due to solvents, low risk to receptors, etc.

TOLS009624

BZTO104(e)046456

VI SUMMARY AND RECOMMENDATIONS

- Stockpile of PCP and solvent contaminated soil, concentration ranges. Cover and containment of stockpile.
- Sampling and analysis of underlying groundwater, separation of soil/groundwater treatment.
- Biodegradation of PCP, lab studies, field pilot test results. Recommended cleanup parameters and levels.

TOLS009625

BZTO104(e)046457

VII PROPOSED SITE REMEDIATION

A Treatment of the Soil Pile

Soil will be treated on site and remain on site following treatment

B Proposed Soil Cleanup Levels

Define PCP/solvent cleanup levels based on risk, pilot work and ODEQ levels at other Oregon sites.

C Proposed Treatment Methods

Describe treatment process based on pilot testing and cleanup levels.

D Site monitoring

Monitoring of air at site boundaries.

E Verification Testing

Testing of soil samples following treatment.

F HASP

Health and Safety Procedures during cleanup operations

TOLS009626

BZTO104(e)046458

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 CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

March 11, 1991

Mr Jim Borthen
ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Dear Jim:

Enclosed are two invoices from Roadway Express which were mailed to our Portland terminal and which eventually found their way to my desk. I believe both are for shipping the tarp to cover the soil pile and should therefore be paid by ECOVA.

For future reference, it would have saved several hundred dollars in taxes, not to mention this extra shipping charge, had the tarp been sent directly to the terminal. You might keep this in mind next time you purchase something from out of state for use on this project.

Sincerely,

Fred Proby
Environmental Specialist

enclosure a/s

wp51\flp\mar91

TOLS009627

ECOVA Corporation.....FAX

We are transmitting __ page(s), including this cover page.

DATE: 3/13/91 **FAX #:** 283-8036

TO: Fred Proby Time Oil

FROM: Jim Bartlett

COMMENTS:

Fred

I received your letter w/ the Roadway Bills, and will take care of them. Thanks!

Attached is a letter (copy of) which was sent last month and may have fallen through the cracks. This information is for an audit. If you could make appropriate comments on the second page, & send it on we would be most appreciative. If there are any questions about it you can call me on Alan Fuhaman.

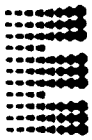
How is the outline for the DER report? If there is something I can do on that give me a call. Also need to talk about the maintenance contract sometime.

JB

If you did not receive this transmission clearly or have any questions, contact our office at: **(206) 883-1900/FAX 867-2210**

Mailing address: 3820 159th Avenue Northeast, Redmond, WA 98052

TOLS009628



February 13, 1991

Time Oil Company
Attn: Accounts Payable
2737 West Commodore Way
Seattle, WA 98199

Re: Construction Contract - Time Oil - Portland #821401

Our auditors, Peat, Marwick, Main & Company, 1900 Security Pacific Bank Tower, 777-108th Ave. NE, Bellevue, WA 98004, are conducting their annual examination of our Financial Statements. We would appreciate your confirming directly to them the correctness of the following information as of December 31, 1990.

1.	Contract amount	
	a. Original Amount	$ 445,000.00
	b. Change Orders increasing or (decreasing) contract	$ 69,777.00
	c. Total contract as of December 31, 1990	$ 514,777.00
2.	Payment Status:	
	a. Progress Billings Through December 31, 1990	$ 229,777.00
	b. Less amount retained	0
	c. Balance	$ 229,777.00
	d. Less Previous Payments	$ 226,017.00
	e. Balance as of December 31, 1990	$ 3,760.00

3. Details of any claims, back charges or disputes concerning this contract (attach) separate sheet if necessary).

4. Estimated completion date:

If the information shown is correct, please sign this letter in the space provided below and return it directly to Peat, Marwick, Main and Company. If not correct, please write directly to them, giving full details of the difference.

Yours truly,

Alan Fuhrman

Alan Fuhrman
Chief Financial Officer
152/URED.ltr/gbm/1/

Corporate Office
3820 159th Avenue
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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Peat Marwick Audit

The above is complete and accurate as of the date indicated, except as described below:

_____

_____

_____

Date: 4/9/91 **By:** _____

TOLS009630

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

March 20, 1991

Fred Proby, Environmental Specialist
Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Dear Mr. Proby:

Enclosed are the amended results of the analyses of the samples submitted on March 4, 1991 from Project 03-123 N.W. Terminal, P.O. #17241.

We apologize for any inconvenience that this may have caused you. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Elaine Zamora

Elaine K. Zamora, Chemist

EKZ

Enclosures

TOLS009631

End. 4

BZTO104(e)046463

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

AMENDED 3/19/91

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 BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES AND GASOLINE USING EPA METHODS 5030 COUPLED TO 8020 and 8015 Results Reported as mg/kg (ppm)

Sample #	Benzene	Toluene	Et-Benzene	Xylenes	Gasoline
3123-0227-MW-K	0.004	0.013	0.004	0.017	1
3123-0227-MW-I	<0.001	<0.001	<0.001	0.002	1
3123-0227-MW-H	<0.001	<0.001	<0.001	<0.002	<1
3123-0228-MW-L	<0.001	<0.001	<0.001	<0.002	<1
3123-0228-MW-J1	0.100	0.004	0.026	0.041	1
3123-0228-MW-J2	<0.001	<0.001	<0.001	<0.002	<1
3123-0228-MW-J3	<0.001	<0.001	<0.001	<0.002	<1
3123-0228-MW-B1	0.12	0.011	0.005	0.016	1
3123-0228-MW-B2	<0.001	<0.001	<0.001	0.011	<1
3123-0228-MW-M	0.64	1.6	1.2	3.0	18
3123-0227-MW-G	0.55	0.16	0.13	1.8	16

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

AMENDED 3/19/91

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 BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES AND GASOLINE USING EPA METHODS 5030 COUPLED TO 8020 and 8015
Results Reported as mg/kg (ppm)
Quality Assurance

Sample #	Benzene	Toluene	Et-Benzene	Xylenes	Gasoline
Method Blank	0.014[a]	0.020[a]	0.037[a]	0.094[a]	<1
3123-0227-MW-G (Duplicate)	0.21	0.038	0.021	0.620	10
3123-0227-MW-G (Matrix Spike) Spiked @ 0.020 ppm Percent Recovery	b	b	b	b	
3123-0227-MW-G (Matrix Spike Duplicate) Spiked @ 0.020 ppm Percent Recovery	b	b	b	b	
3123-0227-MW-G (Matrix Spike) Spiked @ 45 ppm Percent Recovery					73%
3123-0227-MW-G (Matrix Spike Duplicate) Spiked @ 45 ppm Percent Recovery					85%

[a] - The contamination seen is the result of carry-over of contamination from the previous sample. No contamination was seen in the blank samples analyzed prior to nor subsequent to this sample. The remaining samples were examined and none of the contamination seen appeared to be the result of carry-over between samples. As a result, none of the data are flagged.

[b] - The amount spiked was insufficient to give meaningful recovery data.

TOLS009633

BZTO104(e)046465

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 ETHANOL BY GC/FID (MODIFIED 8015) Results Reported as mg/L (ppm)

Sample #	Ethanol (ppm)
3123-0227-MW-K	<4
3123-0227-MW-I	<4
3123-0228-MW-M	4,500
3123-0227-MW-G	<4

Quality Assurance

Method Blank	<4
3123-0227-MW-G (Duplicate)	<4
3123-0227-MW-G (Matrix Spike) Spiked @ 4,000 ppm Percent Recovery	101%
3123-0227-MW-G (Matrix Spike Duplicate) Spiked @ 4,000 ppm Percent Recovery	102%

TOLS009634

BZTO104(e)046466

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

AMENDED 3/19/91

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 TOTAL PETROLEUM HYDROCARBONS AS KB3 & B11 BY GC/FID (MODIFIED 8015) Results Reported as mg/L (ppm)

Sample #	KB3 & B11 (ppm)
3123-0227-MW-K	<2
3123-0227-MW-I	<2
3123-0227-MW-H	<2
3123-0228-MW-L	<2
3123-0228-MW-J1	<2
3123-0228-MW-J2	<2
3123-0228-MW-J3	<2
3123-0228-MW-B1	<2
3123-0228-MW-B2	<2
3123-0228-MW-M	56[a]
3123-0227-MW-G	4

[a] - Pattern seen is not indicative of KB3 and B11. Contamination present may be the result of degradation of these materials or other material including biogenic compounds.

TOLS009635

BZTO104(e)046467

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 TOTAL PETROLEUM HYDROCARBONS AS KB3 & B11 BY GC/FID (MODIFIED 8015)
Results Reported as mg/L (ppm)
Quality Assurance

Sample #	KB3 & B11 (ppm)
Method Blank	<2
3123-0228-MW-M (Duplicate)	40[a]
3123-0228-MW-M (Matrix Spike) Spiked @ 5 ppm Percent Recovery	c
3123-0228-MW-M (Matrix Spike Duplicate) Spiked @ 5 ppm Percent Recovery	c

[a] - Pattern does not indicate KB3 & B11

[b] - Pattern indicates KB3 & B11

[c] - The amount spiked was insufficient to give meaningful recovery data.

TOLS009636

BZTO104(e)046468

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%

TOLS009637

BZTO104(e)046469

[redacted]TIME OIL CO. SAMPLE LOG [redacted]

[redacted]HWEST TERMINAL Prop. No: 03123 Address: 12005 N. Burgard
[redacted]M J RUSSELL - KEVIN M. MURPHY Date: 2-25-91 Portland OR
Method: Grab ☐ S.Spoon ☐ Bailer ☒ Pump ☐
[redacted]me: Friedman + Bruya Preserved: Ice ☒ Acid ☐ None ☐
[redacted] Address: 3008 - B - 16th Ave West Phone: PO No.: 17241

	Sample #	Location/Description (FBI#)		Type*	Analysis Instructions	EPA Method
1	3123-0227-MW-K	18253-59	MW-K	S W P	Ethanol, Penta, "Solvents"*, TPH-G & BTEX	DBegon
2	3123-0227-MW-I	18260-66	MW-I	S W P	Ethanol, Penta, Solvents, TPHG & BTEX	
3	3123-0227-MW-H	18267-73	MW-H	S W P	Penta, solvents, TPHG & BTEX	
4	3123-0228-MW-L	18274-80	MW-L	S W P	Penta, Solvents, TPHG & BTEX	
5	3123-0228-MW-J1	18281-87	MW-J1	S W P	Penta, solvents, TPHG & BTEX	
6	3123-0228-MW-J2	18288-94	MW-J2	S W P	" " " "	
7	3123-0228-MW-J3	18295-18301	MW-J3	S W P	" " " "	
8	3123-0228-MW-B1	18302-08	MW-B1	S W P	" " " "	
9	3123-0228-MW-B2	18309-15	MW-B2	S W P	8015 " PCP "8015P "	
10	3123-0228-MW-M	18316-22	MW-M	S W P	Ethanol, Penta, Solvents, TPHG & BTEX	
11	3123-0227-MW-G	18323-29	MW-G	S W P	" " " " "	
12	3123-0227-Eth Vapor	18330	Vapor Sample	S W P	Ethanol, TPH, BTEX	8015, 8015M
13	-			S W P		
14	-			S W P		
15	-			S W P		
16	-			S W P		
17	-			S W P		
18	-			S W P		
19	-			S W P	18313 } consumed in analysis	
20	-			S W P	18314 }	
21	-			S W P		
22	-			S W P		

Other Instructions: Monitoring well Water Samples - All have 3-1 liter samples and 4 - 40ml VOA's. *"Solvents" include KB3 & B11 (Kodak)

Sample Count = 33 liter 44 VOA 1 SS Vap *Check sample jar count against Log!* * S = Soil W = Water P = Product

CHAIN OF CUSTODY RECORD

Relinquished By:	Received By:	Date & Time
Relinquished By: [signature]	Received For Lab By: [signature] M.A. DANFORD	Date & Time: 3-4-91

GENERAL LAB INSTRUCTIONS

Please provide the requested information

1. Sample numbers assigned by Lab: 18253 to 18330 Date Analyzed: 3-6-91 & 3-7-91
2. Person performing analysis: Elaine K. Zamora Data Reviewer: Lisa A. Bentley
3. Scheduled sample disposal date: April 4, 1991 *NOTIFY TIME OIL CO. BEFORE DISPOSAL*
4. Provide copies of ALL chromatograms, including QA/QC runs.

IMPORTANT! PLEASE RETURN A COPY OF THIS FORM WITH YOUR REPORT TO TIME OIL CO.
Attn: Environmental Manager, PO Box 24447 Terminal Sta., Seattle, WA 98124 (206) 285-2400

TOLS009638

BZTO104(e)046470

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

INVOICE # 91TOC0313-1

March 13, 1991

Time Oil Company
2737 West Commodore Way
Seattle, WA 98199

Re: Billing for the analyses of the environmental samples submitted on March 4, 1991 from Project 03-123 N.W. Terminal, P.O. #17241 and reported to Fred Proby, Environmental Specialist.

11 water samples analyzed for Benzene, Toluene, Ethylbenzene, Xylenes and Gasoline by GC/PID-FID using Purge and Trap sample injection (5030, 8020, 8015) @ $150 per sample	$ 1,650.00
4 water samples analyzed for Ethanol by GC/FID (Modified 8015) @ $85 per sample	340.00
11 water samples analyzed for KB3 & B11 by GC/FID (Modified 8015) @ $85 per sample	935.00
11 water samples analyzed for PCP (PENTA) @ $85 per sample	935.00
Amount Due	$ 3,860.00

CO.....DIV.....
VEND.....
INV.....
PO 17241
DUE.....
%.....MO.....
☐ DIST ATTACHED

☐ AUTH
PRICE
REC/ SIG

03-123-900162

TOLS009639

PHONE 285-2400
CABLE ADDRESS: TIMOIL
FAX: 206-283-8036

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PRODUCTS TIME TESTED

TEN TO ONE IT'S TIME

TIME OIL CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

April 11, 1991

Mr. Michael J. Downs
State of Oregon
Department of Environmental Quality
Environmental Cleanup Division
811 SW Sixth Avenue, 9th Floor
Portland, OR 97204

RE: Voluntary Cleanup Program - Intent to Participate
Time Oil Co. terminal, 12005 North Burgard Road, Portland

Dear Mr. Downs:

As Department of Environmental Quality files should show, Time Oil Co. ran a pentachlorophenol (penta) blending operation for Koppers Company on a portion of the subject property from 1967 to 1982. This operation consisted of heating and mixing penta granules with paraffin wax, mineral spirits and other similar solvents to yield various woodtreating products per Koppers' specifications. These products were then shipped to Koppers in 55 gallon drums.

Following termination of our agreement with Koppers, the tanks, piping and related equipment were removed and soil samples were collected. These samples indicated that penta had been spilled. In 1985 we removed surface soil throughout the penta operations area to a depth of approximately 1.5 feet. The resulting 288 cubic yards of soil was disposed of at the hazardous waste landfill at Arlington. Further site characterization showed that not all of the penta-contaminated soil had been removed. However, before additional excavation could be arranged, the EPA banned penta wastes (RCRA waste number F027) from landfilling. We therefore embarked on an investigation to identify other methods of remediating this soil.

This investigation ultimately led us to bioremediation and Bellevue-based ECOVA Corporation. After conducting bench-scale treatability tests, ECOVA determined that the penta could be reduced to a concentration of 0.5 ppm or less. Time Oil therefore directed them to set up a full-scale field trial. As part of this work, all penta-contaminated soil was excavated and stockpiled in a lined and bermed containment area.

The field trial has now been completed, the results of which indicate that the bench tests were somewhat optimistic. ECOVA is presently preparing a complete summary of their work to date, which we will submit to you when it is finished.

TOLS009640

BZTO104(e)046472

However, the "bottom line" is that we will not be able to remediate the penta to background levels. Accordingly, Time Oil would like to enter into negotiations with the DEQ to establish an alternative cleanup level for this site. To that end, I have enclosed a completed "Intent to Participate" form.

If you require other information at this point or have any questions about our intentions, please do not hesitate to call; my direct line is (206) 286-6444.

Sincerely,

Fred Pr[illegible]
Environmental Specialist

enclosure a/s

wp51\flp\april91

TOLS009641

BZTO104(e)046473

VOLUNTARY CLEANUP PROGRAM
INTENT TO PARTICIPATE
(For purposes of establishing waiting list for oversight services)

Identification of Site

Site Name: Time Oil Northwest Terminal

Address: 12005 N. Burgaard Rd., Portland, OR

Owner/Operator: Time Oil

Township:_____ Range:_____ Section:_____ Tax Lot #:_____

Estimation of Oversight Needed

Based on your information about the site, what is your initial estimation of the level of oversight needed from the Department:

_____ Voluntary preliminary assessment

__XX__ Level 1 (simple) cleanup

_____ Level 2 (moderately complex) or Level 3 (complex) cleanup

_____ Unknown at this time (because:_____

_____)

Summary of Potential Contamination

Briefly describe the source, volume and type of contaminant(s) present on the property (or attach statement):_____

PENTACHLOROPHENOL
RELATED SOLVENTS

Are hazardous substance contaminants present in the groundwater?
__XX__ Yes _____ No _____ Unknown

Intent to Participate

The undersigned is requesting the oversight by the Department of Environmental Quality ("DEQ") of investigations of possible contamination at the property described above, and the undersigned requests that the site be placed on DEQ's waiting list for voluntary oversight of hazardous substance investigation and cleanup activities.

TOLS009642

By executing this Intent to Participate, the undersigned indicates its intention to negotiate in good faith a written agreement with DEQ to provide for voluntary oversight. This Intent to Participate does not constitute such an agreement, and neither DEQ nor the undersigned will be bound to proceed with voluntary oversight unless such an agreement is executed. The agreement will provide, among other things, for reimbursement of DEQ's oversight costs, including direct site-specific costs and indirect costs allocable to the requested oversight activities.

As DEQ moves sites from the waiting list to active status, DEQ will notify the undersigned in writing. Following receipt of such a notice (or earlier), the undersigned will submit a report to DEQ summarizing existing conditions, activities and status at the site. The undersigned understands that DEQ will move sites from the list to active status based on various considerations, only one of which will be the timing of the original placement of a site on the waiting list.

Submittal of an Intent to Participate is not and shall not be construed as an admission of liability under ORS 465.255, or as a waiver of any defense to such liability. The undersigned may terminate an Intent to Participate by giving 15 days advance written notice to the DEQ. Termination will not affect any right DEQ may have for requiring investigation or cleanup activities or for recovery of costs under any applicable law.

If the terms of this Intent to Participate are acceptable, please have it executed by an authorized officer in the space below and returned to DEQ at:

Department of Environmental Quality
Environmental Cleanup Division
811 S. W. Sixth Avenue, 9th Floor
Portland, Oregon 97204

By: Jock Streidl (signature) Name: Jock Streidl (print or type)

Title: Vice President Company: Time Oil Co.

Date: 4/11/91

TOLS009643

BZTO104(e)046475

PHONE 285-2400
CABLE ADDRESS: TIMOIL
FAX! 206-283-8036

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RICHMOND
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PRODUCTS TIME TESTED

TIME OIL CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

April 15, 1991

Mr. Jim Borthen
ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

Dear Jim:

I have reviewed ECOVA's February 25, 1991 draft outline for the "Preliminary Assessment/Data Evaluation and Proposed Remediation Plan for PCP Contaminated Soil at Northwest Terminal Portland Oregon." The outline looks very good. As requested, I have enclosed an annotated copy with my comments (enclosure 1), most of which are minor; general suggestions follow:

1. The title is too lengthy. Unless these are buzz-words that DEQ will be looking for, please try to shorten it. I consider the use of a "slash" to be poor grammer, especially in a title.

2. "Company" is always abbreviated "Co." in Time's name.

3. The phrases, "PA I/II", etc. will be understood by DEQ, but not by Time's management. An introduction or executive summary is suggested in which the purpose of this report in the context of DEQ's procedures is explained. This introduction should also review the organization of the document (ie, it comprises several reports under one cover).

4. There is much project history of which you may not be aware that needs to be reflected in the "General Site Data" section. This project started in 1982 and many reports, letters and memos have been written. My recent letter to the DEQ provides a very brief summary that can be incorporated into this report. However, before you to sit down to write this section, you will need to spend a day going through my.files.

I have sent the "Intent to Participate" form to the DEQ with a cover letter that summarizes, in as few words as possible, the entire project history. A copy is provided for your files (enclosure 2).

The dioxin analyses have been completed, although we have yet to receive a "final" report from the dioxin lab. Friedman & Bruya's report, with the draft dioxin lab report, is provided for your use as enclosure 3.

TOLS009644

We recently sampled all accessible wells on site for a wide range of compounds. This data is provided as enclosure 4. The most significant result is 60 ppm penta in well "J", the shallow well immediately downgradient from the excavated area. The deeper wells had no penta.

Let me know when you would like to review my files.

Sincerely,

Fred Proby
Environmental Specialist

enclosure a/s

wp51\flp\april91

PHONE 285-2400
CABLE ADDRESS: TIMOIL
FAX: 206-283-8036

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TIME OIL CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

April 16, 1991

Mr. Jim Borthen
ECOVA Corporation
3820 159th Avenue NE
Redmond, WA 98052

RE: NW Terminal Penta Project - Change Order number 7

Dear Jim:

I have reviewed ECOVA's February 20, 1991 proposal for interim site maintenance and equipment "rental" costs and am prepared to make a counter-offer. I refer to these costs as "interim" because they are to be in effect only during this unanticipated shut-down period while we negotiate a cleanup level with the Oregon Department of Environmental Quality.

I appreciate your recognition of my concerns over ECOVA's originally-proposed Maintenance labor and expense costs. A fixed rate of $880 for a two-day trip is more reasonable given the nature of the work. Should the required maintenance take more than two days, this same rate may be extended (ie, $440 per day) with prior authorization. According to previous correspondence (ECOVA's July 10, 1990 letter) and our discussions, a maximum of one maintenance trip per month is anticipated. More frequent visits would require prior authorization based on an identified need.

Your proposed method of calculating compensation for tying up ECOVA's equipment is based on an amortization schedule. As I understand it, you have taken the value of the equipment ("Cost Basis", in Table 1 below) and divided that by the useful life-span of the equipment ("Months", below). This life-span will vary depending on the type of equipment. This approach is acceptable; however, we feel that the equipment life-span proposed in your February 20 letter (48 months for pumps, 60 months for tanks and 36 months for the compressor) has been underestimated. Table 1 (below) summarizes our counter proposal of $1,220 per month for equipment "rental" based on life-spans that are 50% longer than proposed in your letter:

Table 1. Calculation of Monthly Equipment Fee

Item	Cost Basis	Months	Monthly
Pumps	3 @ $ 1,500	72	$63
Tanks	2 @ $50,000	90	$1,111
Compressor	1 @ $ 2,500	5	$46
Totals	$107,000		$1,220

TOLS009646

BZTO104(e)046478

Your February 20, 1991 letter includes a table that appears to list months in which site maintenance was performed beginning with January 1990. It also lists equipment charges beginning in October 1990. However, no justification is provided for the selection of these dates. According to ECOVA's July 10, 1990 letter, maintenance work prior to that date "was performed at ECOVA's cost."

We therefore propose the following:

1. The above charges for maintenance ($880 per trip) and equipment rental ($1,220 per month) be made retroactive beginning in July 1990, as first suggested by Bill Mahaffey.

2. Equipment charges will be incurred each month until the earlier of; ECOVA resumes treatment under our negotiated DEQ cleanup standards, August 1991 (assumed treatment start up) or until our contract is terminated.

3. Maintenance will only be charged for those months in which ECOVA actually inspects the site or performs maintenance. Maintenance is only chargeable to Time until ECOVA resumes treatment under our negotiated DEQ cleanup standards, or until our contract is terminated, whichever occurs first. From this point on, an inspection report that describes the work accomplished must be submitted for each trip.

I have set a fixed date so a ceiling on the change order can be defined. The maintenance change order may be renewed, if needed, after August 1991.

As I understand from our recent conversation, since July 1990, you visited the site for maintenance in November 1990 and March 1991 and plan to make a trip this month. A tabulation of costs based on this information and the above rates is provided in Table 2 (below); the total retroactive maintenance and equipment cost comes out to $13,959 through March 1991.

Table 2. Maintenance and Equipment Costs Since July 1990

Month	Labor	Equipment	Total
July '90		$1,220	$1,220
Aug '90		$1,220	$1,220
Sept '90		$1,220	$1,220
Sept '90		$1,220	$1,220
Oct '90		$1,220	$1,220
Nov '90	$880	$1,220	$2,100
Dec '90		$1,220	$1,220
1990	$880	$8,540	$9,420
Jan '91		$1,220	$1,220
Feb '91		$1,220	$1,220
Mar '91	$880	$1,220	$2,100
1991	$880	$3,660	$4,540
Totals	$1,760	$12,200	$13,960

Time Oil's offer to reimburse ECOVA for maintenance and equipment costs is contingent upon ECOVA accepting full responsibility for the condition and serviceability of all equipment and materials at the treatment site. Any replacement of equipment or materials, other than that which has been damaged through some act of Time Oil, will be at ECOVA's expense.

I have enclosed a change order that reflects Time's counter-proposal for interim maintenance and equipment costs. If it is acceptable, please sign both copies and return them to me. We will then sign it and return an original to you.

As I had warned you, gaining approval from Time's management for these additional costs was very difficult. This underscores the importance of completing your preparations for the DEQ negotiations entirely within the authorized budget - to include saving an amount for unforseen contingencies. It is imperative for ECOVA to manifest prudent cost control for the rest of this project.

Sincerely,

Fred Proby
Environmental Specialist

enclosure a/s

wp51\flp\april91

TIME OIL CO.

P.O. Box 24447, Terminal Station
Seattle, WA 98124

WORK ORDER / CHANGE ORDER

TO: ECOVA Corporation 3820 159th Avenue NE Redmond, WA 98052	Work Order Number 7 Place this number on your invoice and all related correspondence.

If this block is checked, [ ] this work order is an addendum to the blanket contract dated _____ and you are authorized to perform the work described below at the stated price(s).

If this block is checked, [X] this work order is an addendum to the standard contract dated November 9, 1988 and you are authorized to perform the work described below at the stated price(s).

Address and city of job site:			Property No:
12005 N. Burgard Rd, Portland, OR			03-123
Requested by:	Authorized By:	Date Job Required:	Date Completed:
Fred Proby			

This work is at the expense of: [X] Time Oil Co. [ ] Other [ ] Taxable

DESCRIPTION OF WORK	AMOUNT
1. Retroactive maintenance and equipment rental from 7/90 to 3/91.	$13,960.00
2. Monthly site inspection and maintenance from 4/91 to 8/91 at $880/trip X 5 trips.	$4,400.00
3. Monthly equipment rental from 4/91 to 8/91 at $1,220/month X 5 months.	$6,100.00
CONDITIONS:	
1. Authorization of maintenance and equipment charges terminates at the earlier of;	
August 1991, resumption of soil treatment under negotiated cleanup standards or	
termination of contract.	
2. This Change Order may be renewed, if needed, after August 1991.	
3. ECOVA accepts full responsibility for the condition and serviceability of all	
equipment and materials at the treatment site. Any necessary replacement of	
equipment or materials, other than that which has been damaged through some act of	
Time Oil Co, will be at ECOVA's expense.	
4. ECOVA will prepare a brief report documenting each maintenance trip.	
TOTAL CHANGE ORDER AMOUNT	$24,460.00

Project Description:

Cleanup of pentachlorophenol-contaminated soil.

Time Oil Co. (signature):	Date:
Contractor (signature):	Date:

C:\ffip\workorder

TOLS009649

ECOVA

VIA FACSIMILE 206-283-8036

MEMORANDUM

TO: Fred Proby

FROM: John Kinsel

DATE: 06/28/91

RE: Site Assessment and Evaluation Report for the PCP Site at the Portland Terminal
PN 1067

In response to your concerns, ECOVA will meet the following schedule for report delivery:

Section	Delivery Date
PAI/PAII - Site Assessment	07/05/91
PAIII - Data Evaluation	07/12/91

Following your review comments we will submit the complete package to the DEQ. I apologize for any inconvenience this may have caused; our goal is to provide you with a comprehensive package in a timely manner.

cc: Jim Borthen

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

TOLS009650

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E C O V A

JUL 5 RECD FLP

July 5, 1991

Project No.: 1067

Time Oil Co.
P. O. Box 24447
Terminal Station
Seattle, WA 98124-0447

RE: Oregon Department of Environmental Quality Voluntary Cleanup Program - Preliminary Assessment

Dear Fred:

Attached is the draft Preliminary Assessment Parts I and II as promised per our FAX to you on June 28, 1991. This copy is for your review, comments and editing.

Please note that it diverges slightly from the outline which has previously been provided to you. On reconsidering the situation, it was felt that it would be prudent to follow ODEQ's outline exactly. The previous outline provided the exact same information, only in a slightly different order. ODEQ's outline is a generic outline intended for all types of sites, and sometimes it does not seem to be completely appropriate for our purposes. However, the regulatory people will be looking for certain information in a certain order and it would seem best to accommodate them.

There are a few pieces of information which are missing from this report that Time Oil Co. might be able to more efficiently provide to us. These include the following:

- Legal Description
- Ownership Information (that is, past ownership information such as might be available from a title search done when Time Oil Co. purchased the property).
- The site of Crosby and Overton Leased Tanks
- Waste Generator ID Number

ECOVA can generate this information if you would prefer.

There is also some information which I need to obtain which is probably in your files. This includes details of the original ODEQ site investigation, analytical of the split samples given to Time Oil Co. during the ODEQ site investigation, and results of any "quarterly" groundwater sampling that has been done.

On Friday, July 12, 1991, Parts III and IV will be delivered to you. At that time I would like to pull this information from your files.

I will look forward to receiving your comments on the attached materials.

Sincerely,

James Borthen, P.E.
Project Manager

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

TOLS009651

Printed on Recycled Paper

FRED,

I WILL NEED TO FILL THE HOLE YOU HAD made FOR ECOVA Discharge at NORTHwest terminal. will proceed 2nd week July,

TOLS009652

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 CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

October 7, 1991

Mr. Jim Borthen
ECOVA Corp
3820 159th Avenue NE
Redmond, WA 98052

RE: Northwest Terminal Penta Cleanup draft project report to DEQ

Dear Jim:

I have completed my review of the subject report. Enclosed is the original, marked with my comments; I would like this copy returned with your next draft. Where possible, I have filled in blanks and made specific wording suggestions. In other instances I have requested a re-write with general guidelines.

I suggest a meeting early next week so we can go over any specific problems you might have with my comments.

Sincerely,

Fred Proby
Environmental Specialist

enclosure a/s

C:\WP51\FLP\OCT91\ECOVACOM.TRN

TOLS009653

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)
10/30/91

PRODUCER

WILLIS CORROON CORPORATION OF SEATTLE
P.O. Box C-34201
Seattle, WA 98124
(206) 386-7400

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

ECOVA CORPORATION
18640 NE 67th Ct.
Redmond, WA 98052-5230

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A — National Union Fire Insurance Co.

COMPANY LETTER B — First National Insurance Co. of America

COMPANY LETTER C

COMPANY LETTER D

COMPANY LETTER E

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$ 5,000,000
A	x COMMERCIAL GENERAL LIABILITY	GLCM 3404367	10/30/91	10/30/92	PRODUCTS-COMP/OP AGG.	$ 5,000,000
	x CLAIMS MADE OCCUR.				PERSONAL & ADV. INJURY	$ 5,000,000
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$ 5,000,000
	x WA Stop Gap				FIRE DAMAGE (Any one fire)	$ 50,000
					MED. EXPENSE (Any one person)	$ 5,000
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$ 1,000,000
B	x ANY AUTO	BA 2184357C	10/30/91	10/30/92		
	ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	SCHEDULED AUTOS					
	x HIRED AUTOS				BODILY INJURY (Per accident)	$
	x NON-OWNED AUTOS					
	GARAGE LIABILITY				PROPERTY DAMAGE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	UMBRELLA FORM				AGGREGATE	$
	OTHER THAN UMBRELLA FORM					
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS	
					EACH ACCIDENT	$
					DISEASE—POLICY LIMIT	$
					DISEASE—EACH EMPLOYEE	$
	OTHER					
A	CONTRACTOR'S POLLUTION LIABILITY	CPL 7166671	10/30/91	10/30/92	$1,000,000 Each Loss $2,000,000 Total for All Losses	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Re: Ecova Job #821407, Groundwater & Soil Cleanup
The certificate holder is added as an additional insured as respects their interest in the above job.

CERTIFICATE HOLDER

Time Oil Company
2737 W. Commodore Way
Seattle, WA 98199
Attn: Fred Proby

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 45 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

DUNCAN BRONSON Duncan Bronson (31)

ACORD 25-S (7/90)

©ACORD CORPORATION 1990

TOLS009654

BZTO104(e)046486

WILLIS CORROON

Willis Corroon
Corporation of
Seattle
Insurance
Bonds
Benefits
Risk Management
701 Fifth Avenue
4200 Columbia Center
PO Box 34201
(Zip 98124)
Seattle, WA 98104
Telephone 206-386-7400
Fax 206-386-7960

October 30, 1991

Time Oil Company
2737 W. Commodore Way
Seattle, WA 98199
Attn: Fred Proby

Re: Ecova Corporation

Gentlemen:

We are pleased to enclose documents indicated below:

X	Certificate of Insurance
	Memorandum of Insurance
	Original Policy (As Captioned)
	Copy of Policy (As Captioned)
	Loss Payable and/or Mortgage Clause
	Contract of Sale Clause
	Cover Note and/or Binder
	Other

The enclosed is issued in connection with:

Evidence of Insurance

We trust you will find the enclosure(s) to be entirely satisfactory.

Very truly yours,

By Janice Lembke

Janice Lembke
(206) 386-7483

JL:mj/Enclosure

cc: Ecova Corporation
National Union Fire Insurance Co.

TOLS009655

BZTO104(e)046487

Background Info
for Econ Report
11/91 PLP

NORTHWEST TERMINAL

Foot of North Burgard St.
Portland, Oregon

DOCUMENT COPIES ATTACHED:

a wholly owned subsidiary of Time Oil Co.

Land is owned Northwest Term Improvements owned by Time Oil Co operates the terminal.

1. Deed of December 2nd, 1943 whereby Northwest Terminal Co. acquired title to the approximately 12½ acres on which present facilities are located from Oregon Shipbuilding Corp.

2. Deed of May 20th, 1950 whereby Northwest Terminal Co. acquired title to some 40 acres of land east of above property from the United States of America.

3. Warranty Deed of October 9th, 1974 whereby Northwest Terminal Co. acquired title to .215 acres of land over which existing rail spur enters property described in Paragraph 1 above plus and undivided one-third interest in two adjoining parcels, one of which is vacant and lies between two spur tracks and the other has a spur track on it which serves property described in Paragraph 2 above plus Bell Oil Terminal Co. property.

4. Deed of July, 1968 whereby Northwest Terminal Co. conveyed the Easterly 9.7472 acres of the property described in Paragraph 2 above to Consolidated Freightways Corporation.

5. Sewer Connection Agreement of November 1st, 1979 whereby Northwest Terminal granted to Port of Portland access to existing sewer on Northwest Terminal property and received a right for continued encroachment of certain buildings on Northwest's property upon property owned by Port of Portland.

6. Easement dated October 7, 1974 whereby Northwest Terminal Co. grants to Schnitzer Investment Corp. an easement for railroad purposes over and across the northerly and easterly portion of property described in Paragraph 2 above.

7. Deed of Easement dated June 7th, 1968 whereby Northwest Terminal Co. grants to The Port of Portland an easement across property described in Paragraph 2 above for sewer and water lines.

8. Easement dated May 1st, 1961 whereby Northwest Terminal Co. grants to Bell Oil Terminal Co. an easement for a pipeline connecting the Bell property to the Northwest Terminal Co. dock.

9. Industrial Track agreement dated August 27th, 1975 providing for Burlington Northern Inc. to serve property described in Paragraph 1 above with railroad service.

10. Fire Suppression Agreement dated April 20th, 1981 providing for the City of Portland to furnish fire suppression service to the Northwest and Bell terminal properties.

There are no other long term leases or agreements affecting the property.

TOLS009656

BZTO104(e)046488

BELL OIL TERMINAL

Foot of North Burgard
Portland, Oregon

DOCUMENT COPIES ATTACHED:

1. Deed dated September 9th, 1953 whereby William Shenker etux conveyed to Bell Oil Terminal Co. the property upon which the existing terminal is located, together with an easement for a pipeline to an existing dock on the Willamette River west of the subject property and together with an easement over existing roads to the conveyed property.

2. An Easement dated September 9th, 1953 whereby William Shenker etux granted to Bell Oil Terminal Co. a non exclusive easement to use the existing dock facilities on the Willamette River west of the conveyed property.

3. Warranty Deed dated January 25th, 1955 whereby William Shenker etux conveyed to Bell Oil Terminal Co. a 61.5 foot wide parking area immediately east of the property conveyed by Deed described in Paragraph 1 above.

4. Agreement of November 9th, 1977 between Schnitzer Investment Corp., Palmco Inc., Bell Oil Terminal Co. Northwest Terminal Co. and Time Oil Co. providing for the joint participation and use of a railroad track to be install ed by Schnitzer; redefining the area of use of the shoreland; Bell's use of a new dock constructed by Palmco; relocation of Bell's pipeline easement described in Paragraph 1 above; and, resolving other matters of conflict between the parties.

5. Industrial Trackage Agreement dated February 5th, 1975 between Schnitzer Investment Corporation, Time Oil Co. Container Corporation, and certain railroads providing for railroad service to certain properties including those of Northwest Terminal Co. and Bell Oil Terminal Co.

NOTE: Certain agreement and contracts involving Bell Oil Terminal also affect Northwest Terminal and vice versa. Therefore the documents attached to each should be reviewed in consort.

There are no long term leases or contracts affecting the Bell Oil property other than contained herein or in t he Noethwest Terminal Co. package.

TOLS009657

BZTO104(e)046489

BELL OIL TERMINAL

Foot of North Burgard
Portland, Oregon

DOCUMENT COPIES ATTACHED:

1. Deed dated September 9th, 1953 whereby William Shenker etux conveyed to Bell Oil Terminal Co. the property upon which the existing terminal is located, together with an easement for a pipeline to an existing dock on the Willamette River west of the subject property and together with an easement over existing roads to the conveyed property.

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5. Industrial Trackage Agreement dated February 5th, 1975 between Schnitzer Investment Corporation, Time Oil Co. Container Corporation, and certain railroads providing for railroad service to certain properties including those of Northwest Terminal Co. and Bell Oil Terminal Co.

NOTE: Certain agreement and contracts involving Bell Oil Terminal also affect Northwest Terminal and vice versa. Therefore the documents attached to each should be reviewed in consort.

There are no long term leases or contracts affecting the Bell Oil property other than contained herein or in the Northwest Terminal Co. package.

TOLS009658

BZTO104(e)046490

OREGON
Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991
MULTNOMAH COUNTY
REAL Property Taxes

Code Area	ACCOUNT NUMBER
001	R-97135-0630

Property Description (Map Number)

Assessed Value	13,000
Ad Valorem Tax	435.56
Total Special Assessments	0.00
Total Tax And Assessments	435.56

	Discount Allowed*	Pay By	Pay One of These Amounts
Full - 3%	13.07	NOV. 15	422.49
2/3 - 2%	5.81	NOV. 15	284.57
1/3 - None		NOV. 15	145.19

1971350630 0000014519 0000028457 0000042249 04

DO NOT WRITE IN THIS AREA

901 NOVEMBER BILLING
RETURNED CHECK WILL INCUR A SERVICE CHARGE

AGENT BAB LENDER TIM000

Enter Amount Paid This Statement

↓ Detach Here — Return this stub with your payment. Use reverse side with return envelope.

OREGON
Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991
MULTNOMAH COUNTY
REAL Property Taxes

Code Area	Account Number
001	R-97135-0630

Property Description (Map Number)

12005 N. Burgard

Assessed Value	Last Year	This Year
LAND VALUE		13,000
BUILDING VALUE		
TOTAL VALUE		13,000
NET ASSESS VAL		13,000
TAX RATE/$1000		33.5048
PROPERTY TAXES		435.56

Current Taxes Levied By	Tax Rate	Tax Amount
PORT OF PORTLAND	.3053	3.96
PORT BONDS	.0140	0.18
EDUCATION SERVICE DIST	1.4715	19.12
PORTLAND COMMUNITY COLL	.9136	11.87
PORTLAND SCHOOL DIST	16.7656	217.95
CITY OF PORTLAND	8.7983	114.37
METRO SERVICE DIST (Z00)	.2710	3.52
MULTNOMAH COUNTY	4.9655	64.59

YOUR CANCELLED CHECK IS YOUR RECEIPT
RETURNED CHECK WILL INCUR A SERVICE CHARGE

MAILING ADDRESS

NORTHWEST TERMINAL CO
P O BOX 99007
SEATTLE,WA 98199

LEGAL DESCR:
SECTION 35 2 N 1 W LOT BLOCK
STL 63 0.22 ACRES

DELINQUENT TAXES	Interest To	
	Tax Year	Amount

Foreclosure Proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (*).

Property Tax Totals	435.56
Total Taxes and Assessments	435.56

PLEASE MAKE PAYMENT TO:
Tax Collector, Multnomah County
P.O. Box 2716
Portland, Oregon 97208-2716
(For tax information, call (503) 248-3326)

* READ PAYMENT INSTRUCTIONS ON REVERSE

	Discount Allowed*	Pay By	Pay One of These Amounts
FULL - 3%	13.07	NOV. 15	422.49
2/3 - 2%	5.81	NOV. 15	284.57
1/3 - None		NOV. 15	145.19

AGENT BAB LENDER TIM000
008961

SAVE THIS PART FOR YOUR RECORDS

TOLS009659

BZTO104(e)046491

OREGON
Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991
MULTNOMAH COUNTY
REAL Property Taxes

Code Area	ACCOUNT NUMBER
001	R-97135-0180

Property Description (Map Number)

PROPERTY ADDRESS
F/N BURGARD RD
PORTLAND, OREGON 97203

Assessed Value	2,726,410
Ad Valorem Tax	91,347.82
Total Special Assessments	0.00
Total Tax And Assessments	91,347.82

	Discount Allowed	Pay By	Pay One of These Amounts
Full - 3%	2,740.43	NOV. 15	88,607.39
2/3 - 2%	1,217.97	NOV. 15	59,680.58
1/3 - None		NOV. 15	30,449.28

1971350180 0003044928 0005968058 0008860739 01

DO NOT WRITE IN THIS AREA

901 NOVEMBER BILLING
RETURNED CHECK WILL INCUR A SERVICE CHARGE

AGENT BAB LENDER TIM000

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OREGON
Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991
MULTNOMAH COUNTY
REAL Property Taxes

Code Area	Account Number
001	R-97135-0180

Property Description (Map Number)

PROPERTY ADDRESS
F/N BURGARD RD
PORTLAND, OREGON 97203

Assessed Value	Last Year	This Year
LAND VALUE	[redacted]	784,000
BUILDING VALUE	[redacted]	1,942,410
TOTAL VALUE	[redacted]	2,726,410
NET ASSESS VAL	[redacted]	2,726,410
TAX RATE/$1000	[redacted]	33.5048
PROPERTY TAXES	[redacted]	91,347.82

YOUR CANCELLED CHECK IS YOUR RECEIPT
RETURNED CHECK WILL INCUR A SERVICE CHARGE

MAILING ADDRESS

NORTHWEST TERMINAL CO
P O BOX 99007
SEATTLE,WA 98199

LEGAL DESCR:
SECTION 35 2 N 1 W LOT BLOCK
STL# 18 12.47 ACRES

Current Taxes Levied By	Tax Rate	Tax Amount
PORT OF PORTLAND	.3053	832.37
PORT BONDS	.0140	38.16
EDUCATION SERVICE DIST	1.4715	4,011.91
PORTLAND COMMUNITY COLL	.9136	2,490.84
PORTLAND SCHOOL DIST	16.7656	45,709.89
CITY OF PORTLAND	8.7983	23,987.77
METRO SERVICE DIST (200)	.2710	738.85
MULTNOMAH COUNTY	4.9655	13,538.03
Property Tax Totals		91,347.82
Total Taxes and Assessments		91,347.82

DELINQUENT TAXES	Interest To	
	Tax Year	Amount

Foreclosure Proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (*).

PLEASE MAKE PAYMENT TO: Tax Collector, Multnomah County
P.O. Box 2716
Portland, Oregon 97208-2716
(For tax information, call (503) 248-3326)

* READ PAYMENT INSTRUCTIONS ON REVERSE

	Discount Allowed*	Pay By	Pay One of These Amounts
FULL - 3%	2,740.43	NOV. 15	88,607.39
2/3 - 2%	1,217.97	NOV. 15	59,680.58
1/3 - None		NOV. 15	30,449.28

AGENT BAB LENDER TIM000
008957

SAVE THIS PART FOR YOUR RECORDS

TOLS009660

BZTO104(e)046492

OREGON
Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991
MULTNOMAH COUNTY
REAL Property Taxes

Code Area	ACCOUNT NUMBER
294	R-97135-0310

Property Description (Map Number)

PROPERTY ADDRESS
WI/12005 N BURGARD ST
PORTLAND, OREGON 97203

Assessed Value	1,652,950
Ad Valorem Tax	40,838.60
Total Special Assessments	0.00
Total Tax And Assessments	40,838.60

	Discount Allowed*	Pay By	Pay One of These Amounts
Full - 3%	1,225.16	NOV. 15	39,613.44
2/3 - 2%	544.51	NOV. 15	26,681.23
1/3 - None		NOV. 15	13,612.87

1971350310 0001361287 0002668123 0003961344 00

DO NOT WRITE IN THIS AREA

901 NOVEMBER BILLING
RETURNED CHECK WILL INCUR A SERVICE CHARGE

AGENT BAB LENDER TIM000

Enter Amount Paid This Statement

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OREGON
Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991
MULTNOMAH COUNTY
REAL Property Taxes

Code Area	Account Number
294	R-97135-0310

Property Description (Map Number)

PROPERTY ADDRESS
WI/12005 N BURGARD ST
PORTLAND, OREGON 97203

Assessed Value	Last Year	This Year
LAND VALUE	[redacted]	1,620,000
BUILDING VALUE	[redacted]	32,950
TOTAL VALUE	[redacted]	1,652,950
NET ASSESS VAL	[redacted]	1,652,950
TAX RATE/$1000	[redacted]	24.7065
PROPERTY TAXES	[redacted]	40,838.60

YOUR CANCELLED CHECK IS YOUR RECEIPT
RETURNED CHECK WILL INCUR A SERVICE CHARGE

MAILING ADDRESS

NORTHWEST TERMINAL CO
P O BOX 99007
SEATTLE,WA 98199

LEGAL DESCR:
SECTION 35 2 N 1 W LOT BLOCK
STL 31 32.40 ACRES

Current Taxes Levied By	Tax Rate	Tax Amount
PORT OF PORTLAND	.3053	504.64
PORT BONDS	.0140	23.14
EDUCATION SERVICE DIST	1.4715	2,432.31
PORTLAND COMMUNITY COLL	.9136	1,510.13
PORTLAND SCHOOL DIST.	16.7656	27,712.69
METRO SERVICE DIST. (200)	.2710	447.94
MULTNOMAH COUNTY	4.9655	8,207.75
Property Tax Totals		40,838.60

DELINQUENT TAXES	Interest To	
	Tax Year	Amount

Foreclosure Proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (*).

PLEASE MAKE PAYMENT TO: Tax Collector, Multnomah County
P.O. Box 2716
Portland, Oregon 97208-2716
(For tax information, call (503) 248-3326)

Total Taxes and Assessments 40,838.60

* READ PAYMENT INSTRUCTIONS ON REVERSE

	Discount Allowed*	Pay By	Pay One of These Amounts
FULL - 3%	1,225.16	NOV. 15	39,613.44
2/3 - 2%	544.51	NOV. 15	26,681.23
1/3 - None		NOV. 15	13,612.87

AGENT BAB LENDER TIM000
008958

SAVE THIS PART FOR YOUR RECORDS

TOLS009661

BZTO104(e)046493

OREGON Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991 MULTNOMAH COUNTY REAL Property Taxes	Code Area 001	ACCOUNT NUMBER R-97135-0380
	Property Description (Map Number)	
	PROPERTY ADDRESS 12005 N BURGARD ST PORTLAND, OR 00000	

Assessed Value	362,000
Ad Valorem Tax	12,128.73
Total Special Assessments	0.00
Total Tax And Assessments	12,128.73

	Discount Allowed*	Pay By	Pay One of These Amounts
Full - 3%	363.86	NOV. 15	11,764.87
2/3 - 2%	161.72	NOV. 15	7,924.10
1/3 - None		NOV. 15	4,042.91

1971350380 0000404291 0000792410 0001176487 00 DO NOT WRITE IN THIS AREA

901 NOVEMBER BILLING
RETURNED CHECK WILL INCUR A SERVICE CHARGE

AGENT BAB LENDER TIMOOO

Enter Amount Paid This Statement

↓ Detach Here Return this stub with your payment. Use reverse side with return envelope.

OREGON Property Taxes For Fiscal Year July 1, 1990 to June 30, 1991 MULTNOMAH COUNTY REAL Property Taxes	Code Area 001	Account Number R-97135-0380
	Property Description (Map Number)	
	PROPERTY ADDRESS 12005 N BURGARD ST PORTLAND, OR 00000	

Assessed Value	Last Year	This Year
LAND VALUE	[redacted]	362,000
BUILDING VALUE	[redacted]	
TOTAL VALUE	[redacted]	362,000
NET ASSESS VAL	[redacted]	362,000
TAX RATE/$1000	[redacted]	33.5048
PROPERTY TAXES	[redacted]	12,128.73

Current Taxes Levied By	Tax Rate	Tax Amount
PORT OF PORTLAND	.3053	110.51
PORT BONDS	.0140	5.06
EDUCATION SERVICE DIST	1.4715	532.68
PORTLAND COMMUNITY COLL	.9136	330.72
PORTLAND SCHOOL DIST	16.7656	6,069.14
CITY OF PORTLAND	8.7983	3,184.98
METRO SERVICE DIST (Z00)	.2710	98.10
MULTNOMAH COUNTY	4.9655	1,797.54
Property Tax Totals		12,128.73
Total Taxes and Assessments		12,128.73

YOUR CANCELLED CHECK IS YOUR RECEIPT
RETURNED CHECK WILL INCUR A SERVICE CHARGE

MAILING ADDRESS

BELL OIL TERMINAL CO
P O BOX 99007 MAGNOLIA STA
SEATTLE,WN 98199

LEGAL DESCR:
SECTION 35 2 N 1 W · LOT BLOCK
LAND ONLY
TL 38 6.04 ACRES

DELINQUENT TAXES	Interest To	
	Tax Year	Amount
Foreclosure Proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (*).		

PLEASE MAKE PAYMENT TO: Tax Collector, Multnomah County
P.O. Box 2716
Portland, Oregon 97208-2716
(For tax information, call (503) 248-3326)

* READ PAYMENT INSTRUCTIONS ON REVERSE

	Discount Allowed*	Pay By	Pay One of These Amounts
FULL - 3%	363.86	NOV. 15	11,764.87
2/3 - 2%	161.72	NOV. 15	7,924.10
1/3 - None		NOV. 15	4,042.91

AGENT BAB LENDER TIMOOO
008959

SAVE THIS PART FOR YOUR RECORDS

TOLS009662

BZTO104(e)046494

[redacted]

Approved By

OREGON TAX SCHEDULE - AFFILIATED CO.

			1	2	3	4	5
			TOTAL	TOTAL			
					11-15-89	2-15-90	5-15-90
			1988/89	1989/90	1ST	2ND	3RD
1		N.W. TERMINALS-TOC PAYS EFF. 1/1/79					
2							
3	97136 0180	F/N BURGARD, PORTLAND 12.47ac	16194.89	80,130.33	77,724.92		
4							
5	97135 0310	12005 N. BURGARD, 32.40ac	35114.12	34,592.91	35,484.51		
6							
7	97135 0430	12005 N. BURGARD, .22ac	418.82	448.60	435.14		
8				114,191.23	113,654.12		
9	(See A/C #97135-0381-Improvements TOC)						
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20		BELL OIL TERMINALS					
21		Multnomah County R.E.					
22							
23	97135 0330	N. SEVER RD., PORTLAND 6.0ac	10893.67	11,464.98	11,316.97		
24							
25							
26							
27							
28							
29							
30							
31							
32							

TOLS009663

Oregon

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

November 15, 1991

Mr. Jim Borthen
ECOVA
18640 NE 67th Court
Redmond, WA 98052

Re: Environmental
Cleanup Rules

Dear Mr. Borthen:

Enclosed are the proposed environmental cleanup rules and materials you requested. I have added your name to the "interested party" mailing list so you will receive all subsequent versions of the proposed soil cleanup rules.

The enclosed draft set of rules and cleanup table is not the version for "official" public review and comment. Numerous drafts have preceded this version, and DEQ is currently conducting internal review on this draft. After the draft is corrected and the decision is made to proceed to public hearings, a public review version will be mailed to you. I have mailed you this version to update you where the process currently stands; I welcome any comments you may have even if they precede the comment period (anticipated to be in January 1992).

Remember, the proposed rules present one optional set of cleanup levels and procedures for use at simple sites only. Note the table requires the soil be cleaned to a specified minimum level and must "pass" the leaching test.

If you have any questions or comments about the draft rule or table please call me at (503) 229-6801.

Sincerely,

Brooks Koenig

BK:mbk
Enclosures: Draft rules

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DEQ-1

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ENVIRONMENTAL CLEANUP RULES

OAR 340-122-010 to 340-122-110

340-122-010	PURPOSE
340-122-020	DEFINITIONS
340-122-030	SCOPE AND APPLICABILITY
340-122-040	STANDARDS
340-122-045	NUMERICAL SOIL CLEANUP LEVELS
340-122-050	ACTIVITIES
340-122-070	REMOVAL
340-122-080	REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
340-122-090	SELECTION OF THE REMEDIAL ACTION
340-122-100	PUBLIC NOTICE AND PARTICIPATION
340-122-110	ADMINISTRATIVE RECORD

This is the set of draft rules for internal DEQ comment prior to proceding to public comment.

These rule changes include numerical cleanup levels for contaminant is soil only. Additions to the rules are indicated by shaded portions; ~~deletions are indicated by strikeout.~~

Significant portions of the text of the environmental cleanup rules not affected by the amendments have been excluded in this summary.

THIS IS A DRAFT DOCUMENT.

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340-122-010 PURPOSE

(1) These rules establish the standards and process to be used under ORS 465.200 through 465.380 for the determination of removal, remedial action, and degree of cleanup necessary to assure protection of the present and future public health, safety, and welfare and the environment in the event of a release or threat of a release of a hazardous substances.

(2) These rules also establish the standards and process to be used under ORS 466.540 through 466.590 {recodified as ORS 465.200 through 465.420} and 466.705 to 466.835 and 466.895 for the determination of remedial action or corrective action of releases of petroleum from underground storage tanks necessary to assure protection of the present and future public health, safety, welfare and the environment in the event of a release of threat of a release of petroleum.

340-122-020 DEFINITIONS

Terms not defined in this section have the meanings set forth in ORS 465.200. Additional terms are defined as follows unless the context requires otherwise:

(1) "Alternative technology" means a system, process, or method that permanently alters the composition of a hazardous substance through chemical, biological, or physical means so as to significantly reduce the volume, toxicity, or mobility of the hazardous substance or contaminated materials treated. Such technology may include a system, process, or method during any of the following stages of development:

(a) Available technology that is fully developed and in routine or commercial or private use;

(b) Innovative technology where cost or performance information is incomplete and where full-scale field testing is required before the technology is considered proven and available for routine use; or

(c) Emerging technology that has not successfully passed laboratory or pilot-scale testing.

(2) "Background Level" means the concentration of hazardous substance, if any, existing in the environment at the site before the occurrence of any past or present release or releases.

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(3) "Director" means the Director of the Department of Environmental Quality or the Director's authorized representative.

(4) "Environment" includes the waters of the state, any drinking water supply, any land surface and subsurface strata, sediments, saturated soils, subsurface gas, or ambient air or atmosphere.

(5) "Facility" or "site" has the meaning set forth in ORS 465.200(6).

(x) "Hazardous substance" means: (a) Hazardous waste as defined in ORS 466.005; (b) Any substance defined as a hazardous substance pursuant to section 101(14) of the federal Comprehensive Environmental Response, Compensation and Liability Act, P.L. 96-510, as amended, and P.L. 99-499; (c) Oil; and (d) Any substance designated by the commission under ORS 465.400.

(6) "Permitted release" means a release that is authorized by and in material compliance with a current and legally enforceable:

(a) Permit, of a specifically identified hazardous substance that is subject to a specified concentration level, standard, control, procedure, or other condition; or

(b) Sludge management plan approved pursuant to OAR 340-50-005 through 340-50-080.

(x) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment including the abandonment or discarding of barrels, containers and other closed receptacles containing any hazardous substance, or any threat thereof, but excludes:

(a) Any release which results in exposure to a person solely within a workplace, with respect to a claim that the person may assert against the person's employer under ORS chapter 656;

(b) Emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel or pipeline pumping station engine;

(c) Any release of source, by-product or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, as amended, if such release is subject to the requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of the

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Atomic Energy Act of 1954, as amended, or, for the purposes of ORS 465.260 or any other removal or remedial action, any release of source by-product or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978; and

(d) The normal application of fertilizer.

340-122-030 SCOPE AND APPLICABILITY

These rules apply to the release of hazardous substances into the environment except as below:

(1) Exempted Releases

These rules shall not apply to releases exempted pursuant to ORS 465.200(14)(a), (b), (c), and (d).

(2) Conditional Exemption of Permitted Releases

These rules shall not apply to a permitted release of hazardous substances, unless the Director determines that application of these rules might be necessary to perform a preliminary assessment or in order to protect public health, safety, or welfare or the environment.

(3) Relationship to Other Cleanup Actions

(a) Except as provided under OAR 340-122-030(3)(b), these rules shall not apply to releases where one of the following actions has been completed:

(A) Spill response pursuant to ORS 466.605 to 466.680;

(B) Oil spill cleanup on surface waters pursuant to ORS 468.780 to 468.815;

(C) Corrective action of a release of a hazardous waste pursuant to ORS 466.005 to 466.350;

(D) Cleanup pursuant to ORS 468.700 to 468.778.

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(b) Where hazardous substances remain after completion of one of the actions referred to in OAR 340-122-030(3)(a), these rules may apply if the Director determines that application of these rules might be necessary to perform a preliminary assessment or in order to protect public health, safety, or welfare or the environment.

(4) Corrective Action for Petroleum Releases from Underground Storage Tanks

OAR 340-122-205 to 340-122-360 shall apply to corrective action for releases of petroleum from underground storage tanks that are subject to ORS 466.705 to 466.835 and 466.895, except as provided under OAR 340-122-215(2) which authorizes the Director to order the cleanup under 340-122-010 to 340-122-110.

340-122-040 STANDARDS

(1) Any removal or remedial action shall attain a degree of cleanup of hazardous substances and control of further release of hazardous substances that assure protection of present and future public health, safety, and welfare and the environment. Such protection shall prevent, eliminate, or minimize potential and actual adverse impacts from hazardous substances to:

(a) Biological receptors;

(b) Present and future uses of the environment;

(c) Ecosystems and natural resources; and

(d) Aesthetic characteristics of the environment.

(2) (a) In the event of a release of a hazardous substance, the environment shall be restored to (A) the levels specified in OAR 340-122-045 if appropriate, or (B) Background Level unless the Director determines that remedial actions designed to attain Background Level do not meet the "feasibility" requirement of OAR 340-122-090(1)(b), in which event the environment shall be restored to the lowest concentration level in accordance with OAR 340-122-090.

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(b) In the event of a threat of release of hazardous substances, the Background Level of the environment shall be protected. ~~[unless the Director determines that remedial actions designed to protect the Background Level do not satisfy the "feasibility" requirement of OAR 340-122-090(1)(b), in which event the environment shall be protected to the lowest concentration level in accordance with OAR 340-122-090.]~~

(c) As provided under (2)(a) and (2)(b), Background before contamination and, when appropriate, the concentration levels specified in 340-122-045 ~~is~~ are the standards. ~~, a goal that~~ These levels might not be possible in some instances or feasible in others, based on the qualifying factors as applied under 340-122-045 and 340-122-090(1)(b) of these rules.

(3) A removal or remedial action shall prevent or minimize future releases and migration of hazardous substances in the environment. A removal or remedial action and related activities shall not result in degradation of the environment worse than that existing when the removal or remedial action commenced, unless short-term degradation is approved by the Director under OAR 340-122-050(4).

(4) A removal or remedial action shall provide long-term care or management, where necessary, including but not limited to monitoring, operation,and maintenance as appropriate.

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340-122-045 NUMERICAL SOIL CLEANUP LEVELS

This section provides cleanup levels for hazardous substances in soil only, and these optional cleanup levels may differ from background or the lowest feasible concentration levels provided elsewhere within these rules. Remedial actions under this section remain subject to the public participation requirements provided under ORS 465.320 and OAR 340-122-100. The responsible party may propose a remedial action under this section if the responsible party demonstrates to the Department the criteria (1) through (5) below:

(1) The characterization of the hazardous substances and the facility has been conducted following Department guidance;

(2) The characterization has determined:

(a) The number and the nature of the contaminants of concern;

(b) The contaminants of concern exist in soil only;

(c) All contaminants of concern are listed on the soil cleanup table;

(d) The source(s) of the contaminants of concern;

(e) The vertical and horizontal extent of the contaminants of concern.

(3) If the site contains more than 10 contaminants of concern, the responsible party must demonstrate to the Department that upon completion of the remedial action the total excess cancer risk and the hazard index specified below will not be exceeded.

(a) The total excess site risk after cleanup will not exceed 1 X 10[-5] for carcinogens or a hazard index of 1 for non-carcinogens with similar critical endpoints. Risks are presumed to be additive for carcinogens and for non-carcinogens with similar critical endpoints. The concentration levels for non-carcinogens must be prorated downward when the substances have similar critical endpoints to keep the hazard index $\leq$ 1. Risks from naturally-occurring hazardous substances are not included in the calculation of total excess site risk.

(b) In determining whether a site with more than 10 contaminants of concern will be accepted for remedial action under this section, the Department will consider the following:

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(A) detected concentrations;

(B) toxicity and critical endpoints;

(C) frequency of detection;

(D) mobility;

(E) persistence; and

(F) bioaccumulation potential.

(c) The responsible party cannot exceed the table levels except for natural background levels or practical quantification limits specified elsewhere in the rule.

(4) No contaminants of concern at the facility will adversely affect surface water based upon consideration of:

(a) Distance to the surface water;

(b) Containment of the contaminants of concern;

(c) Surface soil permeability;

(d) Maximum 2-year, 24-hour precipitation event;

(e) Proximity of flood plain(s);

(f) Terrain slope;

(g) Vegetative cover.

(5) No contaminants of concern at the facility will adversely affect sensitive environments based upon consideration of:

(a) Distance to the sensitive environment;

(b) Surface soil permeability and erodibility;

(c) Vegetative cover.

(d) Transport media

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(6) If all the criteria in 340-122-045 (1), (2), (3), (4) and (5) are met, the soil cleanup table below may be used to determine the appropriate cleanup level. All remedial actions under this section must meet the appropriate soil cleanup level and not exceed the leachate reference concentration listed in the soil cleanup table.

(a) The responsible party must meet the concentration levels in the residential soil cleanup level column unless the party meets the industrial criteria and proposes to meet the industrial soil cleanup levels;

(b) If the responsible party proposes the industrial soil cleanup levels, the facility must meet all the following additional criteria:

(A) The facility is zoned for industrial use;

(B) Appropriate institutional controls (e.g. deed restrictions, restrictive covenants, Environmental Hazard Notice) will be in force;

(C) Uses of contiguous or adjacent properties do not warrant application of the residential standard (e.g. are zoned for industrial use, are transportation facilities, or are other uses with limited exposure).

(7) In addition to meeting the appropriate soil cleanup level in the soil cleanup table, the responsible party must demonstrate that the leachate concentrations from site samples do not exceed the leachate reference concentration. The responsible party may perform the Synthetic Precipitation Leaching Procedure (SPLP; EPA Method 1312), the Toxicity Characterization Leaching Procedure (TCLP; EPA Method 1311) or other Department approved procedures. If the sample leachates exceed the leachate reference concentrations, additional remedial measures shall be conducted until the leachate reference concentration is met unless:

(a) The soil cleanup level for the contaminant of concern is below naturally-occurring background, in which case the responsible party may follow Department guidance to determine background and remediate to that level without meeting the leachate reference concentration; or

(b) The leachate reference concentration is below the practical quantitation level (PQL) for the contaminant of concern, in which case the responsible party may determine the proper PQL

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according to U.S. EPA Test Methods for Evaluating Solid Waste (SW-846) and remediate until the leachate concentration meets the PQL level;

(8) Proposed remedial actions under this section are not required to include the feasibility study in OAR 340-122-080(3) nor meet the selection criteria of 340-122-090(1)(b)(A). Only remedial technologies that have been proven to be effective in reaching the cleanup levels shall be approved.

(9) If the responsible party has achieved the appropriate soil cleanup levels and passes the leachate test, the Department will issue a written determination that the cleanup is complete unless the Department finds new information that the cleanup as performed is not protective of human health or the environment.

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OREGON SOIL CLEANUP TABLE

BEFORE USING THIS TABLE, PLEASE NOTE THE FOLLOWING:

1. **The contaminants of concern exist IN SOIL ONLY and that ADEQUATE SITE CHARACTERIZATION has been conducted (see OAR 340-122-045).**
2. **No contaminants of concern will adversely affect surface water (see OAR 340 -122-045 (4)) and sensitive environments (see OAR 340-122-045 (5)).**
3. **The RESIDENTIAL SOIL CLEANUP LEVEL represents a residual concentration IN SOIL which poses an acceptable risk per contaminant under the default residential or unrestricted access exposure scenario.**
4. **The INDUSTRIAL SOIL CLEANUP LEVEL represents a residual concentration IN SOIL which poses an acceptable risk per contaminant under specified industrial or limited exposure scenario.**
5. **The RESIDENTIAL SOIL CLEANUP LEVEL and the INDUSTRIAL SOIL CLEANUP LEVEL have to be prorated downward when multiple non carcinogenic substances have similar critical endpoints.**
6. **The LEACHATE REFERENCE CONCENTRATION represents a concentration IN A LIQUID (leachate) to provide site-specific data to determine whether additional soil cleanup is necessary TO PREVENT contamination of groundwater.**
7. **AFTER THE REMEDIAL ACTION, the SOIL must meet the appropriate soil cleanup levels for the contaminants of concern AND ITS LEACHATE should not exceed the leachate reference concentration. (see OAR 340-122-045 (6) and (8)).**
8. **AFTER THE REMEDIAL ACTION, the SOIL should not pose a total excess risk of 1 x 10-5 for carcinogens or a hazard index of 1 for non carcinogens with similar critical endpoints (see OAR 340-122-043 (3)).**

HAZARDOUS SUBSTANCE	RESIDENTIAL SOIL CLEANUP LEVEL (mg/kg)	INDUSTRIAL SOIL CLEANUP LEVEL (mg/kg)		Adverse Health Effect	LEACHATE REFERENCE CONCENTRATION (mg/l)	
A. INORGANICS						
Arsenic	2	4	d	cancer	0.05	m
Barium	5,000	7,000	c	noncancer 1	1	m
Beryllium	0.1	1	b	cancer	0.00002	h,*
Cadmium	20	30	d	cancer	0.005	m
Chromium III	30	40	c	noncancer 2	0.1	m
Chromium VI	3	5	d	cancer	0.1	m
Copper	10,000	80,000	a	noncancer 3	1.3	m
Cyanide	5,000	40,000	a	noncancer 4,5,6	0.2	n
Lead	200	1,000	i,j		0.005	n
Manganese	5,000	7,000	c	noncancer 7	4	g
Mercury	80	600	a	noncancer 6,8	0.01	m
Nickel	5,000	40,000	a	noncancer 4	0.1	n
Silver	800	6,000	a	noncancer 9	0.05	m
B. SEMI-VOLATILES						
Acenaphthene	20,000	100,000	a	noncancer 10	2	g
Anthracene	80,000	600,000	a		10	g
Benzidine	0.4	1	d	cancer	0.1	h,*
Benzo(a)anthracene	0.1	1	b,k	cancer	0.00001	h,k,*
Benzo(a)pyrene	0.1	1	b	cancer	0.00001	h,*
Benzo(b)fluoranthene	0.1	1	b,k	cancer	0.00001	h,k,*
Benzo(k)fluoranthene	0.1	1	b,k	cancer	0.00001	h,k,*
Bis(2-ethylhexyl)phthalate	50	400	b	cancer	0.004	n,*
Chrysene	0.1	1	b,k	cancer	0.00001	h,k,*
Di-n-propylnitrosamine	0.1	1	b	cancer	0.00001	h,*
Dibenzo(a,h)anthracene	0.1	1	b,k	cancer	0.00001	h,k,*
Dichlorobenzidine,3,3-	1	10	b	cancer	0.0002	h,*
Dichloroethyl ether	1	5	b	cancer	0.0001	h,*
Dinitrotoluene 2,6-	1	8	b	cancer	0.0001	h,*
Diphenylnitrosamine	100	1,000	b	cancer	0.02	h
Fluoranthene	10,000	80,000	a	noncancer 8,10,11	1	g
Fluorene	10,000	80,000	a	noncancer 11	1	g
Hexachloroethane	300	2,000	a	noncancer 8	0.04	g
Indeno(1,2,3-cd)pyrene	0.1	1	b,k	cancer	0.00001	h,k,*
Naphthalene	1,000	8,000	a	noncancer 4	0.1	g

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HAZARDOUS SUBSTANCE	RESIDENTIAL SOIL CLEANUP LEVEL (mg/kg)	INDUSTRIAL SOIL CLEANUP LEVEL (mg/kg)		Adverse Health Effect	LEACHATE REFERENCE CONCENTRATION (mg/l)	
Pentachlorophenol	5	50	b	cancer	0.001	h,*
Polychlorinated biphenyls	0.1	1	b,1	cancer	0.00001	l,*
Pyrene	8,000	60,000	a	noncancer 8	1	g
Trichlorophenol,2,4,6-	60	500	b	cancer	0.01	h
C. VOLATILES						
Acrylonitrile	1	10	b	cancer	0.0002	h,*
Benzene	2	3	f	cancer	0.003	h,*
Bromodichloromethane	5	40	b	cancer	0.001	h,*
Bromoform	80	700	b	cancer	0.01	h
Bromomethane	400	3,000	a	noncancer 3	0.1	g
Carbon tetrachloride	5	40	b	cancer	0.001	h,*
Chlorobenzene	5,000	40,000	a	noncancer 10	1	g
Chlorodibromomethane	5,000	40,000	a	noncancer 10	1	g
Chloroform	100	1,000	b	cancer	0.01	h
Dichloroethylene, 1,1-	2,000	20,000	a	noncancer 10	0.007	m
Dichloroethylene-cis 1,2-	3,000	20,000	a	noncancer 11	0.07	m
Dichloroethylene-trans 1,2-	5,000	40,000	a	noncancer 10	0.1	m
Ethylbenzene	20,000	30,000	e	noncancer 1	0.7	m
Ethylene dichloride	7	60	b	cancer	0.001	h,*
Formaldehyde	10	20	f	cancer	7	g
Hexachlorobenzene	0.4	4	b	cancer	0.0001	h,*
Methylene chloride	10	20	f	cancer	0.005	m
Tetrachloroethylene	10	20	f	cancer	0.002	h,*
Toluene	20,000	30,000	e	noncancer 2,6	1	m
Trichloroethane,1,1,1-	3,000	4,000	e	noncancer 10	0.2	m
Trichloroethane,1,1,2-	1,000	8,000	a	noncancer 10	0.005	m
Trichloroethylene	7	10	f	cancer	0.005	m
Trichlorofluoromethane	80,000	600,000	a	noncancer 12	10	g
Vinyl chloride	0.3	3	b	cancer	0.00004	h,*
Xylenes	3,000	4,000	e	noncancer 6	10	m
D. PESTICIDES						
Aldrin	0.04	0.3	b	cancer	0.00001	h,*
BHC-alpha	0.1	1	b	cancer	0.00001	h,*
Chlordane	1	5	b	cancer	0.0001	h
D, 2,4-	3,000	20,000	a	noncancer 8,10,11	0.07	m
DDD,4,4-	3	20	b	cancer	0.0004	h
DDE,4,4-	2	20	b	cancer	0.0003	h
DDT, 4,4-	2	20	b	cancer	0.0003	h
Dieldrin	0.04	0.4	b	cancer	0.00001	h,*
Endosulfan(alpha-beta isomers)	10	100	a	noncancer 8	0.002	g
Endrin	80	600	a	noncancer 6,10	0.0002	m
Heptachlor	0.1	1	b	cancer	0.00002	h,*
Heptachlor epoxide	0.1	1	b	cancer	0.00001	h,*
Lindane	80	600	a	noncancer 8,10	0.0002	m
MCPA	100	1,000	a	noncancer 8,10	0.02	g
Toxaphene	1	5	b	cancer	0.0001	h,*

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(a) Concentrations are based on incidental soil ingestion and a hazard quotient equal to 1
(b) Concentrations are based on incidental soil ingestion and an excess cancer risk of 1 in a million (1E-06)
(c) Concentrations are based on particulate inhalation and a hazard quotient equal to 1
(d) Concentrations are based on particulate inhalation and an excess cancer risk of 1 in a million (1E-06)
(e) Concentrations are based on volatile inhalation and a hazard quotient equal to 1
(f) Concentrations are based on volatile inhalation and an excess cancer risk of 1 in a million (1E-06)
(g) Concentrations are based on water ingestion and a Hazard quotient equal to 1
(h) Concentrations are based on water ingestion and an excess cancer risk of 1 in a million (1E-06)
(i) Residential soil cleanup level is based on blood lead levels in children
(j) Industrial soil cleanup level is based on blood lead levels in adults
(k) Based on the potency as Benzo(a)pyrene
(l) Based on the potency of PCB 1260
(m) Drinking water maximum contaminant level
(n) Proposed drinking water maximum contaminant level
(*) Practical quantitation limit may be a concern

Health Effects:

(cancer)-cancer
(noncancer 1)-adverse developmental effects
(noncancer 2)-adverse nasal effects
(noncancer 3)-adverse gastrointestinal effects
(noncancer 4)-weight loss
(noncancer 5)-adverse thyroid effects
(noncancer 6)-adverse nervous effects
(noncancer 7)-adverse respiratory and behavioral effects
(noncancer 8)-adverse kidney effects
(noncancer 9)-adverse skin effects
(noncancer 10)-adverse liver effects
(noncancer 11)-adverse blood effects
(noncancer 12)-decreased survival and tissue defects

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340-122-050 ACTIVITIES

NO CHANGES

340-122-060 PRELIMINARY ASSESSMENT

[THIS SECTION HAS BEEN PREVIOUSLY AMENDED AND RENUMBERED TO 340-122-426.]

340-122-070 REMOVAL

(1) Based upon the Preliminary Assessment or other information, the Director may perform or require to be performed a removal that the Director determines is in compliance with the standards set forth under OAR 340-122-040(1), (2), (3), and (4) and is necessary to prevent, minimize, or mitigate damage to the public health, safety, or welfare or the environment that might result from the release or threat of release.

(2) The performance of a removal shall not affect the Director's authority to perform or require to be performed a remedial action in addition to the removal, if such remedial action will permanently or more fully address a release or threat of release. The Director may undertake or require that a removal be undertaken at any time from the discovery of a release or threat of a release through the completion of a remedial action.

340-122-080 REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

(1) If, based upon the Preliminary Assessment, the results of a removal, information gathered under 340-122-045, or other information, the Director determines that remedial action might be necessary to protect public health, safety, or welfare or the environment, the Director may perform or require to be performed a Remedial Investigation and/or Feasibility Study to develop information to determine the need for and selection of a remedial action.

(3) Unless excepted under 340-122-045, a ~~The~~ Feasibility Study shall include but is not limited to the development of remedial action options and the evaluation of remedial action options.

(a) The development of remedial action options may include but is not limited to the following range of options:

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(A) Remedial action attaining Background Level;

(B) Highest and best technology attaining the lowest concentration levels technically achievable;

(C) Best feasible technology attaining the lowest concentration level that meets the requirements of OAR 340-122-090(1)(b) and (2), and does not exceed a site-specific concentration level considered protective of public health, safety, and welfare and the environment;

(D) Other measures to supplement or substitute for cleanup technologies, including but not limited to engineering or institutional controls (e.g., environmental hazard notice, alternative drinking water supply, caps, security measures, etc.);

(E) Combinations of any of the above options; and

(F) No action option.

(b) (A) Remedial action options developed under OAR 340-122-080(3)(a) shall be evaluated under the requirements, criteria, preferences, and factors set forth in OAR 340-122-090 and according to any other criteria determined by the Director to be relevant to selection of a remedial action under OAR 340-122-090.

(B) The evaluation of remedial action options developed under OAR 340-122-080(3)(a) shall include an evaluation of the extent to which the option or combination of options complies with relevant state, local, and federal law, standards, and guidance.

340-122-090 SELECTION OF THE REMEDIAL ACTION

(1) <u>"Protection" and "Feasibility" Requirements</u>

Based on the administrative record, the Director shall select a remedial action. Such remedial action shall:

(a) Be protective of present and future public health, safety, and welfare and the environment; and

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(b) To the maximum extent practicable:

(A) use permanent solutions and alternative technologies or resource recovery technologies;

(B) be cost effective;

(C) be effective; and

(D) be implementable.

(2) Background, ~~[Level]~~ Soil Cleanup or Lowest Concentration levels

The remedial action shall attain: (a) the concentration levels specified in OAR 340-122-045 when appropriate, or (b) the Background Level of the hazardous substances unless the Director determines that Background Level does not satisfy the "feasibility" requirements set forth in OAR 340-122-090(1)(b), in which case the Director shall select a remedial action that attains the lowest concentration level of the hazardous substances that satisfies the "protection" and "feasibility" requirements set forth in OAR 340-122-090(1).

(3) Other Measures to Supplement Cleanup

The Director may require other measures, such as engineering and institutional controls, (e.g. environmental hazard notice, alternate drinking water supply, caps, security measures, etc.) to supplement cleanup of hazardous substances to Background Level, concentration levels in accordance with 340-122-045, or the lowest concentration level in accordance with OAR 340-122-090(2), where such supplementary measures are necessary to satisfy the "protection" and "feasibility" requirements set forth in OAR 340-122-090(1).

(4) Other Measures to Substitute for Cleanup

The Director may require other measures to substitute for cleanup of hazardous substances to Background Level, concentration levels under OAR 340-122-045 or the lowest concentration level under OAR 340-122-090(2), provided that:

(a) The Director determines that there is no remedial action under OAR 340-122-090(2), combined with supplementary measures under OAR 340-122-090(3), that satisfies the "protection" and "feasibility" requirements of OAR 340-122-090(1);

TOLS009680

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(b) Any such substitute measures, as appropriate, include provision for long-term care and management, including monitoring and operation and maintenance, and periodic review to determine whether a remedial action satisfying the "protection" and "feasibility" requirements of OAR 340-122-090(1) has become available; and

(c) Any proposed use of substitute measures be subject to public notice and participation under OAR 340-122-100.

(5) Protection

(a) In determining whether a remedial action assures protection of the present and future public health, safety, and welfare and the environment under the "protection" requirement of OAR 340-122-090(1)(a), only Background Level shall be presumed to be protective for all contaminants in all media. In soils only, cleanup activities that meet the eligibility criteria and attain concentration levels at or below those specified in the table OAR 340-122-045 are remedial actions presumed to be protective of human health and the environment. These ~~This~~ presumptions may be rebutted by information showing that a higher concentration levels ~~is~~ are also protective.

(b) In determining whether a concentration level higher than the Background Level is protective, the Director may consider:

(A) The characterization of hazardous substances and the facility, and the endangerment assessment;

(B) Other relevant cleanup or health standards, criteria, or guidance;

(C) Relevant and reasonably available scientific information; and

(D) Any other information relevant to the protectiveness of a remedial action.

(c) When comparing between potential concentration levels, a concentration level lower than another shall generally be considered to be more protective and preferable. This presumption may be rebutted by information showing that a higher concentration level is also protective.

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(d) Any person responsible for undertaking the remedial action who proposes that the remedial action attain a concentration level higher than Background Level on the basis of protection shall have the burden of demonstrating to the Director through the Remedial Investigation and Feasibility Study that such concentration level is protective.

340-122-100 PUBLIC NOTICE AND PARTICIPATION

NO CHANGES

340-122-110 ADMINISTRATIVE RECORD

NO CHANGES

SITE DISCOVERY RULES
OAR 340-122-410 TO 340-122-470

340-122-410 PURPOSE

340-122-415 SCOPE AND APPLICABILITY

340-122-420 DEFINITIONS

340-122-425 SITE EVALUATION

340-122-426 PRELIMINARY ASSESSMENTS

340-122-427 CONFIRMATION OF A RELEASE

340-122-430 DEVELOPMENT OF CONFIRMED RELEASE LIST

340-122-440 DEVELOPMENT OF INVENTORY

340-122-450 RANKING ON INVENTORY

340-122-460 INITIATION OF PROCESS DELISTING FACILITIES FROM CONFIRMED RELEASE LIST AND INVENTORY

340-122-465 INVENTORY DELISTING - PUBLIC NOTICE AND PARTICIPATION

340-122-470 DELISTING - DETERMINATION BY DIRECTOR

NO CHANGES

TOLS009682

BZTO104(e)046514

GLOSSARY OF TERMS RELATED TO THE SOIL CLEANUP TABLE:

(x) "Carcinogen" means any substance or agent that produces or tends to produce cancer in humans. "Carcinogen" as applied to the substances in the soil cleanup table means the substance has been classed by the U.S. Environmental Protection Agency (EPA) as an "A" (known human) or "B" (probable human) carcinogen in the EPA Integrated Risk Information System (IRIS) database.

(x) "Carcinogenic potency factor" or "CPF" or "slope factor" or "SF" means a plausible upper-bound estimate of the probability of a response per unit intake of a chemical over an exposure period. The soil cleanup table uses the oral or inhalation slope factors developed by the EPA and listed in the IRIS database unless otherwise specified.

(x) "Cleanup level" means the concentration of a hazardous substance in a medium that is determined to be protective of human health and the environment under specified exposure conditions.

(x) "Contaminant of concern" means a hazardous substance that is present in such concentrations that the contaminant poses a threat to human health or the environment. Hazardous substances are not "contaminants of concern" if the substances would not be "confirmed releases" under OAR 340-122-427(2) and (3). The department shall consider whether a hazardous substance is a "contaminant of concern" based upon:

(A) The toxicological characteristics of the hazardous substance that influence its ability to adversely affect human health or the environment relative to the concentration of the hazardous substance at the site;

(B) The chemical and physical characteristics of the hazardous substance which govern its tendency to persist in the environment;

(C) The chemical and physical characteristics of the hazardous substance which govern its tendency to move into and through environmental media;

(D) The natural background concentrations of the hazardous substances;

(E) The thoroughness of the testing for the hazardous substance at the site;

TOLS009683

BZTO104(e)046515

(F) The frequency that the hazardous substance has been detected at the site; and

(G) Degradation by-products of the hazardous substances.

(x) "Critical endpoint" or "critical effect" means the toxic effect exhibiting the lowest NOAEL (No Observed Adverse Effect Level). Exposure to a given chemical may result in a variety of toxic effects from gross effects to subtle biochemical, physiologic, or pathologic changes. Primary attention is given to the effect (the "critical effect") exhibiting the lowest NOAEL.

(x) "Exposure" means subjection of an organism to the action, influence or effect of a hazardous substance (chemical agent) or physical agent. Exposure is quantified as the amount of the agent available at the exchange boundaries of the organism (e.g., skin, lungs, gut) and available for absorption.

(x) "Exposure pathway" means the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes a unique mechanism by which an individual or population is exposed to chemicals at or originating from a site. Each exposure pathway includes a source, a release from a source, an exposure point, and an exposure route. If the exposure point differs from the source, a transport/exposure medium (e.g., air) or media also is included.

(x) "Groundwater" means any water, except capillary moisture, beneath the land surface or beneath the bed of any stream, lake, reservoir or other body of surface water within the boundaries of the state, whatever may be the geological formation or structure in which such water stands, flows, percolates or otherwise moves.

(x) "Hazard index" means the sum of two or more hazard quotients for multiple hazardous substances and/or multiple exposure pathways.

(x) "Hazard quotient" means the ratio of the exposure of a single hazardous substance over a specified time period to a reference dose for that hazardous substance derived for a similar exposure period.

(x) "Method Detection Limit" or "MDL" means the minimum concentration of a compound that can be measured and reported with 99% confidence that the value is greater than zero. This is the lowest amount that can be distinguished from the normal "noise" of an analytical instrument or method.

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(x) "Practical quantitation limit" or "PQL" means the lowest concentration that can be reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions using department approved methods. This is usually equal to the instrument detection limit multiplied by a factor of three to five, but varies for different chemicals and different samples.

(x) "Reasonable maximum exposure" or "RME" means the highest exposure that can be reasonably expected to occur for a human or other living organism at a site under current and potential future site uses. The soil cleanup table uses the EPA's "Standard Default Exposure Factors" as contained in OSWER Directive 9285.6-03.

(x) "Reference Dose" or "RfD" means an estimate (with an uncertainty spanning an order of magnitude or more) of a daily exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of adverse effects over an exposure period. "RfD" means the preferred toxicity value for evaluating noncarcinogenic effects resulting from exposures to hazardous substances. The soil cleanup table uses the chronic oral and inhalation reference doses developed by the EPA and listed in the IRIS database unless otherwise specified.

(x) "Risk" means the probability that a hazardous substance, when released into the environment, will cause adverse effects in exposed humans or other biological receptors.

(x) "Risk assessment" means the process used to determine the threats posed by hazardous substances. Elements include identification of the hazardous substances present in the environmental media; assessment of exposure and exposure pathways; assessment of the toxicity of the hazardous substances; characterization of human health risks; characterization of the impacts and/or risks to the environment.

(x) "Sensitive environment" means an area of particular environmental value where a release could pose a greater threat than in other non-sensitive areas. Sensitive environments include but are not limited to: critical habitat for federally endangered or threatened species; National Park, Monument, National Marine Sanctuary, National Recreational Area, National Wildlife Refuge, National Forest (campgrounds, recreational areas, game management areas, wildlife management areas); designated federal Wilderness Areas; wetlands (freshwater, estuarine, or coastal - 5-acre minimum); Wild and Scenic rivers; state parks; state wildlife

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refuges; habitat designated for state endangered species; fishery resources; state designated natural areas; county or municipal parks.

(x) "Soil" means a mixture of organic and inorganic solids, air, water and biota which exists on the earth surface above bedrock, including materials of anthropogenic sources such as slag, sludge, etc.

(x) "Surface water" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, wetlands, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction.

(x) "Total excess cancer risk" means the upper bound on the estimated excess cancer risk associated with exposure to multiple hazardous substances and multiple exposure pathways.

TOLS009686

BZTO104(e)046518

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 CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

December 5, 1991

Mr. Mike Kortenhof
Environmental Cleanup Division
Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

RE: Pentachlorophenol cleanup at Time Oil Co. Northwest Terminal, Portland

Dear Mr. Kortenhof:

Transmitted herewith is Time Oil Co's "Preliminary Assessment / Data Evaluation and Proposed Remediation Plan for Pentachlorophenol Contaminated Soil at Time Oil Co. Northwest Terminal." Our purpose in submitting this document is to provide the Department of Environmental Quality with appropriate background information so that we may be able to efficiently reach an agreement regarding Time's future pentachlorophenol remediation efforts at this site.

This document consists of three binders. "Volume I - Report" summarizes our investigation and remediation efforts from discovery of the problem in 1983 through Ecova's full-scale field trials of a soil washing and bioremediation system. In so far as possible, we have attempted to follow the DEQ's format in presenting this information. "Volume II - Appendices" presents key supporting documentation for the Report. "Volume III - Work Plan" is a reproduction of Ecova's September 12, 1988 bioremediation work plan. It is our intention to follow this plan, but some revisions may be in order depending on the cleanup level selected.

As we have discussed, I will be pleased to provide a tour of our facility. Just let me know when it would be convenient for you and I will make the necessary arrangements. It is my hope that we will be able to establish an open dialogue on this project, so please do not hesitate to call if you have any questions; my direct line is (206) 286-6444.

Sincerely,

Fred Proby
Environmental Specialist

enclosures a/s

C:\WP51\FLP\DEC91\DEQTRANS.LTR

TOLS009687

E C O V A

April 18, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Enclosed please find two copies of our invoice #49107 for services performed through March, 1991.

Please return the invoice marked "COPY" with your remittance.

"DEQ report"
Change Order #5

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Lorie Johnson
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8373 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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RECEIVED

APR 2 2 1991

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

April 18, 1991

INVOICE NUMBER 49107

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JANUARY THRU MARCH

JOB NUMBER 1067

APR 2 2 1991

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 3-01-91 THRU 3-31-91

*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	480.00	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 480.00
TOTAL DUE THIS INVOICE		$ 480.00

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 94081
SEATTLE, WA 98124-9481

03-123-900162

CO ___ DIV ___
VEND ___
INV. ___
PO Change Order #5
DUE ___
% ___
☐ AUTH
PRICE

TOLS009689

BZTO104(e)046521

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

April 18, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JANUARY THRU MARCH

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 3-01-91 THRU 3-31-91

WORK BREAK DOWN BY DIVISION AND CATEGORY

		GENERAL	LABOR	MATERIALS	EQUIPMENT	SUBCONTRACT	TOTAL
80.000	REPORTS	.00	480.00	.00	.00	.00	480.00

TOLS009690

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

April 18, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JANUARY THRU MARCH

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 3-01-91 THRU 3-31-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

80.000 REPORTS

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
80.715 Interim Report							
**** LABOR ****							
BORTHEN; JAMES W	Project Eng/Geo/Sci	23	2-28-91	1264	6	80.00	480.00

TOLS009691

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

April 18, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JANUARY THRU MARCH

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 3-01-91 THRU 3-31-91

WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

80.000	REPORTS	GENERAL	LABOR	MATERIALS	EQUIPMENT	SUBCONTRACT	TOTAL
80.715	Interim Report	.00	480.00	.00	.00	.00	480.00
REPORTS TOTALS		.00*	480.00*	.00*	.00*	.00*	480.00*
JOB TOTAL - THIS BILLING PERIOD		.00*	480.00*	.00*	.00*	.00*	480.00*

TOLS009692

BZTO104(e)046524

TIME OIL CO.

P.O. Box 24447, Terminal Station
Seattle, WA 98124

WORK ORDER / CHANGE ORDER

TO: ECOVA Corporation 3820 159th Avenue NE Redmond, WA 98052	Work Order Number 7 Place this number on your invoice and all related correspondence.

If this block is checked, [ ] this work order is an addendum to the blanket contract dated _____ and you are authorized to perform the work described below at the stated price(s).

If this block is checked, [X] this work order is an addendum to the standard contract dated November 9, 1988 and you are authorized to perform the work described below at the stated price(s).

Address and city of job site:			Property No:
12005 N. Burgard Rd, Portland, OR			03-123
Requested by: Fred Proby	Authorized By: JDS.	Date Job Required:	Date Completed:

This work is at the expense of: [X] Time Oil Co. [ ] Other [ ] Taxable

DESCRIPTION OF WORK	AMOUNT
1. Retroactive maintenance and equipment rental from 7/90 to 3/91.	$12 740.00 ~~$13,960.00~~
2. Monthly site inspection and maintenance from 4/91 to 8/91 at $880/trip X 5 trips.	$4,400.00
3. Monthly equipment rental from 4/91 to 8/91 at $1,220/month X 5 months.	$6,100.00
CONDITIONS:	
1. Authorization of maintenance and equipment charges terminates at the earlier of;	
August 1991, resumption of soil treatment under negotiated cleanup standards or	
termination of contract.	
2. This Change Order may be renewed, if needed, after August 1991.	
3. ECOVA accepts full responsibility for the condition and serviceability of all ECOVA	
equipment and materials at the treatment site. Any necessary replacement of ECOVA	
equipment or materials, other than that which has been damaged through some act of	
Time Oil Co, will be at ECOVA's expense.	
4. ECOVA will prepare a brief report documenting each maintenance trip.	
	$23 240.00
TOTAL CHANGE ORDER AMOUNT	~~$24,460.00~~

Project Description:

Cleanup of pentachlorophenol-contaminated soil.

Time Oil Co. (signature):	Date:
[signature]	6/4/91
Contractor (signature): [signature]	Date: 5/30/91

C:\l\flp\workorder

TOLS009693

BZTO104(e)046525

ECOVA

April 29, 1991

Mr. Fred Proby
Time Oil Co.
2737 West Commodore Way
Seattle, WA 98199-1233

RE: NW Terminal Penta Project - Change Order No. 7

Dear Fred:

Your letter dated April 16, 1991, concerning Change Order No. 7 for site maintenance and equipment rental has been received. ECOVA is in agreement with you on the basic intent of this change order. However, there are some minor problems which should be corrected.

In Table 2 of your letter September is entered twice. Unless that was your intention, one of these should be removed, bringing the total for labor and equipment to $12,740. This figure should be entered in item 1 of the change order.

Item 3 of the change order refers to ECOVA's responsibility for all equipment and materials at the treatment site. ECOVA is only willing to accept responsibility for all ECOVA equipment and ECOVA materials at the treatment site.

It is expected that these changes, due to their minor nature, will be acceptable to you. With that in mind, the original two copies of the change order have been changed as described above, initialled, and signed.

Please do the same and send ECOVA a copy, or call me and we can discuss any differences.

Sincerely,

James Borthen, P.E.
Project Manager

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

TOLS009694

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******INVOICE# 69106******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 6/5/91

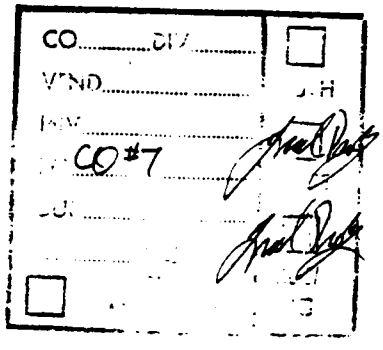
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

Retroactive maintenance and equipment rental from 7/90 thru 3/91.	$12,740.00
April 1991 site inspection	880.00
April 1991 equipment rental	1,220.00
May 1991 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	$16,060.00

Please remit payment to: P.O. Box 94081
Seattle, WA 98124-9481

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



03-123
900162

TOLS009695

BZTO104(e)046527

E C O V A

June 4, 1991

Time Oil Company
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

RE: Trip Report for April Site Visit to Time Oil Portland

Dear Fred:

On April 24 and 25, 1991 a site visit for general maintenance was made.

The primary objectives of this visit was to pump accumulated water to a storage tank, and to perform general site maintenance. A secondary purpose was to introduce Bob Hillmann to the site so that there is more than one person familiar with the site.

The Wilden 2" pump that is used for most pumping applications was leaking and required replacement of a gasket.

The tarp on the pile of contaminated soil requires some type of weighting on the top of the pile. Fifty old tires were ordered for that purpose. The sides of the tarp appear to be well anchored.

Accumulated "clean" garbage was bagged and made ready for disposal. Pumping of water was performed routinely.

Bob Hillmann will make the next site visit solo.

If more information is desired on this visit, or an alternative format, please notify me.

Sincerely,

James Borthen, P.E.
Project Manager

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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E C O V A

June 5, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #69106 for services performed through May, 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Lorie Johnson
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
12790 Merit Drive #220
Lock Box 145
Dallas, TX 75251
(214) 404-7540
(214) 404-7545 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

E C O V A

June 6, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #69107 for services performed through MAY 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Lorie Johnson
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

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ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

June 7, 1991

INVOICE NUMBER 6917

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: MAY 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

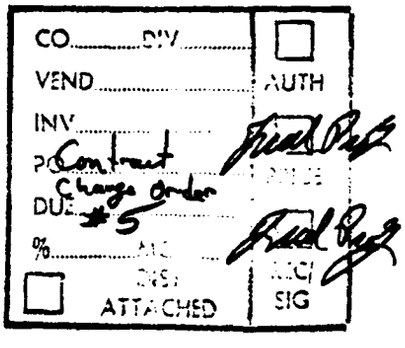
OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 5-01-91 THRU 5-31-91

*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	2,235.00	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 2,235.00
TOTAL DUE THIS INVOICE		$ 2,235.00

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 94081
SEATTLE, WA 98124-9481



TOLS009699

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

June 7, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: MAY 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 5-01-91 THRU 5-31-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

25.000 INVEST, CHARAC, COLL

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
25.160 LIT SEARCH/DATA REV.							
**** LABOR ****							
KINSELLA; JOHN V	Principal	10	5-31-91	1593	3	150.00	450.00
BORTHEN; JAMES W	Project Manager	23	5-31-91	1574	14	115.00	1,460.00
BERGMAN; JEFFREY	Staff Eng/Geo/Sci	42	5-31-91	1572	5	65.00	325.00
LABOR TOTALS					22.00*		2,235.00*

TOLS009700

BZTO104(e)046532

PROJECT COST ANALYSIS FOR NW TERMINAL PENTA CLEANUP as of 07/02/91 FLP

Task	Contract Amount	Change Orders	Total Budget	% Comp	Total Invoiced	Earned	Earned -Invoiced	Cost To Complete	Budget -CTC
A – Excavate soil	160,000		160,000	100.0%	160,000	160,000	0	160,000	0
B – Treat soil	285,000		285,000	0.0%	0	0	0	285,000	0
CO#1 – Misc		6,027	6,027	100.0%	6,027	6,027	0	6,027	0
CO#2 – C&O samples		700	700	100.0%	700	700	0	700	0
CO#4 – Experimental		59,290	59,290	100.0%	59,290	59,290	0	59,290	0
CO#5 – DEQ		37,770	37,770	25.0%	2,715	9,443	6,728	10,860	26,910
CO#6 – Cover pile		3,760	3,760	100.0%	3,760	3,760	0	3,760	0
CO#7 – Maintenance		23,240	23,240	69.1%	16,060	16,061	1	23,238	2
Total	445,000	130,787	575,787	44.3%	248,552	255,281	6,729	548,875	26,912

INVOICE HISTORY

Date	Invoice #	Task / CO#	Amount
03/14/89	101802	A	160,000.00
08/14/90	102484	1, 2 & 4	66,017.00
11/30/90	102557	7	3,760.00
04/18/91	49107	5	480.00
06/05/91	69106	7	16,060.00
06/07/91	69107	5	2,235.00
		TO DATE	248,552.00

BZTO104(e)046533

TOLS009701

E C O V A

August 9, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #89105 for services performed through July 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

Printed on Recycled Paper

******INVOICE# 89105******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 8/6/91

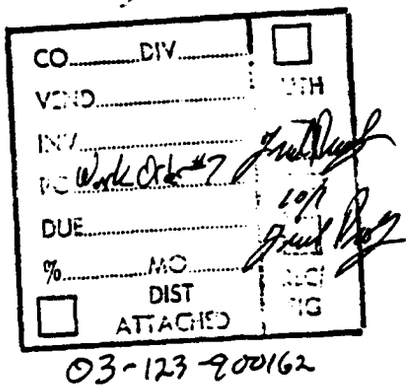
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

July 1991 site inspection	.....	880.00
July 1991 equipment rental	.....	1,220.00
TOTAL DUE THIS INVOICE:		$ 2,100.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



03-123-900162

TOLS009703

E C O V A

August 15, 1991

TIME OIL COMPANY
P. O. Box 24447
Terminal Station
Seattle, WA 98124-0047

RE: Trip report for July site inspection

Dear Fred:

During the month of July Bob Hillmann made a visit to the Northwest Terminal site in Portland to preform any needed maintenance.

A small amount of water was pumped from ECOVA's storage tanks to Time Oil Co.'s. At the time of the visit, water accumulation was low, and it is expected that this accumulation will continue to be low for the next two months.

Additional tires were place on the tarp covering the contaminated soil pile. All the tires have been roped together to provide a network of tires and rope with the tires at the nodes.

General cleanup of the site was performed in hopeful anticipation of an early return to operations.

Sincerely,

James Borthen, P. E.
Project Manager

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

Printed on Recycled Paper

E C O V A

August 9, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #89119 for services performed through July 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

Printed on Recycled Paper

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

August 9, 1991

INVOICE NUMBER 89119

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JULY 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

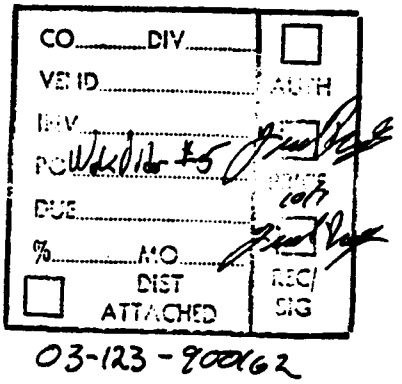
OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 7-01-91 THRU 7-31-91

*** BILLING IN SUMMARY ***

GENERAL TOTAL	5.30	
LABOR TOTAL	11,747.50	
MATERIAL TOTAL	6.49	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 11,759.30
TOTAL DUE THIS INVOICE		$ 11,759.30

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124



03-123-900162

TOLS009706

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

August 6, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JULY 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 7-01-91 THRU 7-31-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.010 Project Admin							
**** GENERAL ITEMS ****							
MCI TELECOMMUNICATIONS		13015	7-15-91	7895154.90			5.30
25.000 INVEST, CHARAC, COLL							
25.160 LIT SEARCH/DATA REV.							
**** LABOR ****							
BORTHEN; JAMES W	Staff Eng/Geo/Sci	23	7-15-91	1733	96	65.00	6,240.00
BERGMAN; JEFFREY	Staff Eng/Geo/Sci	42	7-15-91	1731	69.50	65.00	4,517.50
HILLMANN; ROBERT	CAD Drafter	40	7-15-91	1746	8.50	60.00	510.00
NORWOOD; DANAN	CAD Drafter	990	7-15-91	1775	6	60.00	360.00
MAFFEI; GAIL	Word Processing/Cler	28	7-15-91	1758	.50	40.00	20.00
CHRISTENSEN; DONNA	Word Processing/Cler	51	7-15-91	1736	2.50	40.00	100.00
LABOR TOTALS					183.00*		11,747.50*
**** MATERIALS ITEMS ****							
HILLMANN; ROBERT		8003	7-29-91	71191			6.49
LIT SEARCH/DATA REV. Totals					183.00*		11,753.99*
JOB TOTALS - THIS BILLING PERIOD					183.00*		11,759.29*

TOLS009707

E C O V A

September 10, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #99110 for services performed through August 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9304 Forest Lane #161
Dallas, TX 75243
(214) 553-1017
(214) 349-5510 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

TOLS009708

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

September 10, 1991

INVOICE NUMBER 99110

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: AUGUST 1991

JOB NUMBER 1067

RECEIVED
SEP 12 1991

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 8-01-91 THRU 8-31-91

*** BILLING IN SUMMARY ***

GENERAL TOTAL	5.99	
LABOR TOTAL	1,032.50	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 1,038.49
TOTAL DUE THIS INVOICE		$ 1,038.49

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124

Chge Ord # 5

03-123-900162

TOLS009709

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

September 5, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: AUGUST 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 8-01-91 THRU 8-31-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.010 Project Admin							
**** GENERAL ITEMS ****							
FOX COMMUNICATIONS CORP.		6018	8-30-91	12231.07			5.99
25.000 INVEST, CHARAC, COLL							
25.160 LIT SEARCH/DATA REV.							
**** LABOR ****							
BERGMAN; JEFFREY	Staff Eng/Geo/Sci	42	8-15-91	1830	14.50	65.00	942.50
NORWOOD; DANAN	CAD Drafter	990	8-31-91	1912	1.50	60.00	90.00
LABOR TOTALS					16.00*		1,032.50*
JOB TOTALS - THIS BILLING PERIOD					16.00*		1,038.49*

TOLS009710

E C O V A

September 10, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #99111 for services performed through August 1991

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9304 Forest Lane #161
Dallas, TX 75243
(214) 553-1017
(214) 349-5510 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

RECEIVED
SEP 12 1991

******INVOICE# 99111******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 9/5/91

JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

August 1991 equipment rental 1,220.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.

CO ___ DIV ___ AUTH
VEND ___
INV. ___
PO Work Order #7 PRICE
DUE ___
% ___ MO ___
DIST ATTACHED REC/ SIG
03-123-900162

SEP 16 1991

TOLS009712

PROJECT COST ANALYSIS FOR NW TERMINAL PENTA CLEANUP as of 10/01/91 FLP

Task	Contract Amount	Change Orders	Total Budget	% Comp	Total Invoiced	Earned	Earned -Invoiced	Cost To Complete	Budget -CTC
A - Excavate soil	160,000		160,000	100.0%	160,000	160,000	0	160,000	0
B - Treat soil	285,000		285,000	0.0%	0	0	0	285,000	0
CO#1 - Misc		6,027	6,027	100.0%	6,027	6,027	0	6,027	0
CO#2 - C&O samples		700	700	100.0%	700	700	0	700	0
CO#4 - Experimental		59,290	59,290	100.0%	59,290	59,290	0	59,290	0
CO#5 - DEQ		37,770	37,770	50.0%	15,513	18,885	3,372	31,026	6,744
CO#6 - Cover pile		3,760	3,760	100.0%	3,760	3,760	0	3,760	0
CO#7 - Maintenance		23,240	23,240	81.9%	19,380	19,041	(339)	23,654	(414)
Total	445,000	130,787	575,787	46.5%	264,670	267,703	3,033	569,457	6,330

INVOICE HISTORY

Date	Invoice #	Task / CO#	Amount
03/14/89	101802	A	160,000.00
08/14/90	102484	1, 2 & 4	66,017.00
11/30/90	102557	7	3,760.00
04/18/91	49107	5	480.00
06/05/91	69106	7	16,060.00
06/07/91	69107	5	2,235.00
08/06/91	89105	7	2,100.00
08/09/91	89119	5	11,759.30
09/05/91	99111	7	1,220.00
09/10/91	99110	5	1,038.49
		TO DATE	264,669.79

BZTO104(e)046545

PROJECT COST ANALYSIS FOR NW TERMINAL PENTA CLEANUP as of 12/20/91 FLP

Task	Contract Amount	Change Orders	Total Budget	% Comp	Total Invoiced	Earned	Earned -Invoiced	Cost To Complete	Budget -CTC
A – Excavate soil	160,000		160,000	100.0%	160,000	160,000	0	160,000	0
B – Treat soil	285,000		285,000	0.0%	0	0	0	285,000	0
CO#1 – Misc		6,027	6,027	100.0%	6,027	6,027	0	6,027	0
CO#2 – C&O samples		700	700	100.0%	700	700	0	700	0
CO#4 – Experimental		59,290	59,290	100.0%	59,290	59,290	0	59,290	0
CO#5 – DEQ		37,770	37,770	60.0%	21,643	22,662	1,019	36,072	1,698
CO#6 – Cover pile		3,760	3,760	100.0%	3,760	3,760	0	3,760	0
CO#7&8 – Maintenance		31,440	31,440	79.1%	25,140	24,861	(279)	31,793	(353)
Total	445,000	138,987	583,987	47.5%	276,560	277,300	740	582,642	1,345

INVOICE HISTORY

Date	Invoice #	Contract #1,2,4,6	CO #5	CO #7&8	Explanation
03/14/89	101802	160,000.00			
08/14/90	102484	66,017.00			
11/30/90	102557	3,760.00			
04/18/91	49107		480.00		
06/05/91	69106			16,060.00	7/90–3/91 I&E, 4/91 I&E, 5/91 E
06/07/91	69107		2,235.00		5/91 DEQ
07/10/91	79122		4,130.30		6/91 DEQ
07/10/91	79123			2,100.00	6/91 I&E
08/06/91	89105			2,100.00	7/91 I&E
08/09/91	89119		11,759.30		7/91 DEQ
09/05/91	99111			1,220.00	8/91 E
09/10/91	99110		1,038.49		8/91 DEQ
10/09/91	109121			1,220.00	9/91 E
11/08/91	119120		1,440.00		10/91 DEQ
11/08/91	119121			1,220.00	10/91 E
12/05/91	129110			1,220.00	11/91 E
12/11/91	129111		560.00		11/91 DEQ
	TO DATE	229,777.00	21,643.09	25,140.00	276,560.09

TOLS009714

BZTO104(e)046546

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

December 11, 1991

INVOICE NUMBER 129111

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: NOVEMBER 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD:11-01-91 THRU 11-30-91

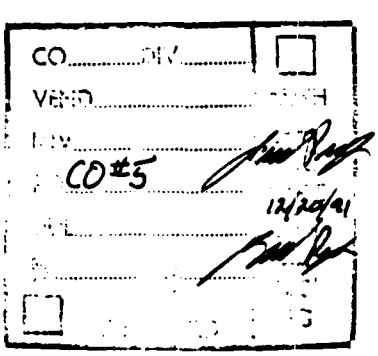
*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	560.00	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 560.00
TOTAL DUE THIS INVOICE		$ 560.00

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124

TOLS009715



03-123-900162

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

December 11, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: NOVEMBER 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD:11-01-91 THRU 11-30-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.020 PROJECT MEETINGS							
**** LABOR ****							
BORTHEN; JAMES W	Project Eng/Geo/Sci	23	11-15-91	3011	3	80.00	240.00
10.030 REG. INTERFACE SUPP.							
**** LABOR ****							
LANCE; DONALD M	Project Eng/Geo/Sci	14	11-15-91	3030	3	80.00	240.00
CHRISTENSEN; DONNA	Word Processing/Cler	51	11-15-91	3014	2	40.00	80.00
LABOR TOTALS					5.00*		320.00*
PROJECT MANAGEMENT TOTALS					8.00*		560.00*

E C O V A

December 11, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #129111 for services performed through November 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

Printed on Recycled Paper

******INVOICE# 129110******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 12/5/91

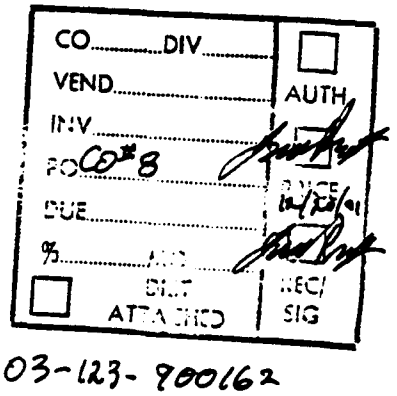
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

November 1991 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	$ 1,220.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



03-123-900162

TOLS009718

E C O V A

December 11, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #129110 for services performed through November 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

Printed on Recycled Paper

E C O V A

December 18, 1991

Fred Proby
Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199-1233

RE: Monthly Report for November, 1991 - NW Terminal Project

Dear Fred:

This letter constitutes the Monthly Report for November, 1991.

MONTHLY TECHNICAL STATUS REPORT

On November 8 ECOVA (Jim Borthen) and Time Oil Co. (Fred Proby) met to discuss the document which was being prepared for Oregon's Department of Environmental Quality. At that meeting ECOVA presented the document, which had been revised, to Time Oil Co. for consideration.

Time Oil Co. reviewed the document and contacted ECOVA on December 3 with some minor changes. These changes were incorporated into the report, and the report was mailed via overnight mail to ODEQ on December 5, 1991.

On December 9 and 10 a maintenance visit was made to the Portland site by Jim Borthen and Jeff Bergman. During the visit two pallets of chemicals were disposed of at the Hillsboro Landfill. These chemicals consisted of 46% Urea and Ammonium Phosphate 16-20-0. Other cleanup activities were conducted to remove unused and unneeded materials from the site, and to prepare for an anticipated ODEQ visit.

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

MONTHLY PROJECT STATUS REPORT

CONTRACT

Change Order No. 8 was received on December 15, 1991 and will be signed and returned to Time Oil Co. This change extends the term of the maintenance contract until February 28, 1992.

Printed on Recycled Paper

SCHEDULE

The schedule is still unclear for the coming six months due to the difficulty of predicting negotiations with ODEQ.

If there are any questions about this information, please call me.

Sincerely,

James Borthen, P.E.
Project Manager

cc John Kinsella
Donna Christianson

E C O V A

November 14, 1991

Fred Proby
Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199-1233

RE: Monthly Report for October, 1991 - NW Terminal Project

Dear Fred:

This letter constitutes the Monthly Report for October, 1991.

MONTHLY TECHNICAL STATUS REPORT

On October 7, 1991 ECOVA received Time Oil Co.'s revisions to the Preliminary Assessment which is being prepared for submission to the Oregon Department of Environmental Quality (ODEQ). These revisions were incorporated into the document. This updated version was then taken to Time Oil Co. for a meeting on October 22, 1991. At that meeting, several changes were suggested and incorporated by Time Oil Co. and the document was returned to ECOVA for further editing and improvement.

A subsequent meeting was arranged for November 8. At that meeting ECOVA presented the revised document to Time Oil Co. for consideration. Time Oil Co. is currently reviewing the document.

It is ECOVA's understanding that Time Oil Co. has submitted their application for enrollment in the ODEQ Voluntary Cleanup Program, and that ODEQ is waiting on Time Oil Co./ECOVA to submit the report.

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Corporate Office
18640 NE 67th Court
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3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

MONTHLY PROJECT STATUS REPORT

CONTRACT

The interim contract for equipment rental and maintenance of the site has expired and ECOVA would like to extend it. ECOVA estimates that an extension of six to nine months would probably be appropriate. This contract would extend until the time limit of the contract or until remediation operations begin at the site, whichever occurs first.

BUDGET

Total invoices for ODEQ negotiations for the interim period of this project are $19,643.62 which are broken down by phase in the attached table. The budget for writing the report has been exceeded

Printed on Recycled Paper

($9,539.00 in charges vs. a budget of $8,155.00). Of the total budget of $37,770.00, the total billings indicate that 52% of the project has been completed. This is consistent with progress on the report. The largest share of the work of writing the report is complete. Remaining work consists of final revisions and editing of the report and then discussions with ODEQ.

There is a problem with invoices. During the month of October it was noticed that the invoices were unpaid for the last two periods. This was brought to the attention of Time Oil Co.'s accountant and efforts were undertaken to correct the problem. However, payments were made on the current invoice, the invoice that was over 30 days and the invoice that was over 60 days. The invoice that was over 90 days was left unpaid. Attention will be given to this during the month of November.

SCHEDULE

The schedule is still unclear for the coming six months due to the difficulty of predicting negotiations with ODEQ.

If there are any questions about this information, please call me.

Sincerely,

James Borthen, P.E.
Project Manager

cc John Kinsella
Donna Christianson

E C O V A

November 4, 1991

Fred Proby
Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199-1233

FAX 206-283-8036

Dear Fred:

This letter is intended to follow up on three subjects which we discussed in our last meeting at your office: extension of the maintenance contract, the current status of the budget for the negotiations with Oregon's Department of Environmental Quality (ODEQ), and Bill Mahaffey's paper on PCP degradation.

MAINTENANCE CONTRACT

As you know, we have been maintaining the site and its equipment under an interim contract which is intended to cover expenses at the site until remediation work can start up again. Under this agreement ECOVA is paid $1,220.00 for equipment rental each month, and $880.00 per trip for maintenance trips (please see copy of Change Order #7 attached). ECOVA would like to extend this agreement. The term of this extension should be nine months in order to cover the project until negotiations with ODEQ are complete.

It would be helpful if ECOVA could receive a verbal indication of Time Oil Co.'s agreement to this extension soon so that a trip can be scheduled to Portland.

BUDGET FOR ODEQ NEGOTIATIONS

Total invoices to date for this project are $19,643.62 and are broken down by phase as shown in the attached table. Also shown, on the bottom line, is the budget for each phase.

As one can see, the budget for writing the report has been exceeded ($9,539.00 in charges vs. a budget of $8,155.00). Some charges have been made against phases of the project which are used for project meetings and research work. Of the total budget of $37,770.00, the total billings indicate that 52% of the project has been completed. This does not seem unreasonable. For purposes of writing the report, the largest share of the work has been done.

ECOVA Corporation
Corporate Office
16640 NE 87th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3984 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0082
(212) 661-7873 FAX

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TOLS009724

BZTO104(e)046556

Predicting the work that will be required is difficult with these types of activities, as we both know. Also, it is sometimes difficult to anticipate how much work Time Oil Co. will perform. However, we can make the following cost to complete estimate:

Complete Report	80 hours	$ 6,400
Site Visits	50 hours	$ 4,000
DEQ Correspondance	60 hours	$ 4,800
Cost To Complete		$15,200

This is approximate. Assuming these time estimates are reasonable, it should be possible to take this project to a point where ODEQ will commit to a cleanup level, or to a next task of work, and be within the original budget.

This is something we should monitor monthly and discuss as progress continues. Since project activity seems to be picking up, I will resume writing monthly reports which will cover this issue.

BILL MAHAFFEY'S PAPER

You have several times indicated that you felt that Bill Mahaffey's paper, which describes some of the results of activities at the site, should be used in a significant way in the report to ODEQ. While I intend to include some discussions similar to his, I would like to argue against specific inclusion of, or reference to, this paper.

I believe that the higher the established cleanup level, the more quickly and efficiently this project can be brought to a conclusion. ECOVA can remediate the soil to cleanup levels from 50 ppm and up, depending on the technology employed. Generally, as the cleanup level increases the cost of processing decreases. The presence of paraffinic hydrocarbons and other unknown solvents makes the ultimate cost of processing somewhat questionable at any cleanup level because of its retarding effect (see pages 316 and 317 of Mahaffey's paper).

Bill's paper implies that an extremely low cleanup level can be achieved in the absence of the paraffinic materials. In the presence of these materials cleanup becomes more complicated as witnessed by longer processing times. I see no advantage in going to ODEQ with a stated cleanup level. Rather, our objective should be to negotiate as high a cleanup level as possible.

I will incorporate some discussion of activities at the site that is similar to Mahaffey's, but without reference to cleanup levels. We can then discuss this during our next meeting (currently scheduled for November 8, 1991).

Sincerely,

James Borthen, P.E.
Project Manager

	A	B	C	D	E	F	G	H	I	J	K	L
1	BUDGET STATUS ON NOVEMBER 1, 1991											
2												
3												
4												
5	INVOICE		INVOICE				RESEARCH					
6	DATE		AMOUNT		MTGS		CORRESPONDANCE			REPORT		
7												
8	18-Apr		$480		$480		$0			$0		
9	5-Jun		$2,235		$1,350		$885			$0		
10	10-Jul		$4,131		$700		$2,340			$1,090		
11	9-Aug		$11,759		$1,140		$2,170			$8,449		
12	10-Sep		$1,038		$260		$778			$0		
13												
14	TOTAL		$19,644		$3,930		$6,173			$9,539		
15												
16	BUDGET				$9,565		$20,050			$8,155		
17												

NOV-04-1991 16:59 FROM ECOVA Corporation TO P.04

TOTAL P.04

TOLS009726

BZTO104(e)046558

PHONE 285-2400
CABLE ADDRESS: TIMOIL
(FAX) 206-283-8036

SEATTLE
TACOMA
PORTLAND
STOCKTON
RENO
RICHMOND
LOS ANGELES

PRODUCTS TIME TESTED

TIME OIL CO.

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

December 12, 1991

Mr. Jim Borthen
ECOVA Corporation
18640 NE 67th Court
Redmond, WA 98052

Dear Jim:

Enclosed is Change Order number 8 to our November 9, 1988 penta cleanup contract. This change order extends through February 28, 1992 the equipment rental and maintenance agreement embodied in Change Order number 7. It can be renewed, if needed.

As I have advised you several times over the phone, Time Oil considers ECOVA's housekeeping and maintenance of the penta work area, to date, to be totally unacceptable. Our safety inspector has reported to me that the general disarray produces an unsafe area for employees to operate. Although monthly maintenance was authorized by Change Order number 7, it is my understanding from ECOVA's invoices that such work was last performed in July, 1991.

I understand that you policed the area this week to remove all trash and unserviceable material and equipment. It is essential that ECOVA's area be "dress-right-dress" before the DEQ comes to visit some time in the next few weeks. I therefore think it wise for you and I to conduct a thorough inspection several days before the DEQ's arrival, so there will be time to correct any problems that might remain. I will contact you as soon as I know when the DEQ will be coming.

Sincerely,

Fred Proby
Environmental Specialist

enclosure a/s

C:\WP51\FLP\DEC91\PENTACO8.LTR

TOLS009727

BZTO104(e)046559

TIME OIL CO.

P.O. Box 24447, Terminal Station
Seattle, WA 98124

WORK ORDER / CHANGE ORDER

TO: ECOVA Corporation 3820 159th Avenue NE Redmond, WA 98052	Work Order Number 8 Place this number on your invoice and all related correspondence.

If this block is checked, [ ] this work order is an addendum to the blanket contract dated _____ and you are authorized to perform the work described below at the stated price(s).

If this block is checked, [X] this work order is an addendum to the standard contract dated November 9, 1988 and you are authorized to perform the work described below at the stated price(s).

Address and city of job site:			Property No:
12005 N. Burgard Rd, Portland, OR			03-123
Requested by: Fred Proby	Authorized By: JDS	Date Job Required:	Date Completed:

This work is at the expense of: [X] Time Oil Co. [ ] Other [ ] Taxable

DESCRIPTION OF WORK	AMOUNT
1. Extend monthly equipment rental to February 28, 1992 (6 months @ $1220/month).	$7,320.00
2. Extend monthly site inspection and maintenance to February 28, 1992 (3 visits remaining in renewal period less two visits budgeted but not used from CO #7 leaves one visit at $880)	$880.00
CONDITIONS:	
1. Authorization of maintenance and equipment charges terminates at the earlier of:	
February 28, 1992, resumption of soil treatment under negotiated cleanup standards or termination of contract.	
2. This Change Order may be renewed, if needed, after February 28, 1992.	
3. ECOVA accepts full responsibility for the condition and serviceability of all Ecova FLP equipment and materials at the treatment site. Any necessary replacement of Ecova FLP equipment or materials, other than that which has been damaged through some act of Time Oil Co, will be at ECOVA's expense.	
4. ECOVA will prepare a brief report documenting each maintenance trip.	
TOTAL CHANGE ORDER AMOUNT	$8,200.00

Project Description:

Penta cleanup (incident 03-123-900162). Renew equipment rental & maint (CO #7) which expired 8/31/91.

Time Oil Co. (signature):	Date: 11/25/91
Contractor (signature):	Date:

C:\ffp\wo3123-8

TOLS009728

BZTO104(e)046560

PROJECT COST ANALYSIS FOR NW TERMINAL PENTA CLEANUP as of 11/26/91 FLP

Task	Contract Amount	Change Orders	Total Budget	% Comp	Total Invoiced	Earned	Earned -Invoiced	Cost To Complete	Budget -CTC
A – Excavate soil	160,000		160,000	100.0%	160,000	160,000	0	160,000	0
B – Treat soil	285,000		285,000	0.0%	0	0	0	285,000	0
CO#1 – Misc		6,027	6,027	100.0%	6,027	6,027	0	6,027	0
CO#2 – C&O samples		700	700	100.0%	700	700	0	700	0
CO#4 – Experimental		59,290	59,290	100.0%	59,290	59,290	0	59,290	0
CO#5 – DEQ		37,770	37,770	60.0%	21,083	22,662	1,579	35,138	2,632
CO#6 – Cover pile		3,760	3,760	100.0%	3,760	3,760	0	3,760	0
CO#7&8 – Maintenance		31,440	31,440	76.7%	23,920	24,110	190	31,192	248
Total	445,000	138,987	583,987	47.4%	274,780	276,549	1,769	581,107	2,880

INVOICE HISTORY

Date	Invoice #	Contract #1,2,4,6	CO #5	CO #7&8	Explanation
03/14/89	101802	160,000.00			
08/14/90	102484	66,017.00			
11/30/90	102557	3,760.00			
04/18/91	49107		480.00		
06/05/91	69106			16,060.00	7/90–3/91 I&E, 4/91 I&E, 5/91 E
06/07/91	69107		2,235.00		5/91 DEQ
07/10/91	79122		4,130.30		6/91 DEQ
07/10/91	79123			2,100.00	6/91 I&E
08/06/91	89105			2,100.00	7/91 I&E
08/09/91	89119		11,759.30		7/91 DEQ
09/05/91	99111			1,220.00	8/91 E
09/10/91	99110		1,038.49		8/91 DEQ
10/09/91	109121			1,220.00	9/91 E
11/08/91	119120		1,440.00		10/91 DEQ
11/08/91	119121			1,220.00	10/91 E
	TO DATE	229,777.00	21,083.09	23,920.00	274,780.09

BZTO104(e)046561

TOLS009729

ECOVA

November 8, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #119120 for services performed through October 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

ECOVA Corporation
Corporate Office
16640 NE 87th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

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ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

November 8, 1991

INVOICE NUMBER 119120

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: OCTOBER 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

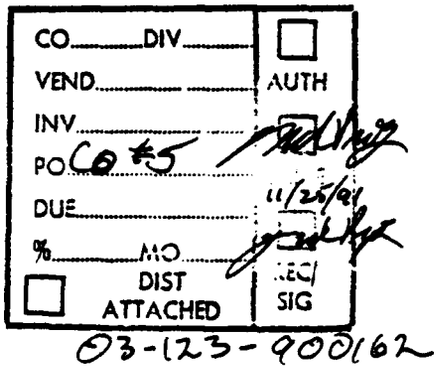
OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD:10-01-91 THRU 10-31-91

*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	1,440.00	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 1,440.00
TOTAL DUE THIS INVOICE		$ 1,440.00

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124



03-123-900162

TOLS009731

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

November 8, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: OCTOBER 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD:10-01-91 THRU 10-31-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.020 PROJECT MEETINGS							
**** LABOR ****							
BORTHEN; JAMES W	Project Eng/Geo/Sci	23	10-31-91	2071	9	80.00	720.00
25.000 INVEST, CHARAC, COLL							
25.160 LIT SEARCH/DATA REV.							
**** LABOR ****							
BORTHEN; JAMES W	Project Eng/Geo/Sci	23	10-31-91	2071	9	80.00	720.00
JOB TOTALS - THIS BILLING PERIOD					18.00*		1,440.00*

TOLS009732

BZTO104(e)046564

ECOVA

October 9, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #109121 for services performed through September 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9304 Forest Lane #161
Dallas, TX 75243
(214) 553-1017
(214) 349-5510 FAX

Eastern Region
500 Fifth Avenue
Suite 935
New York, NY 10110
(212) 840-1042
(212) 840-1663 FAX

******INVOICE# 109121******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 10/9/91

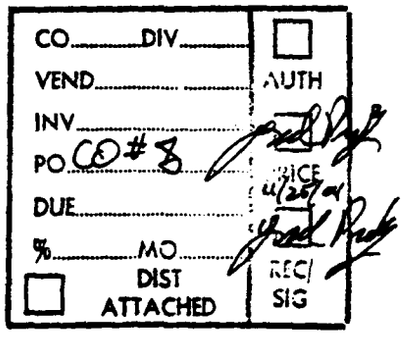
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

September 1991 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	$ 1,220.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



TOLS009734

E C O V A

November 8, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #119121 for services performed through October 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project File

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York.. NY 10017
(212) 682-0082
(212) 661-7873 FAX

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TOLS009735

******INVOICE# 119121******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 11/8/91

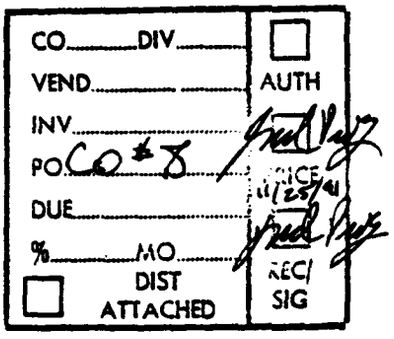
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

October 1991 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	$ 1,220.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



TOLS009736

ECOVA

OCT 09 RECD - FLP

This was not received in July FLP

July 10, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #79122 for services performed through June 1991.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Lorie Johnson
Project File

Corporate Office
3830 150th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2909
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

Printed on Recycled Paper

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

July 10, 1991

INVOICE NUMBER 79122

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JUNE 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 6-01-91 THRU 6-30-91

*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	3,947.50	
MATERIAL TOTAL	14.28	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 3,961.78
REPRODUCTION CHARGES		169.05
TOTAL DUE THIS INVOICE		$ 4,130.83

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124

TOLS009738

CO DIV
VEND AUTH
INV
PO Co#5
DUE
% MO
DIST ATTACHED SIG

03-123-9AA162

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

July 10, 1991

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JUNE 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 6-01-91 THRU 6-30-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

25.000 INVEST, CHARAC, COLL

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
25.160 LIT SEARCH/DATA REV.							
**** LABOR ****							
BORTNEN; JAMES W	Project Manager	23	6-30-91	1685	14	115.00	1,610.00
LANCE; DONALD N	Project Eng/Geo/Sci	14	6-30-91	1705	3	80.00	240.00
BERGMAN; JEFFREY	Staff Eng/Geo/Sci	42	6-30-91	1681	15.50	65.00	1,007.50
BORTNEN; JAMES W	CAD Drafter	23	6-15-91	1629	13	60.00	780.00
MAFFEI; GAIL	Word Processing/Cler	28	6-30-91	1708	.25	40.00	10.00
CHRISTENSEN; DONNA	Word Processing/Cler	51	6-30-91	1686	7.50	40.00	300.00
LABOR TOTALS					53.25*		3,947.50*
**** MATERIALS ITEMS ****							
BERGMAN; JEFFREY		2006	6-14-91	53091			14.28
LIT SEARCH/DATA REV. Totals					53.25*		3,961.78*

E C O V A

OCT 09 RECD
PLP
This was not received in July
PLP

July 10, 1991

TIME OIL COMPANY
P.O. BOX 24447
TERMINAL STATION
SEATTLE WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoice #79123 for services performed through June 1991

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Lorie Johnson
Project File

Corporate Office
3820 159th Avenue NE
Redmond, WA 98052
(206) 883-1900
(206) 867-2310 FAX

Gulf Coast Region
9221 LBJ Freeway
Suite 201
Dallas, TX 75243
(214) 238-0600
(214) 644-8375 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0882
(212) 661-7873 FAX

Printed on Recycled Paper

******INVOICE# 79123******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 7/10/91

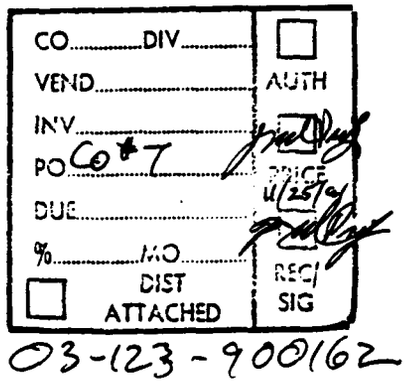
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

June 1991 site inspection	.....	880.00
June 1991 equipment rental	.....	1,220.00
TOTAL DUE THIS INVOICE:		$ 2,100.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



03-123-900162

TOLS009741

E C O V A

JAN 14 RECD

January 8, 1992

Time Oil Company
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies each of our invoices #19203 and #19210 for services performed through December 1991.

Please return the invoice marked "COPY" with your remittance.

We have received payment for all past due invoices. We appreciate your help in getting the invoices paid.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project Files

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 681-7873 FAX

Printed on Recycled Paper

******INVOICE# 19203******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 1/7/92

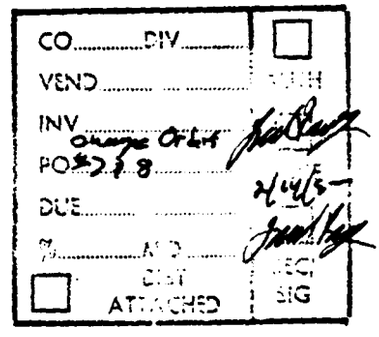
JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

December 1991 site inspection	880.00
December 1991 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	$ 2,100.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.



TOLS009743

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

January 8, 1992

INVOICE NUMBER 19210

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: DECEMBER 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD:12-01-91 THRU 12-31-91

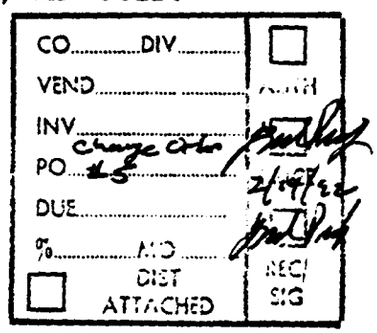
*** BILLING IN SUMMARY ***

GENERAL TOTAL	20.40	
LABOR TOTAL	600.00	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 620.40
TOTAL DUE THIS INVOICE		$ 620.40

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124

DEQ Mecky



TOLS009744

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

January 7, 1992

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: DECEMBER 1991

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD:12-01-91 THRU 12-31-91

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.010 Project Admin							
**** GENERAL ITEMS ****							
FOX COMMUNICATIONS CORP.		6018	12-19-91	113091			3.31
10.020 PROJECT MEETINGS							
**** GENERAL ITEMS ****							
BORTHEN; JAMES		2010	12-31-91	120591			17.09
**** LABOR ****							
BORTHEN; JAMES W	Project Eng/Geo/Sci	23	12-15-91	3091	7	80.00	560.00
CHRISTENSEN; DONNA	Word Processing/Cler	51	12-15-91	3094	1	40.00	40.00
LABOR TOTALS					8.00*		600.00*
PROJECT MEETINGS Totals					8.00*		617.09*
PROJECT MANAGEMENT TOTALS					8.00*		620.40*

TOLS009745

E C O V A

February 5, 1992

Time Oil Company
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies each of our invoices #29203 and #29207 for services performed through January 1992.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Carrie Casanas for

Jim Borthen
Project Manager

Enclosures

cc: Carrie Casanas
Project Files

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York,. NY 10017
(212) 682-0082
(212) 661-7873 FAX

TOLS009746

Printed on Recycled Paper

******INVOICE# 29203******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
3820 159th Ave. N.E.
Redmond, WA 98052

Project Manager: Borthen
Date: 2/5/92

JOB SITE: 12005 N. Burgard Rd., Portland, OR.

Services performed under Time Oil Co. Work Order #7:

January 1992 site inspection	880.00
January 1992 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	$ 2,100.00

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206)883-1900. Thank you. We appreciate your patronage.

CO.....DIV.....
VEND.....
INV. Change Order
PO 728
DUE.....
%.....
LIST ATTACHED
SIG

2/14/92

TOLS009747

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

February 5, 1992

INVOICE NUMBER 29207

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JANUARY 1992

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 1-01-92 THRU 1-31-91

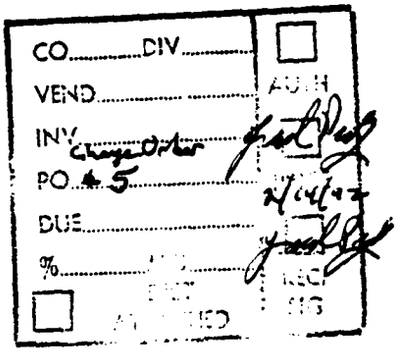
*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	2,100.00	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 2,100.00
TOTAL DUE THIS INVOICE		$ 2,100.00

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124

DEQ Mtg



TOLS009748

ECOVA CORPORATION INC.
7920 159TH AVE. NE
REDMOND,WA 98052

February 5, 1992

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: JANUARY 1992

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 1-01-92 THRU 1-31-92

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.030 REG. INTERFACE SUPP.							
**** LABOR ****							
MAHAFFEY; WILLIAM R	Principal	4	1-30-92	3262	14	150.00	2,100.00

TOLS009749

E C O V A

MAR 10 RECD

March 5, 1992

Time Oil Company
PO Box 24447
Terminal Station
Seattle, WA 98124-0447

Dear Mr. Proby:

Enclosed please find two copies of our invoices #39208 and #39209 for services performed in February.

Please return the invoice marked "COPY" with your remittance.

Sincerely,

Jim Borthen
Project Manager

Enclosures

cc: Project Files
Carrie Casanas

ECOVA Corporation
Corporate Office
18640 NE 67th Court
Redmond, WA 98052
(206) 883-1900
(206) 867-2210 FAX

Central Valley Region
3331 State Road
Bakersfield, CA 93308
(805) 393-8495
(805) 393-3964 FAX

Eastern Region
501 Fifth Avenue
Suite 2009
New York, NY 10017
(212) 682-0082
(212) 661-7873 FAX

Printed on Recycled Paper

MAR 10 RECD

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

March 5, 1992

INVOICE NUMBER 39208

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: FEBRUARY 1992

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 2-01-92 THRU 2-29-92

*** BILLING IN SUMMARY ***

GENERAL TOTAL	.00	
LABOR TOTAL	32.50	
MATERIAL TOTAL	.00	
EQUIPMENT TOTAL	.00	
SUBCONTRACT TOTAL	.00	
SUB-TOTAL		$ 32.50
TOTAL DUE THIS INVOICE		$ 32.50

INVOICES ARE DUE AND PAYABLE NET 30 DAYS FROM THE INVOICE DATE. A 1.5 % MONTHLY INTEREST CHARGE WILL BE APPLIED TO ALL ACCOUNTS WHICH HAVE BALANCES OVER DUE BY 30 DAYS OR MORE. IF YOU HAVE QUESTIONS OR COMMENTS CONCERNING THE AMOUNTS OF THE SERVICES OUTLINED, PLEASE CONTACT OUR OFFICES AT (206)883-1900. THANK YOU. WE APPRECIATE YOUR PATRONAGE.

PLEASE REMIT PAYMENT TO: P.O. BOX 34108
SEATTLE, WA 98124

03-123-900162

CO DIV
VEND
INV
PO C045
DUE
% MO
DIST ATTACHED
AUTH
PRICE 4/7/92
REC SIG

TOLS009751

ECOVA CORPORATION INC.
3820 159TH AVE. NE
REDMOND,WA 98052

March 5, 1992

SUMMARY OF WORK COMPLETED FOR THE MONTH OF: FEBRUARY 1992

JOB NUMBER 1067

JOB NAME: TIME OIL-PORTLAND-INTERFACE

OUTLINE OF SERVICES PERFORMED DURING THIS BILLING PERIOD: 2-01-92 THRU 2-29-92

DETAILED WORK BREAK DOWN BY DIVISION, PHASE AND CATEGORY

10.000 PROJECT MANAGEMENT

	Billing Type	Ven/Emp. Number	Date	Invoice	Units	Rate	Amount
10.010 Project Admin							
**** LABOR ****							
LEVITEN; DAVID A	Staff Eng/Geo/Sci	31	2-29-92	3338	.50	65.00	32.50

TOLS009752

MAR 10 REC'D

******INVOICE # 39209******

TO: Time Oil Co.
P.O. Box 24447
Terminal Station
Seattle, WA 98124-0447

FROM: ECOVA Corporation
18640 NE 67th Court
Redmond, WA 98052

Project Manager: Borthen
Date: 3/5/92

JOBSITE: 12005 N. Burgard Rd., Portland, OR

Services performed under Time Oil Co. Work Order #7:

February 1992 site inspection	880.00
February 1992 equipment rental	1,220.00
TOTAL DUE THIS INVOICE:	**$2,100.00**

Please remit payment to: P.O. Box 34108
Seattle, WA 98124

03-123-900162

CO.____ DIV.____	☐ AUTH
VEND.____	
INV.____	
PO Co #718	PRICE 4/2/92
DUE.____	
%____ MO.____	
☐ DIST ATTACHED	REC/ SIG

Invoices are due and payable 30 days from the invoice date. A 1.5% monthly interest charge will be applied to all accounts which have balances over due by 30 days or more. If you have questions or comments, please contact our offices at (206) 883-1900. Thank you. We appreciate your patronage.

1067INV.XLS

TOLS009753

BZTO104(e)046585

TOLS009754

Century Environmental Sciences
John Ruddick (503) 224-4334

TOLS009755

BZTO104(e)046587

TOLS009756

TOLS009757

5/86

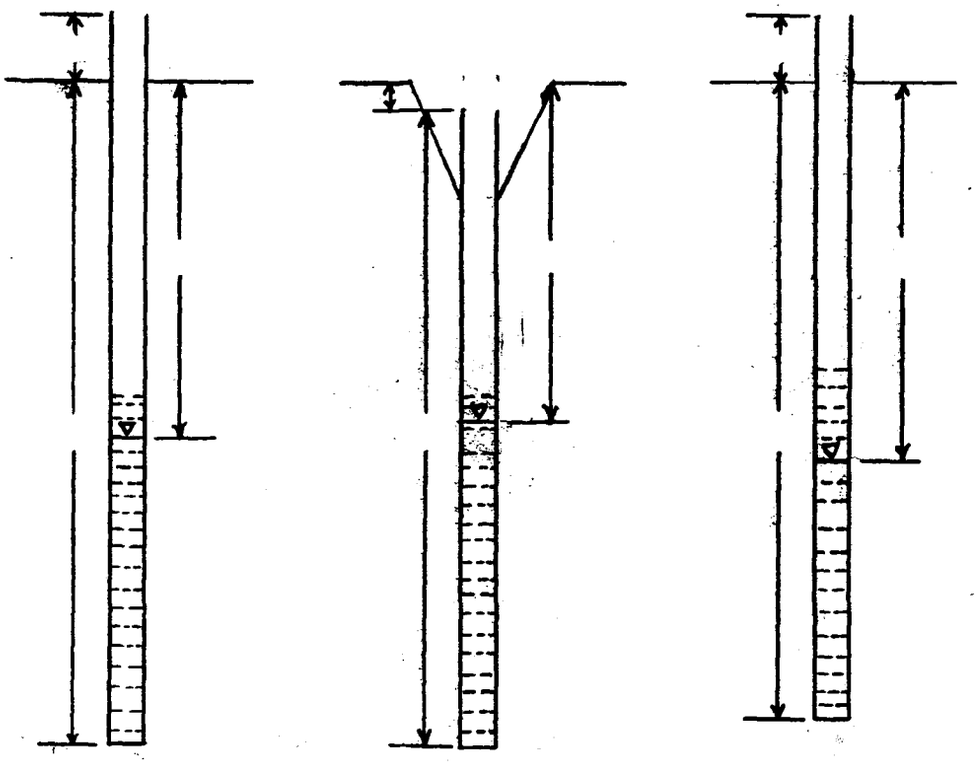
Summary of Well Construction Details

Well	Ref Elev.	Casing Above Ground	Total casing length	Ground To Bottom	4/2 Depth to Water	Screen length	Ground Elevation
A	97.14	0.9	20.9	20.0	12.34	2.3'	96.24
B	96.83	1.0	21.1	20.1	12.45	2.3	95.84
C	96.73	2.2	10.5	8.3	8.69	2.3	94.53
D	97.93	1.99	21.10	19.11	(5/14 12.28)	10.0	95.94
E	97.83	2.0	22.04	20.04	12.67	8.5	95.83
F	97.97	2.0	21.06	19.06	12.73	8.5	95.97
G	98.05	2.0	14.92	12.92	14.60	8.5	96.05
H	94.75	-0.71	18.35	19.06	(5/14 9.07)	10.0	95.46
I	98.00	1.92	20.27	18.35	(5/14 12.66)	10.0	96.08
4	96.48	2.3	43.1	40.8	17.81	5.0	94.18

(Ave: 95.77 excl #4)

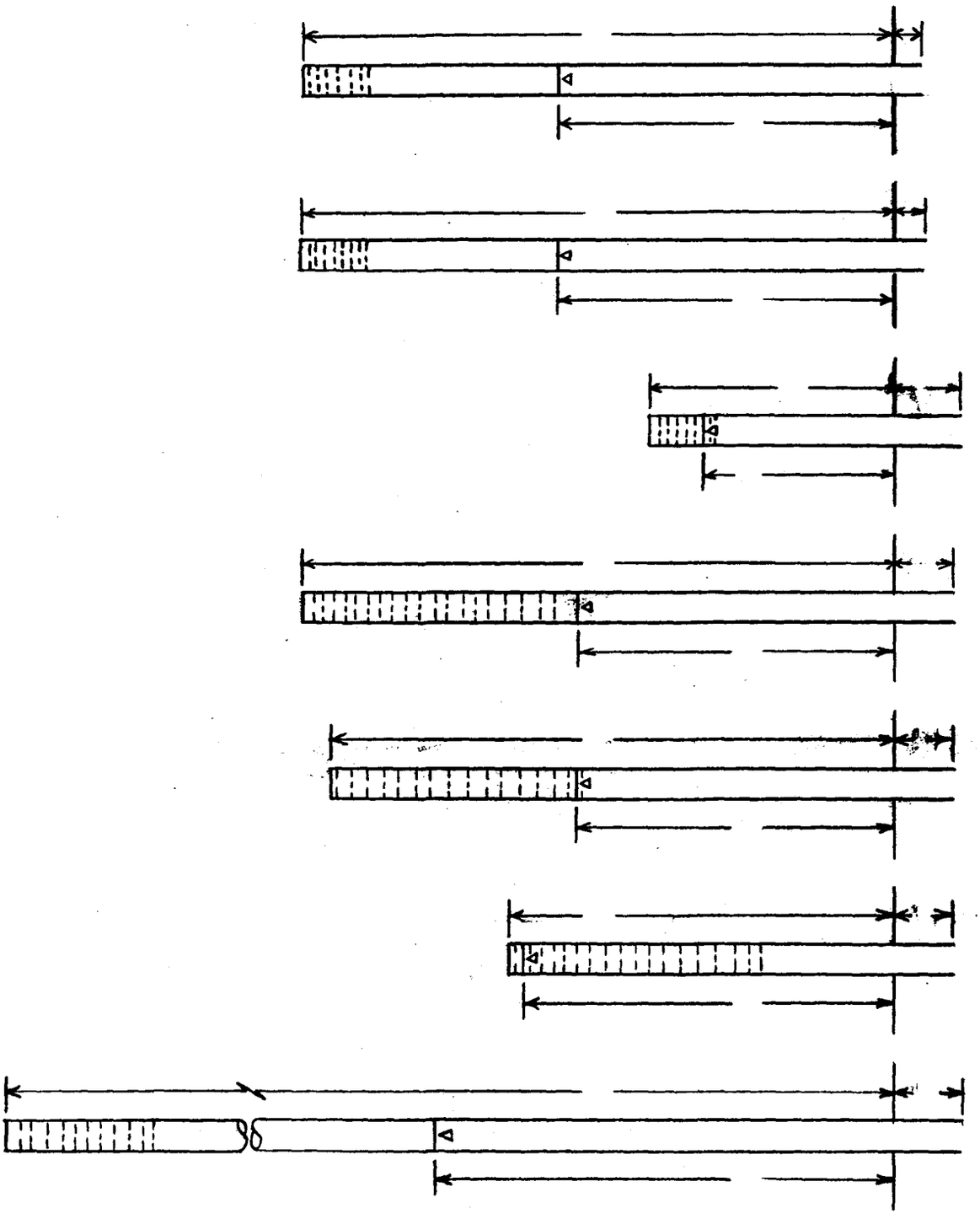
TOLS009758

TOLS009759



TOLS009760

BZTO104(e)046592



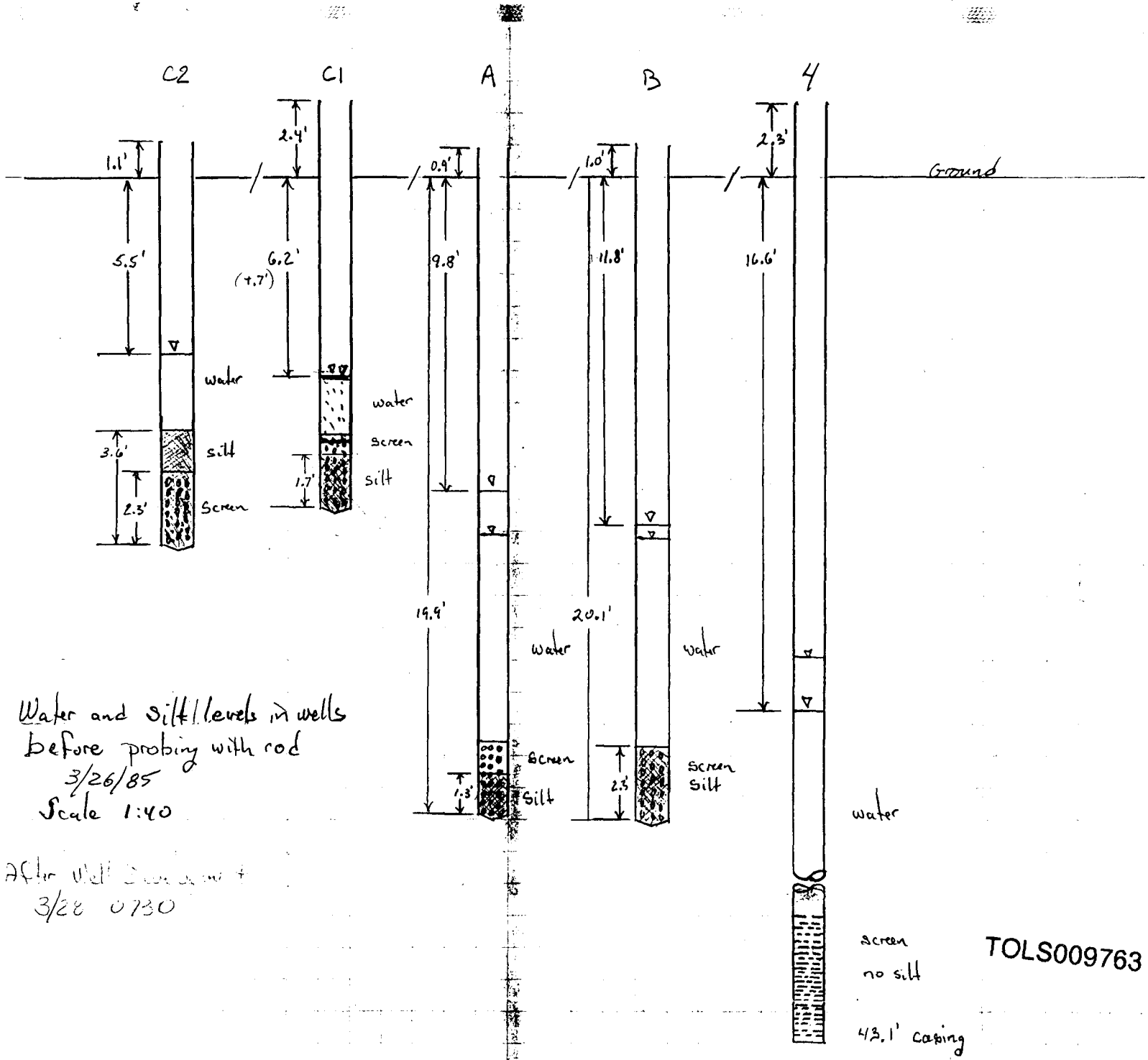
TOLS009761

Back-up info
for 5/2 and 5/16/86
Memos

RLP

TOLS009762

BZTO104(e)046594



Water and silt levels in wells
before probing with rod
3/26/85
Scale 1:40

After well [illegible]
3/28 0730

TOLS009763

BZTO104(e)046595

FLP 3/27/86

Willamette River Elevations

(503) 249-0666 National Weather Service (Mr. Steiger) NE Marine Drive or Airport

Reference Point – "Portland Harbor" (Morrison Bridge) Datum = 1.6' + MSL = 0' "City of Portland datum"

	Willamette		Willamette
3/1	15.8	3/23	7.0
2	15.0	24	7.0
3	14.0	25	7.3
4	13.4	26	8.7
5	11.7	27	9.5
6	10.4		
7	10.2		
8	11.4		
9	13.0		
10	13.4		
11	13.1		
12	12.3		
13	9.8		
14	12.4		
15	12.4		
16	11.9		
17	10.8		
18	9.6		
19	8.7		
20	8.4		
21	8.4		
22	7.7		

River is "virtually flat", so levels at Morrison Bridge are good for St. Johns.

Don't use daily mean, since there's a lot of tide fluctuation (1-1½ feet now) - "mean" is estimated. Normal Summer low (Aug-Sept) 12'-4' (low vs high tide). (= 72-74' TOC)

Normal winter/spring High Dec 7-8 Jan 8' Feb 7' May 7-8' (= 78' TOC)

This year, March was unusually high.

No difference in river height between Columbia & Willamette at Portland.

TOLS009764

River Elevations (cont)

3/28	9.3
29	8.6
30	7.9
31	9.0
4/1	9.3
2	8.7
3	8.6
4	8.6
5	8.6
6	7.9
7	7.6
8	7.5

For more info Contact
Jeff Hansen 221-6468
Portland District Corps of Engineers

He can send:
"Summary Hydrographs" Vancouver / Portland - only $100 off

TOLS009765

PLP
4/8/86

NWS River Measurements vs TOC Measurements

Date	Time	TOC	NWS	Δ
3/27	0800	79.47	10.0	69.47
3/27	1700	78.90	9.1	69.80
3/28	0730	79.50	9.5	70.0
3/28	1400	78.60	9.6	69.0
3/31	0930	79.70	7.4	72.3
4/2	0800	78.04	8.6	69.44
			Ave	70.00 = TOC Elev when NWS = 0'
			Std. Dev.	1.18

River datum (0') is "City of Portland Datum"
Therefore, 'city of Portland Elevation of Temporary Benchmark is 100' - 70' = 30'
To obtain ~~actual~~ site elevations subtract 30' (approx) from "Reference elevations"

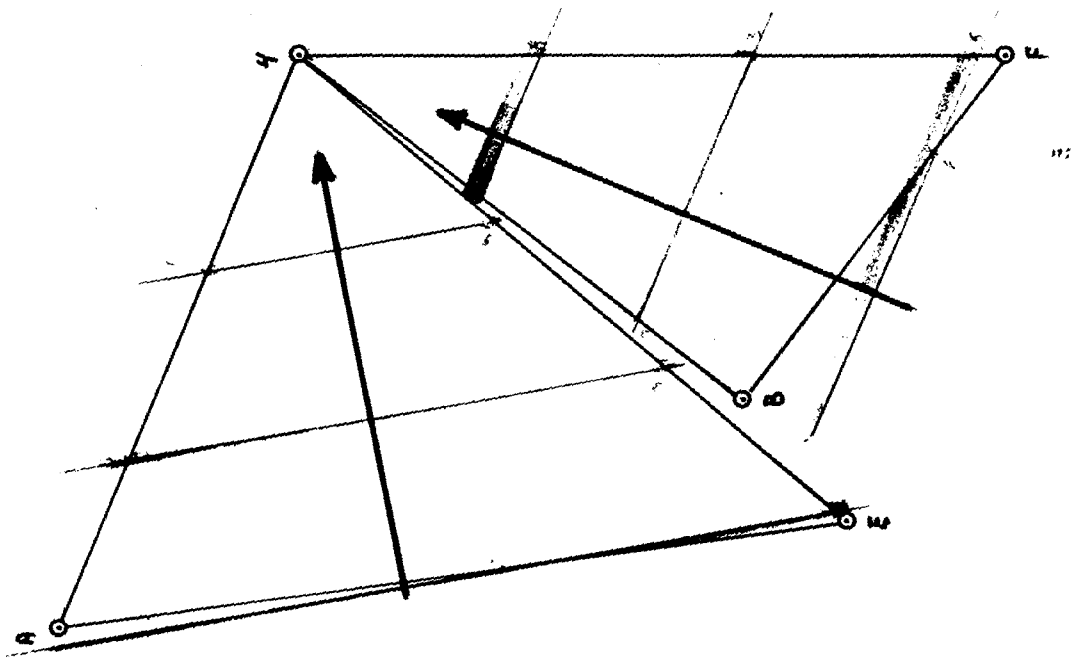
TOLS009766

TABLE 2

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 [redacted] with a [redacted]; moderately compacted, saturated (S.S. sample)
20 - 23-1/2	6.5' clay lens	Gravelly [redacted] with [redacted]
23-1/2 - 25		Light gray gravelly [redacted] with minor [redacted], moderately compacted, saturated (S.S. sample)
25 - 28-1/2		[redacted]
28-1/2 - 30		Light gray medium to [redacted], 3-1/2" thick clay lens, saturated (S.S. sample)
30 - 32-1/2		Medium to [redacted] with [redacted]
32-1/2 - 35		Light gray medium to [redacted], minor [redacted]; saturated (S.S. sample)
35 - 37-1/2		Medium to [redacted] sand
37-1/2 - 39		Light gray medium to [redacted] (S.S. sample)
39 - 42-1/2		Light gray medium to [redacted]
42-1/2 - 45		Light gray medium sand grading to [redacted] with depth, minor [redacted] (S.S. sample)
45 - 47-1/2		[redacted], saturated
47-1/2 - 49		Light gray sandy silt grading to light gray silty [redacted] (S.S. sample)

TOLS009767

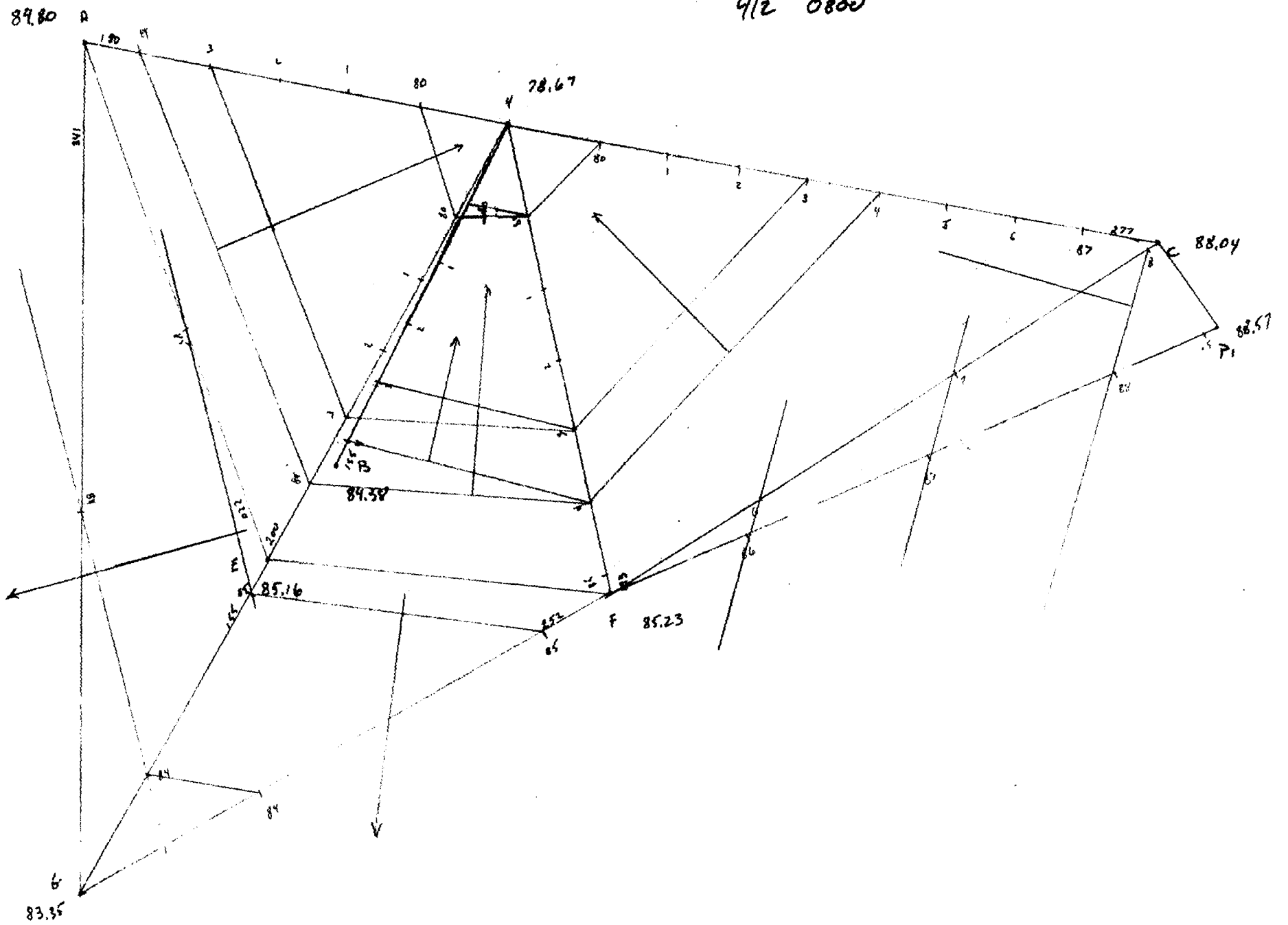
4/2 0800



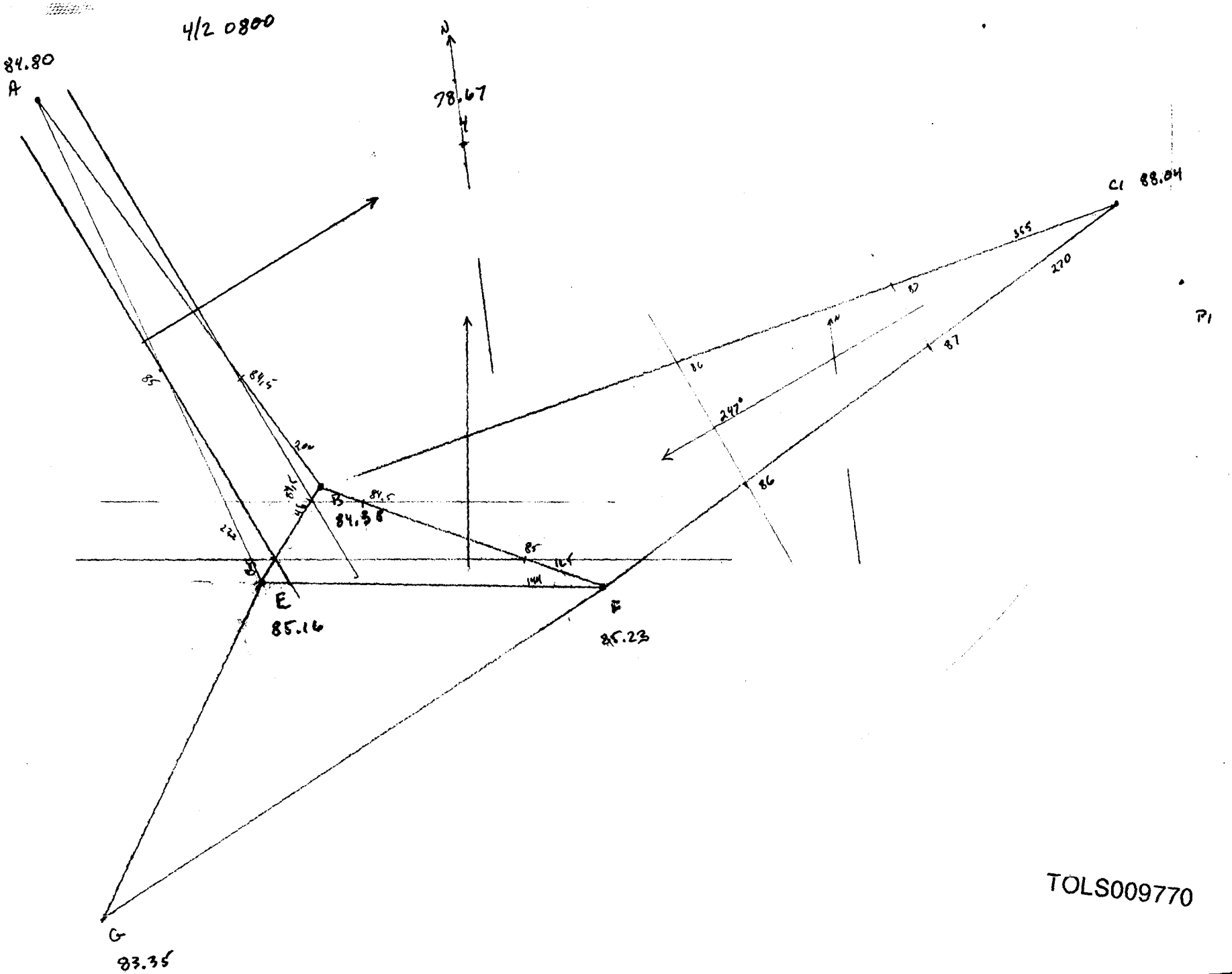
TOLS009768

BZTO104

4/2 0800



TOLS009769



BZTO104(e)046602

TOLS009770

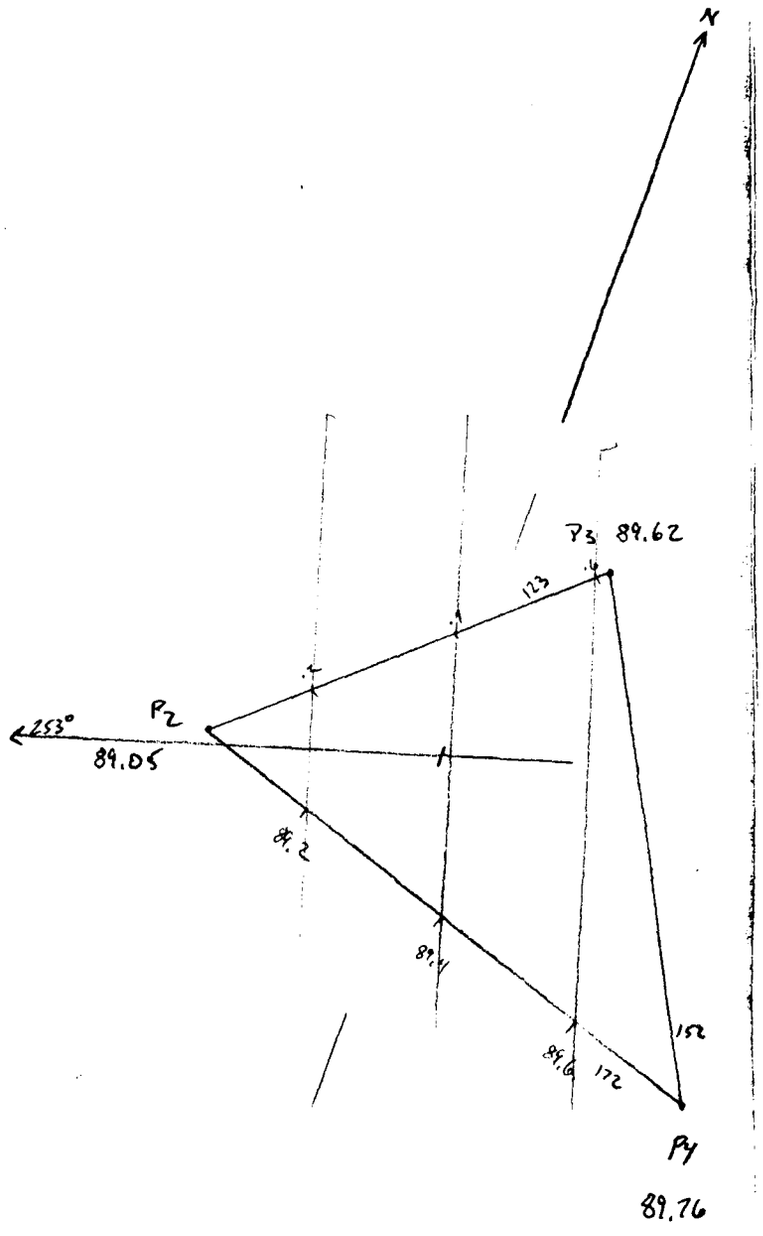
4/2 0800

4

C1

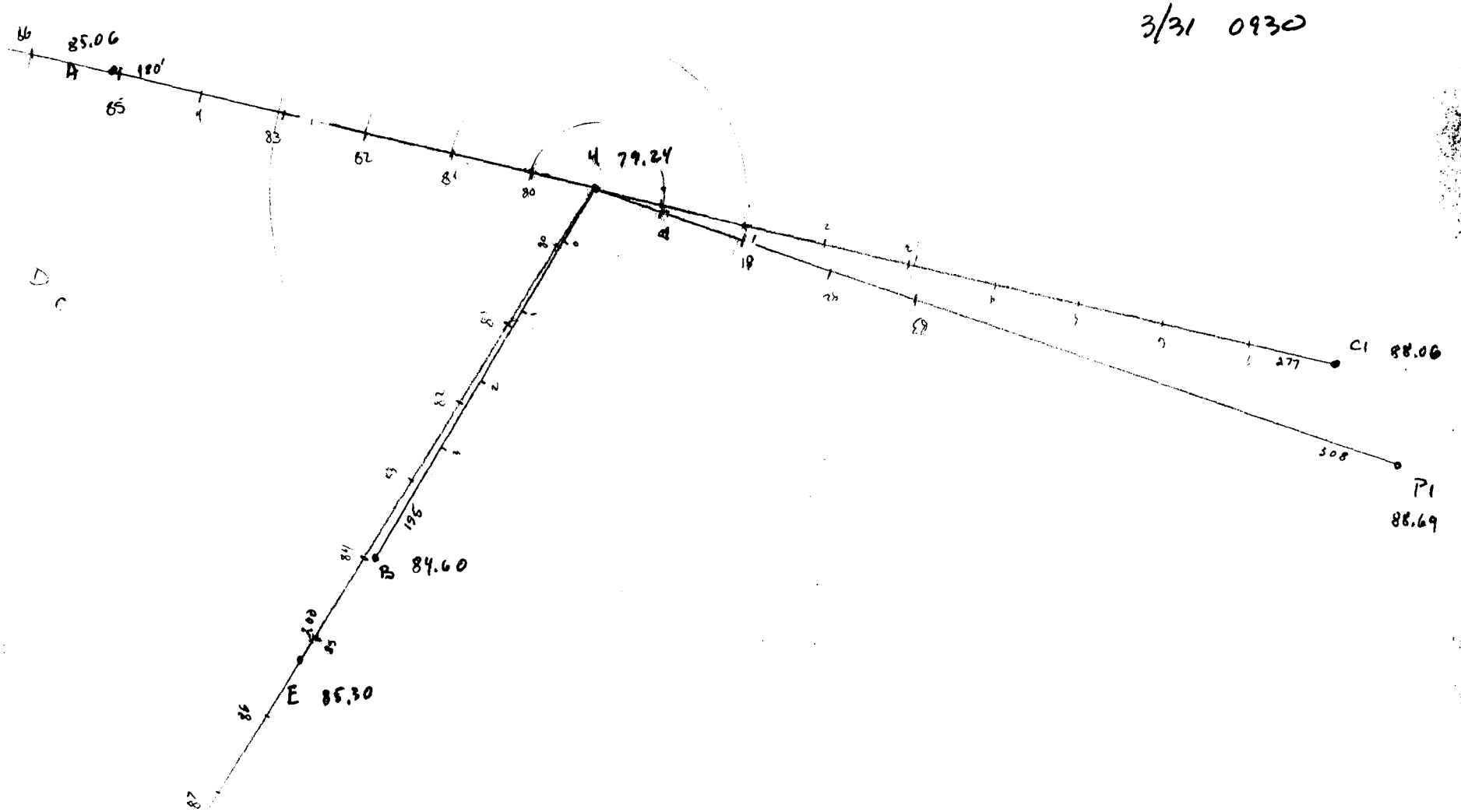
F

P1



TOLS009771

BZTO104(e)046603



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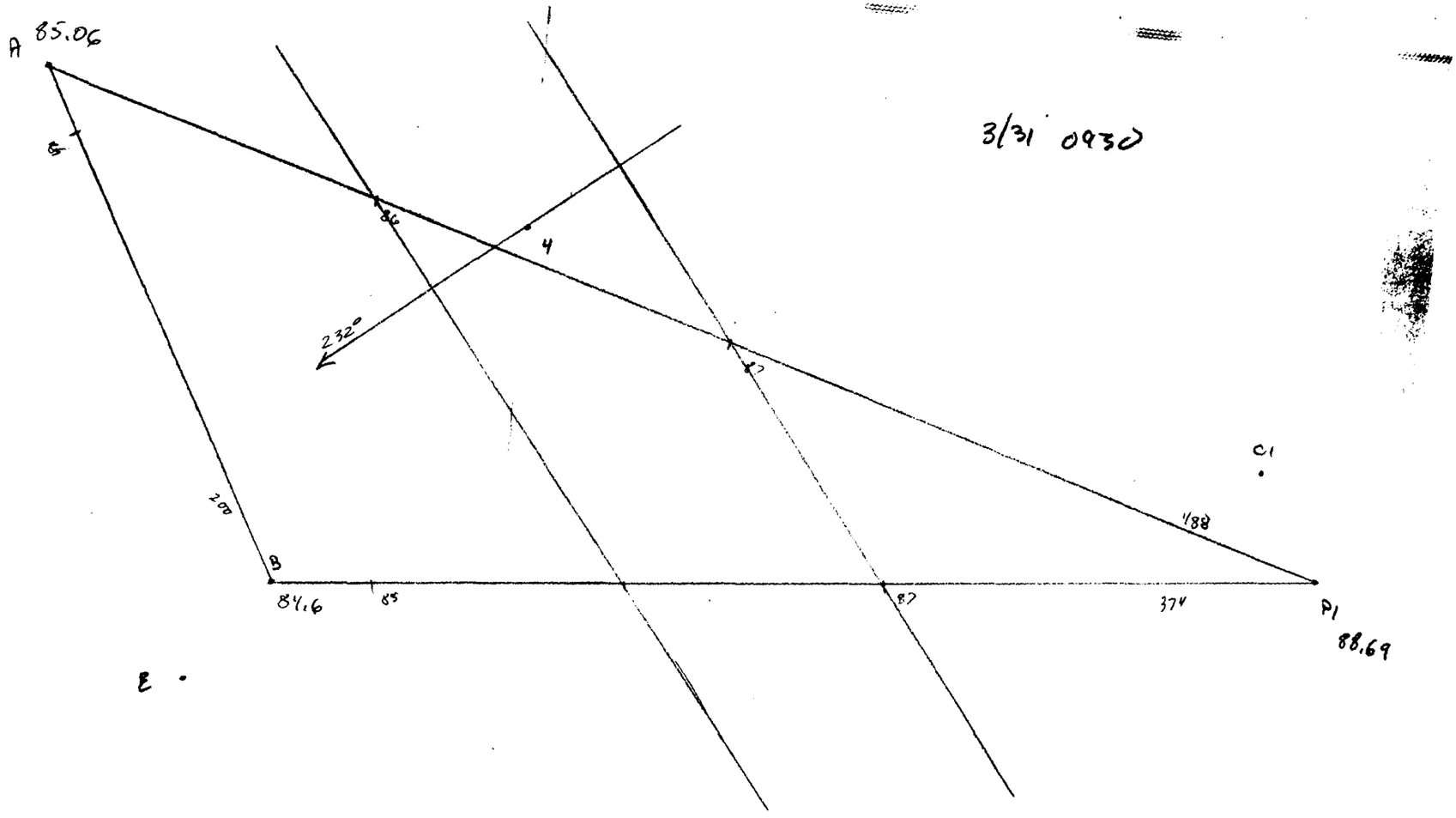

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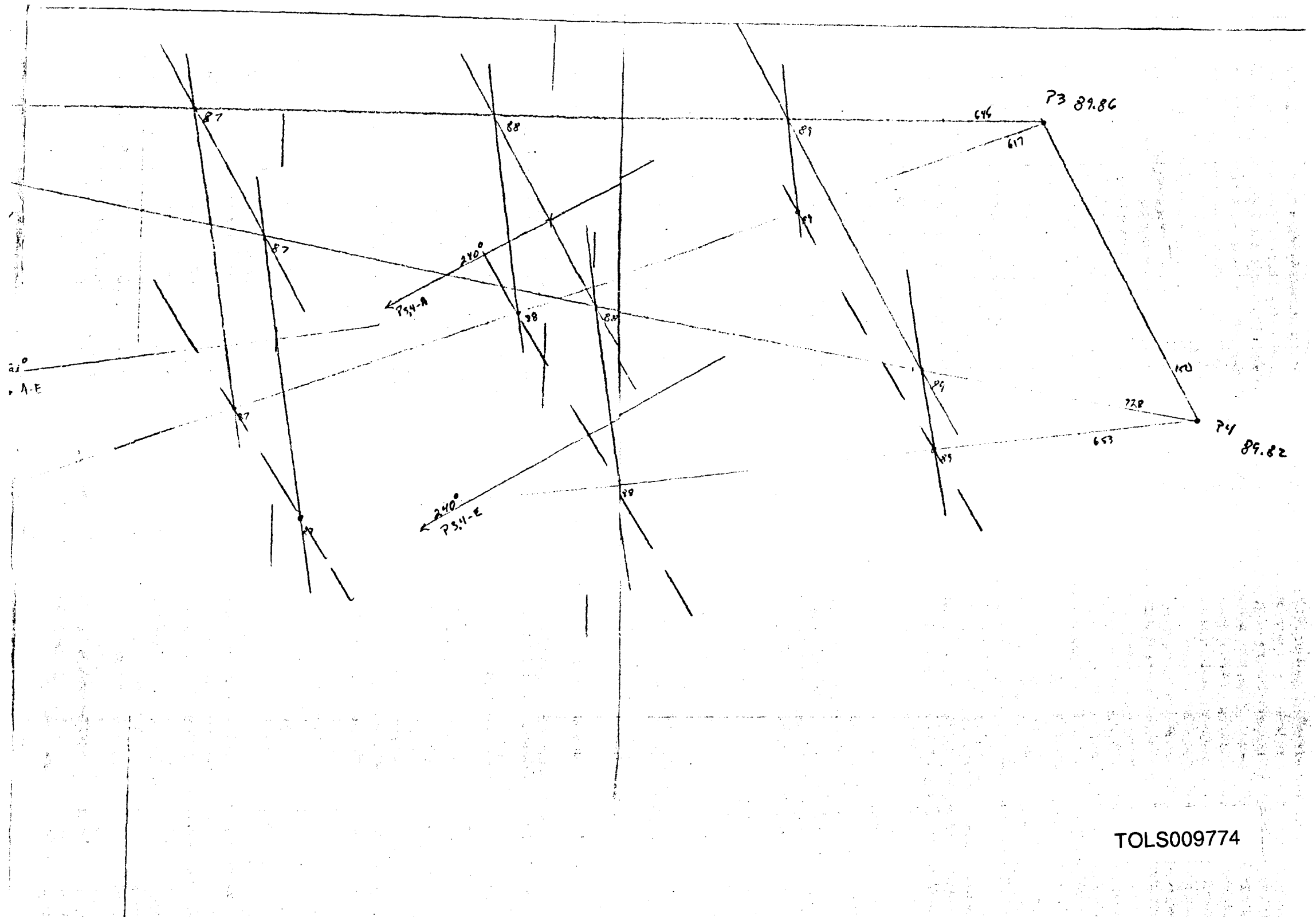
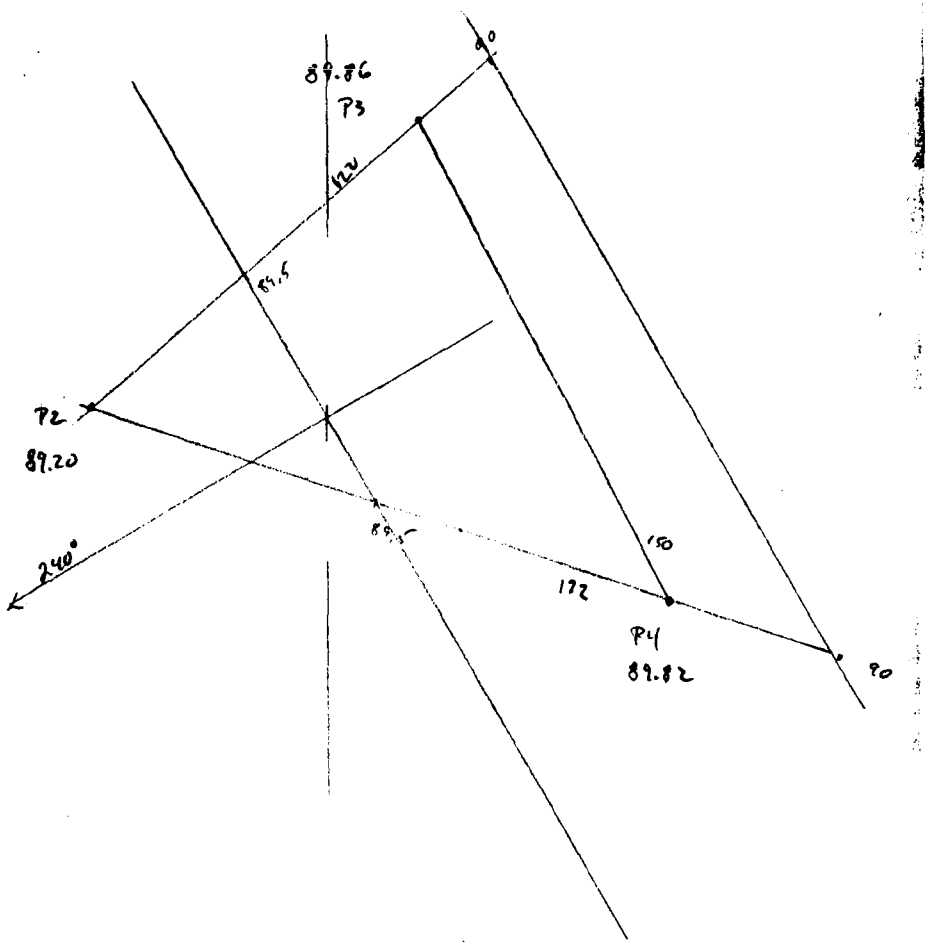


TOLS009774

3/31 0930



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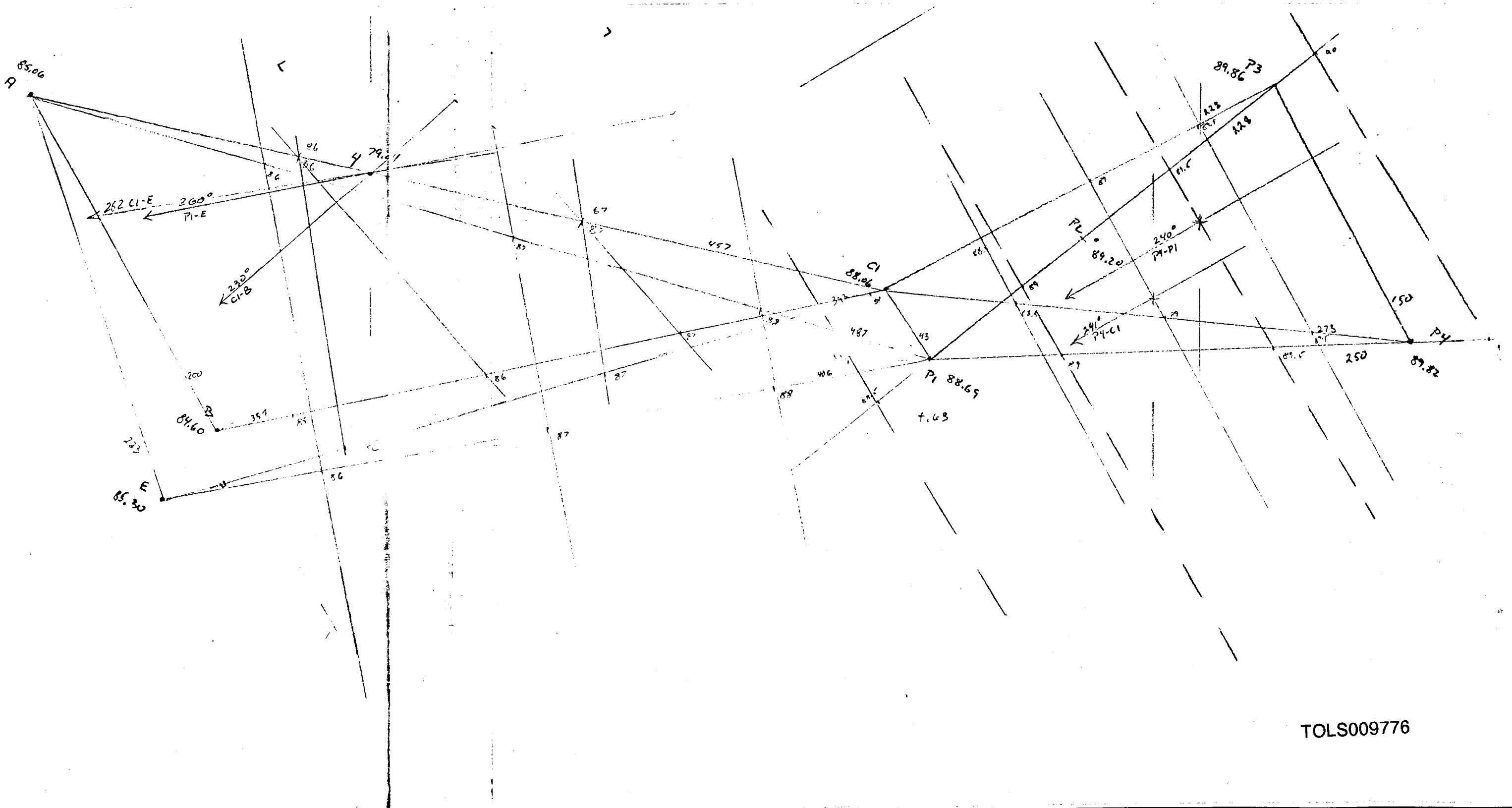

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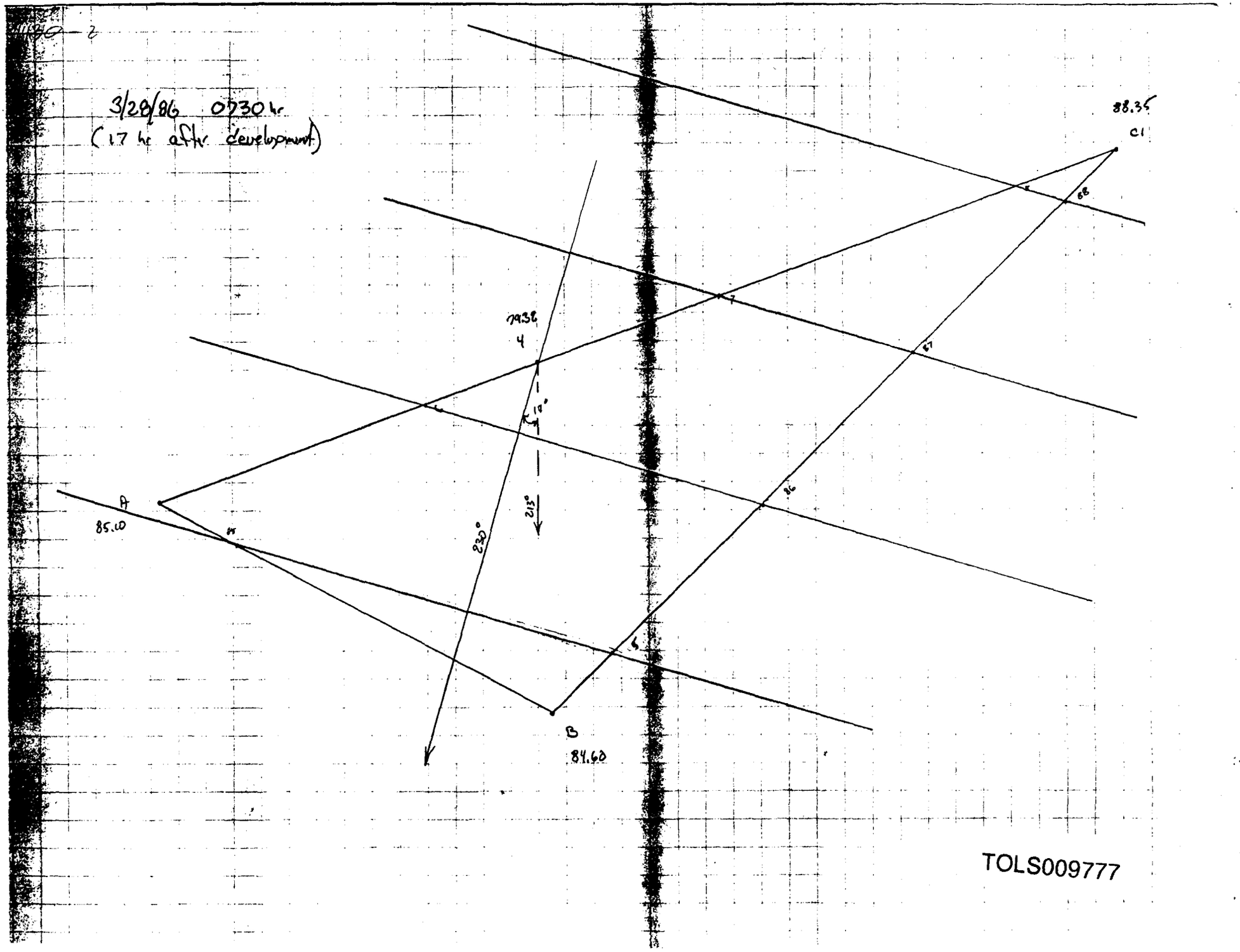

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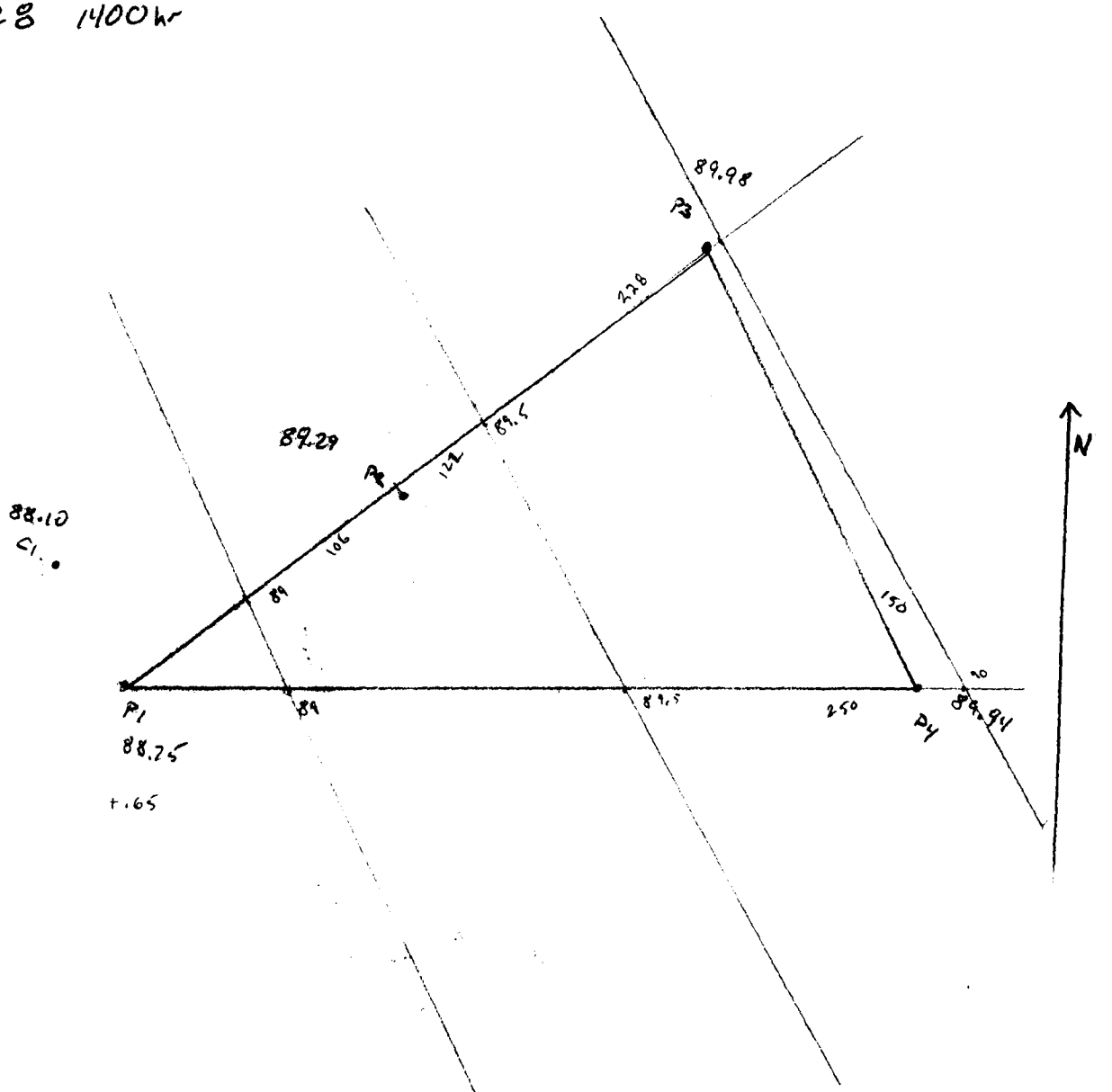
3/28 1400hr

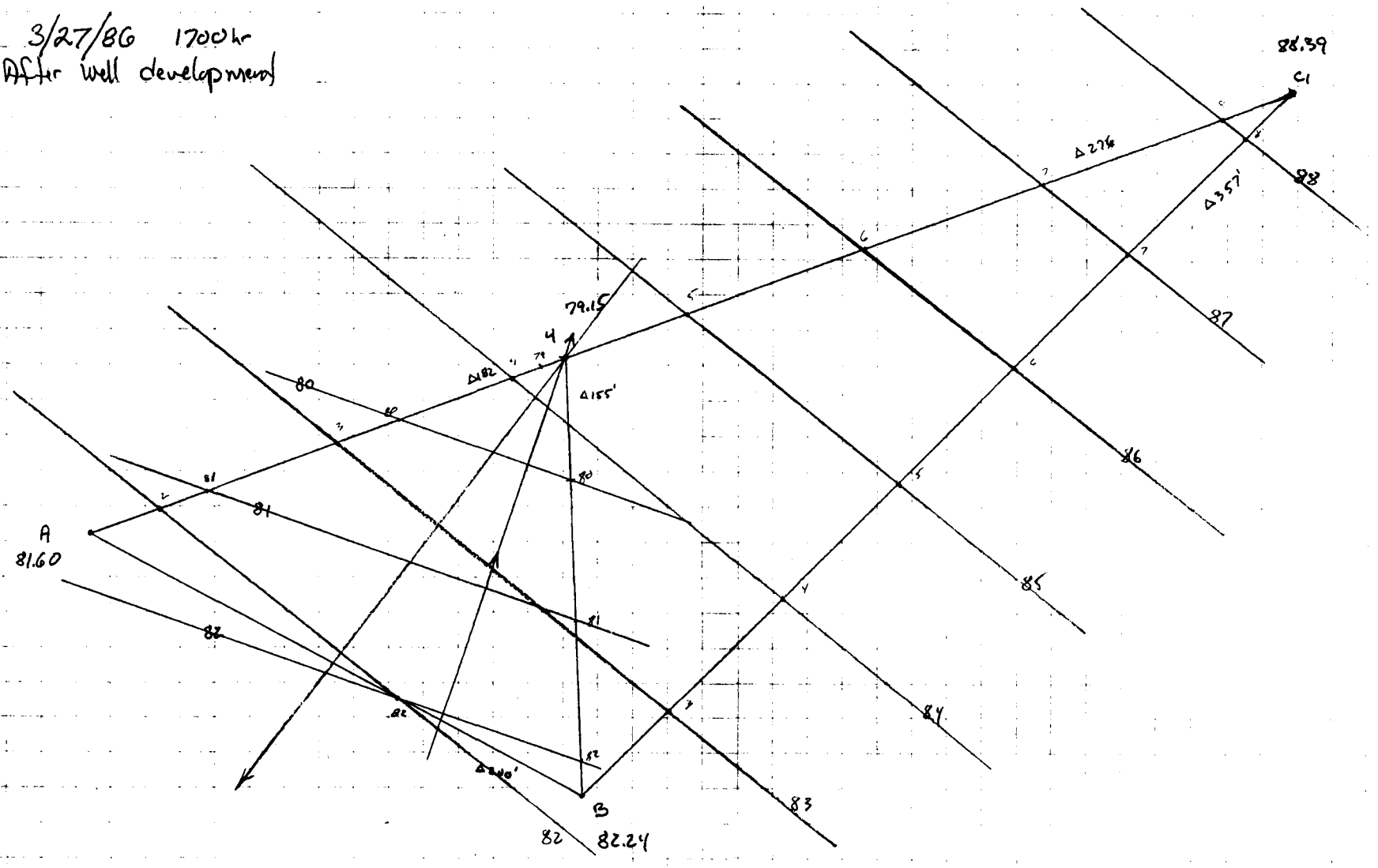


TOLS009778

BZTO104(e)046610

3/27/86 1700 hr

2½ hr. After well development



TOLS009779

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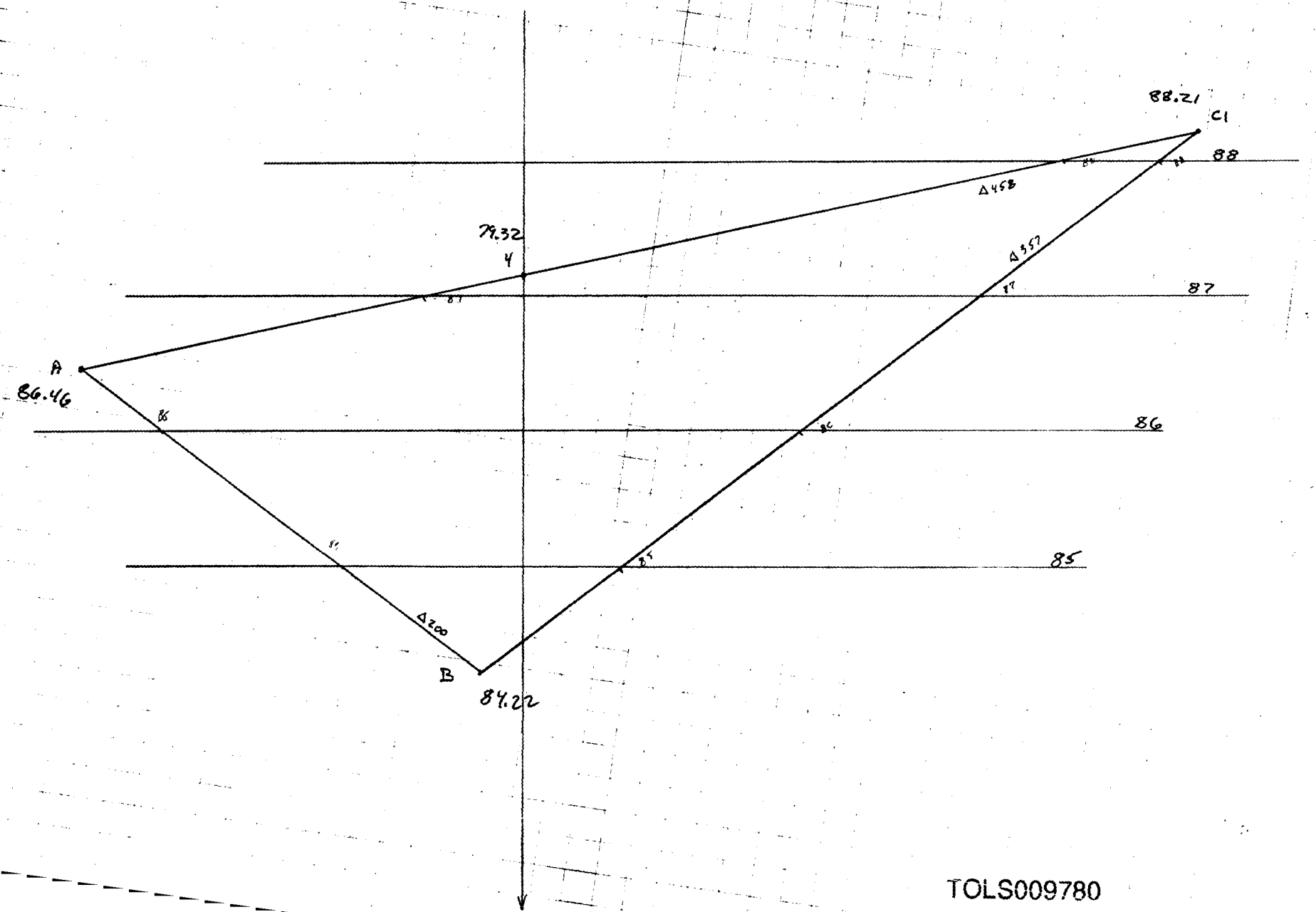
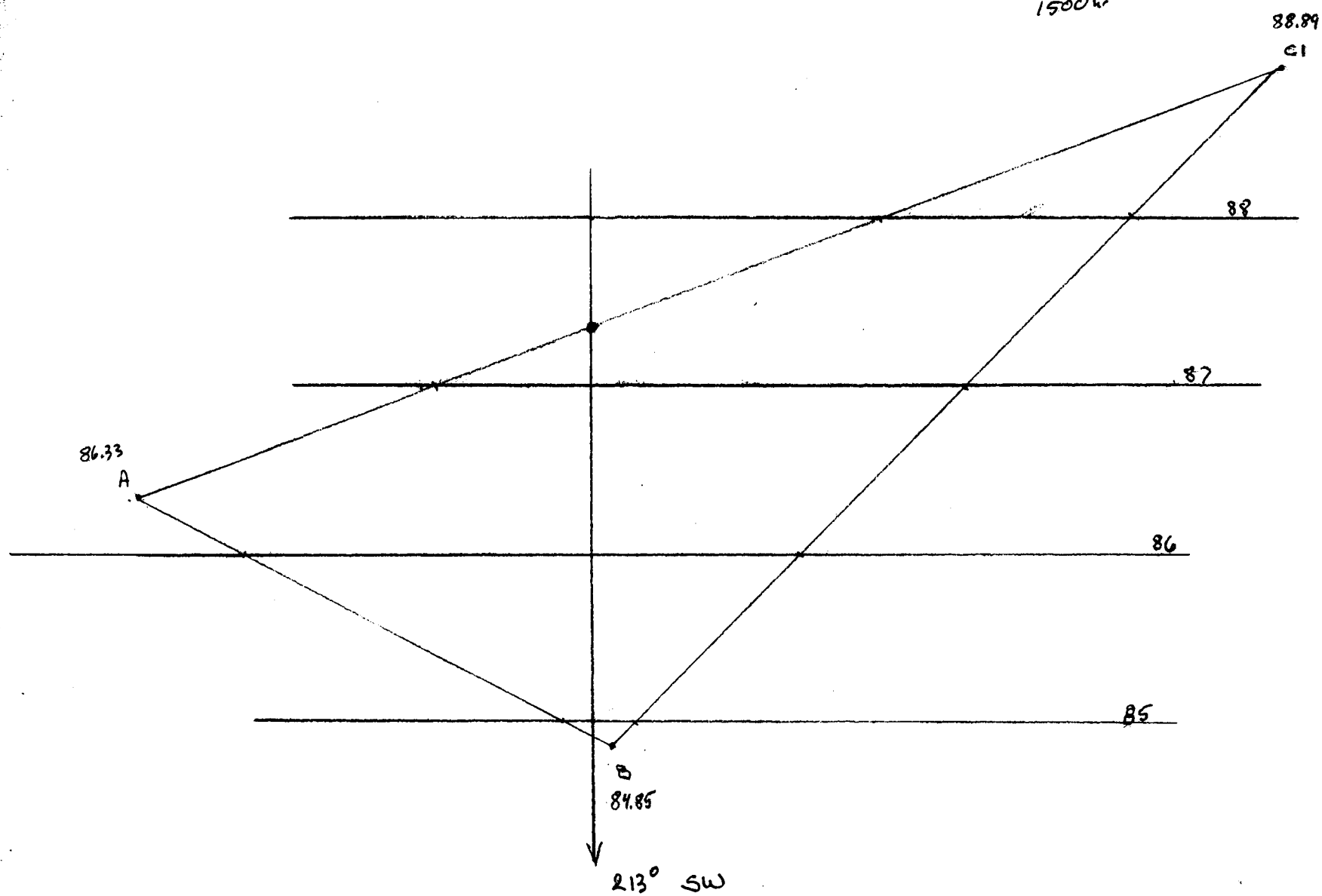
3/27/86 0700hr



TOLS009780

BZTO104(e)0...

3/4/86
1500 hr



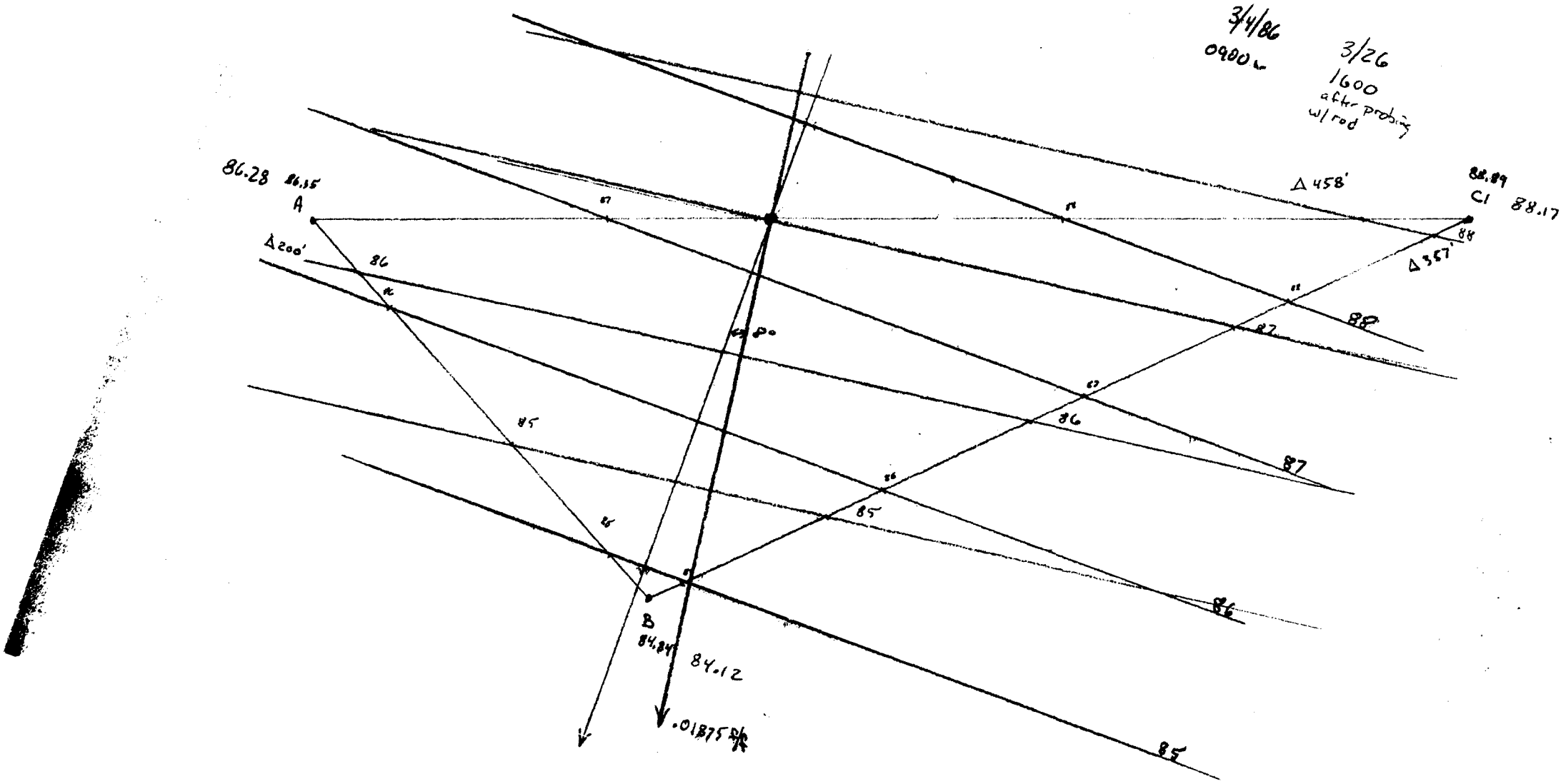
Gradient = 0.016 ft/ft

K = 45

V = 862 ft/yr

TOLS009781

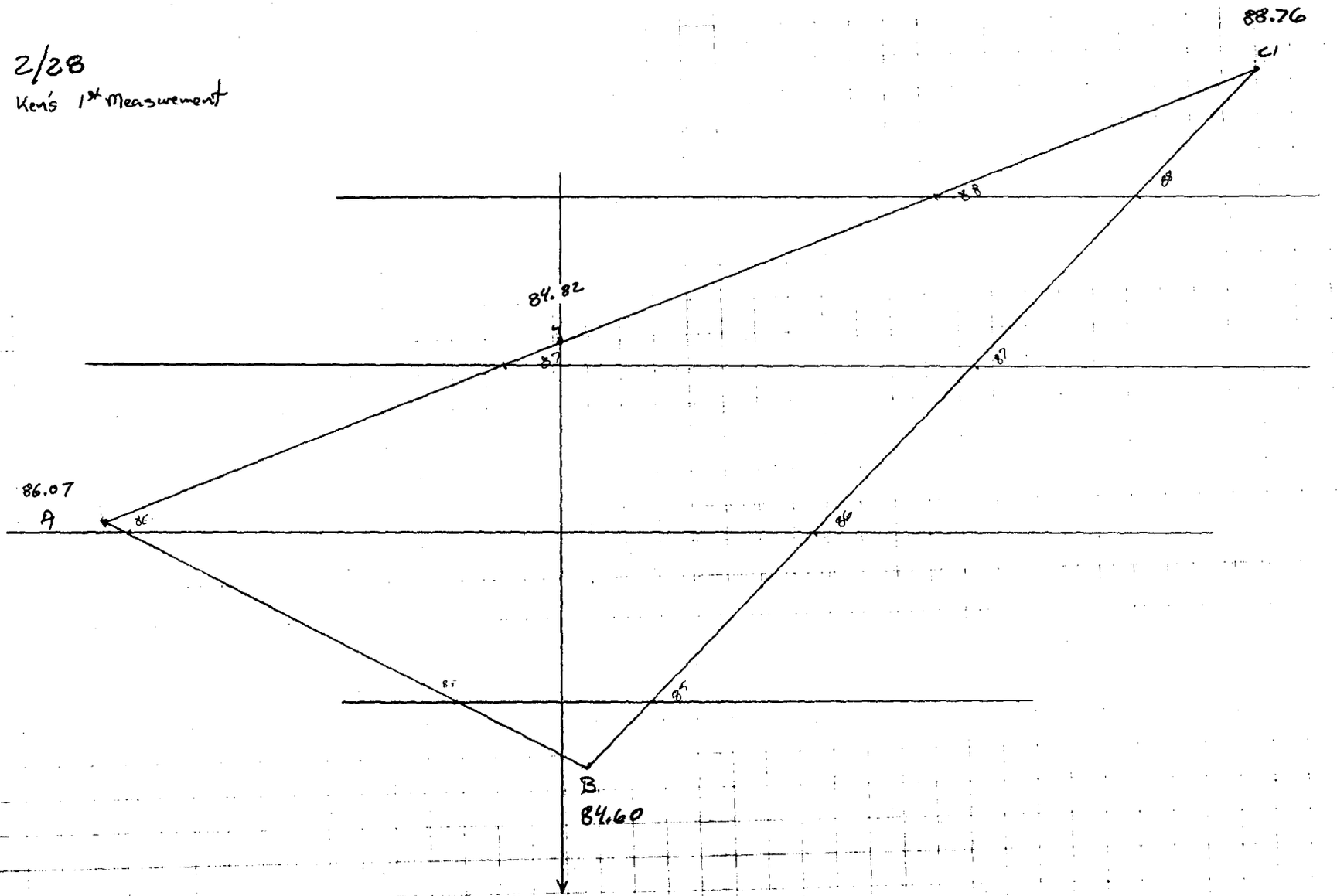
BZTO104(e)046613



TOLS009782

BZTO104(e)046614

2/28
Ken's 1st Measurement



TOLS009783

BZTO104(e)046615

Gradient to Well 4

	8/31 0930			4/2 0800		
	ΔDist	Δh	Gradient	ΔDist	Δh	Gradient
B	155	5.36	.0346		5.21	.0368
A	180	5.82	.0323		6.13	.0395
				F 192	6.56	.0342
E	200	6.06	.0303		6.49	.0324
C1	277	8.82	.0318		9.37	.0338
P1	308	9.45	.0307		9.90	.0321
				G 355	4.68	.0132
P2	380	9.96	.0262		10.38	.0273
P3	453	10.62	.0234		10.95	.0242
P4	550	10.58	.0192		11.09	.0202
F				[illegible]		.0342
G				[illegible]		.0132

TOLS009784

BZTO104(e)046616

BZTO104(e)046617

MONITORING WELL WATER LEVEL REPORT

LOCATION N. W. Terminal

1	2	3	4	5	6	7	8
GAUGER'S INITIALS	DATE	WELL NUMBER	REFERENCE READING	WATER CUT	DEPTH TO WATER (4-5)	REFERENCE ELEVATION	WATER TAB ELEVATIO (6-7)
K.M.	2/28	A	13'	1.927	11.073	97.14	86.067
K.M.	2/28	B	14'	1.760	12.24	96.84	84.6
K.M.	2/28	C "1	10'	1.792	8.208	96.97	88.76
K.M.	2/28	C "2	8'	1.854	6.146	95.72	89.574
K.M.	2/28	"4	13'	1.343	11.657	96.48	84.82
R.G.	3/4	A	12'-0"	1'-2½"			
"	3/4	B	13'-6"	1'-6"			
"	3/4	C #1	10'-0"	1'-11"			
"	3/4	C #2	8'-0"	1'-10"			
"	3/4	#4	15'-0"	1'-2"			
R.G.	3/4	A	12'-0"	1.208	10.792	97.14	86.348
"	"	B	13'-6"	1.5	12.0	96.84	84.84
"	"	C-1	10'-0"	1.917	8.083	96.97	88.89
"	"	C-2	8'-0"	1.833	6.167	95.72	89.55
"	"	4	15'-0"	1.167	13.833	96.48	82.65
D.T.	3/4	A	12'	1'-2¼"			
"		B	13'-6"	1'-6⅛"			
"		C-1	10'-0"	1'-11"			
"		C-2	8'-0"	1'-10"			
"		4	15'-0"	1'-1¾"			

3/4 @ 1500 HRS. PHYS.

3/4 @ 0900 CALC.

3/4 @ 1500 HRS. PHYS.

TOLS009786

MONITORING WELL WATER LEVEL REPORT

LOCATION N. W. TML (St. JOHNS)

1 GAUGER'S INITIALS	2 DATE	3 WELL NUMBER	4 REFERENCE READING	5 WATER CUT	6 DEPTH TO WATER (4-5)	7 REFERENCE ELEVATION	8 WATER TABLE ELEVATION (6-7)
D.T.	3/4	A	12'	1.188	10.812	97.14	86.33
		B	13'-6"	1.51	11.99	96.84	84.85
		C-1	10'-0"	1.917	8.083	96.97	88.89
		C-2	8'-0"	1.833	6.167	95.72	89.55
		4	15'-0"	1.146	13.854	96.48	82.63
D.T.	3/5	A	12'-0"	1'-2 3/8"			
	"	B	13'-6"	1-7 1/2			
	"	C-1	10'-0"	1'-11"			
	"	C-2	8'-0"	1'-9 5/8"			
	"	4	16'-0"	1'-3 7/8			
D.T.	3/5	A	12'-0"	1.198	10.802	97.14	86.34
	"	B	13'-6"	1.625	11.875	96.84	84.97
	"	C-1	10'-0"	1.917	8.083	96.97	88.89
	"	C-2	8'-0"	1.802	6.198	95.72	89.52
	"	4	16'-0"	1.323	14.677	96.48	81.80
D.T	3/5	A	12'-0"	1'-3 5/8"			
"	"	B	13'-6"	1'-7 5/8"			
"	"	C-1	10'-0"	1'-11			
"	"	C-2	8'-0"	1'-9 5/8			
"	"	4	16'-0"	1'-2 1/4"			

3/4 1600 HRS. CALC.

3/5 @ 0700 PM'P.

3/5 0700 CALC.

3/5 3/5 1500 HRS.

TOLS009787

BZTO104(e)046619

MONITORING WELL WATER LEVEL REPORT

LOCATION N.W TML (St. JOHNS)

1 GAUGER'S INITIALS	2 DATE	3 WELL NUMBER	4 REFERENCE READING	5 WATER CUT	6 DEPTH TO WATER (4-5)	7 REFERENCE ELEVATION	8 WATER TABLE ELEVATION (6-7)
D.T.	3/5	A	12'-0"	1.302	10.698	97.14	86.44
		B	13'-6"	1.635	11.865	96.84	84.98
		C-1	10'-0"	1.917	8.083	96.97	88.89
		C-2	8'-0"	1.802	6.198	95.72	89.52
		H	16'-0"	1.188	14.812	96.48	81.67
D.T.	3/6	A	12'-0"	1'-3 5/8"			
		B	13'-6"	1'-7 3/8"			
		C-1	10'-0"	1'-11 1/8			
		C-2	8'-0"	1'-9 5/8			
		H	17'-0"	1'-3 5/8			
D.T.	3/6	A	12'-0"	1.302	10.698	97.14	86.44
		B	13'-6"	1.615	11.885	96.84	84.96
		C-1	10'-0"	1.927	8.073	96.97	88.90
		C-2	8'-0"	1.802	6.198	95.72	89.52
		H	17'-0"	1.302	15.698	96.48	80.78
D.T.	3/6	A	12'-0"	1'-3 5/8"			
		B	13'-6"	1'-7 3/8"			
		C-1	10'-0"	1'-11"			
		C-2	8'-0"	1'-9 5/8"			
		H	17'-0"	1'-2 7/8"			

3/5/86 @1300 HRS. CALC.

3/6/86 @0900 HRS. PM/S.

3/6/86 0900 HRS. CALC.

3/6/86 1100 HRS. PM/S.

TOLS009788

BZTO104(e)046620

MONITORING WELL WATER LEVEL REPORT

LOCATION N.W. TML. (St. Louis

1 GAUGER'S INITIALS	2 DATE	3 WELL NUMBER	4 REFERENCE READING	5 WATER CUT	6 DEPTH TO WATER (4-5)	7 REFERENCE ELEVATION	8 WATER TABLE ELEVATION (6-7)
D.T.	3/6	A	12'-0"	1.302	10.698	97.14	86.44
"	"	B	13'-6"	1.615	11.885	96.84	84.96
"	"	C-1	10'-0"	1.917	8.083	96.97	88.89
"	"	C-2	8'-0"	1.802	6.198	95.72	89.52
"	"	4	17'-0"	1.24	15.76	96.48	80.72
	3/11	A					86.72
	"	B					85.16
	"	C-1					88.89
	"	C-2					89.50
	"	4					82.28

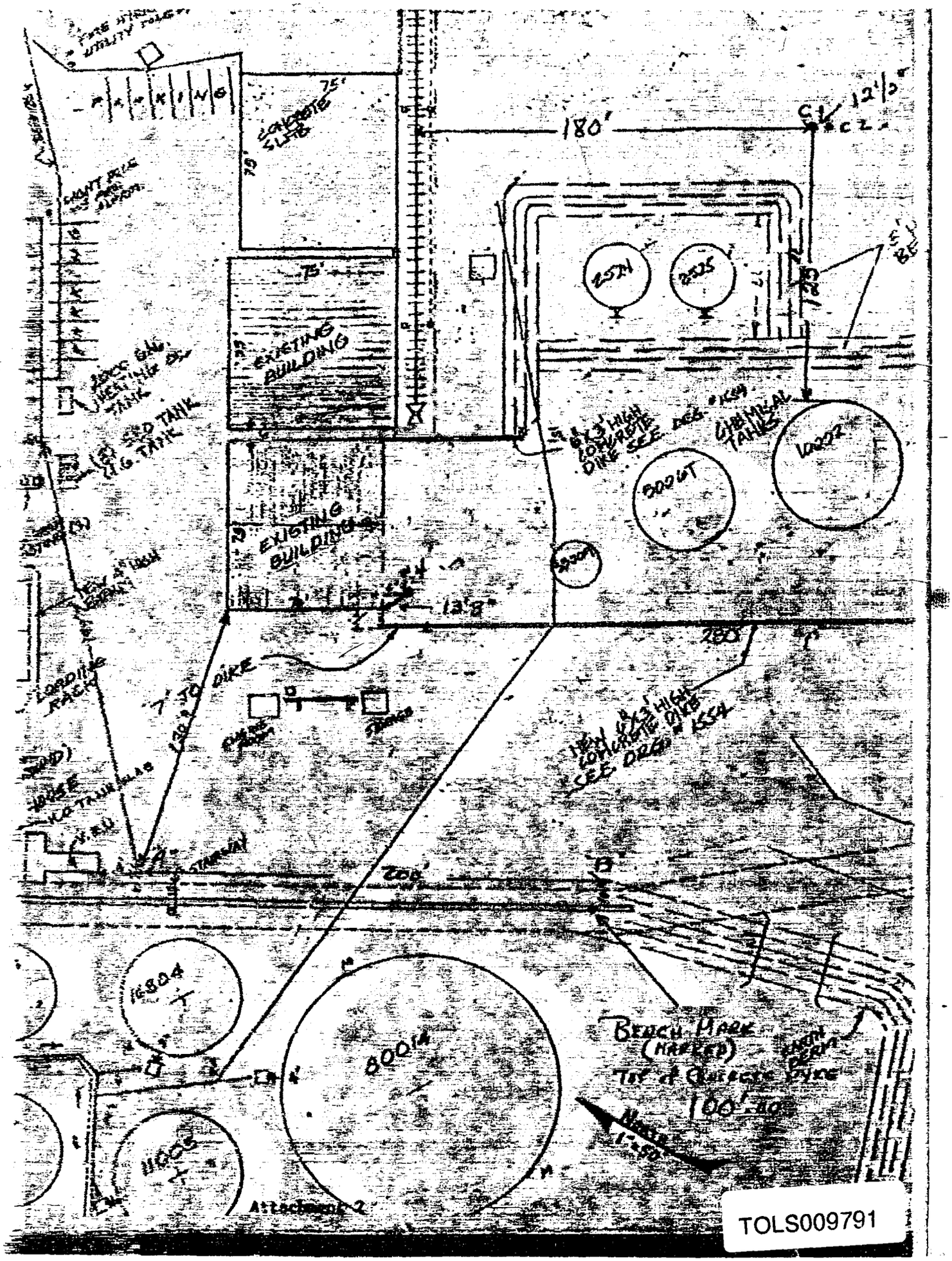
3/6/86 1500 HRS. CHLC.

3/11/86 1600 Hr

TOLS009789

BZTO104(e)046621

FRED PROBY



TOLS009791

BZTO104(e)046623

MONITORING WELL WATER LEVEL REPORT

LOCATION N. W. Terminal

1	2	3	4	5	6	7	8
GAUGER'S INITIALS	DATE	WELL NUMBER	REFERENCE READING	WATER CUT	DEPTH TO WATER (4-5)	REFERENCE ELEVATION	WATER TA ELEVATI (6-7)
K.M.	2/28	A	13'	1.927	11.073	97.14	86.06
K.M.	2/28	B	14'	1.760	12.24	96.84	84.6
K.M.	2/28	C"1	10'	1.792	8.208	96.97	88.76
K.M.	2/28	C"2	8'	1.854	6.146	95.72	89.57
K.M.	2/28	H	13'	1.345	11.657	96.48	84.8

TOLS009792

BZTO104(e)046624

Reading at Backstake 11 7/8"

A - 46 1/4" - 11 7/8 = R.E. 97.14'

B - 49 3/4" - 11 7/8 = R.E. 96.84'

C#1 48 1/4" - 11 7/8 = R.E. 96.97'

C#2 63 1/4 - 11 7/8 = R.E. 95.72'

#4 54 1/8 - 11 7/8 = 96.48'

A Rod Read 13' water cut 1'1 1/8"
B " " 14' " " 1'9 1/4"
C#1 " " 10' " " 1'9 1/2"
C#2 " " 8' " " 1'10 1/4"
#4 " " 13' " " 1'4 1/8"

TOLS009793

M E M O R A N D U M

February 21, 1986

TO: Ken McAlpine — Gig Harbor
Neil Wallis — Portland

FROM: Fred Proby — Seattle

SUBJECT: NORTHWEST TERMINAL WELL POINTS

The following instructions are for installing well points to enable measuring water table elevations at Northwest Terminal:

1. Install well points to a total depth of 20' at locations A, B and C shown on attached map (attachment 1). Well should be vertical. If indicated locations are unsuitable due to underground lines or other obstructions show actual well location on blank map (attachment 2) and provide reference measurements.

2. Top of well should extend approximately 2 feet above ground surface. Cover well with threaded cap. Drive stakes around well and mark with colored surveyor's tape.

3. Affix well tags to three well points and existing 4" well using plastic tie bands.

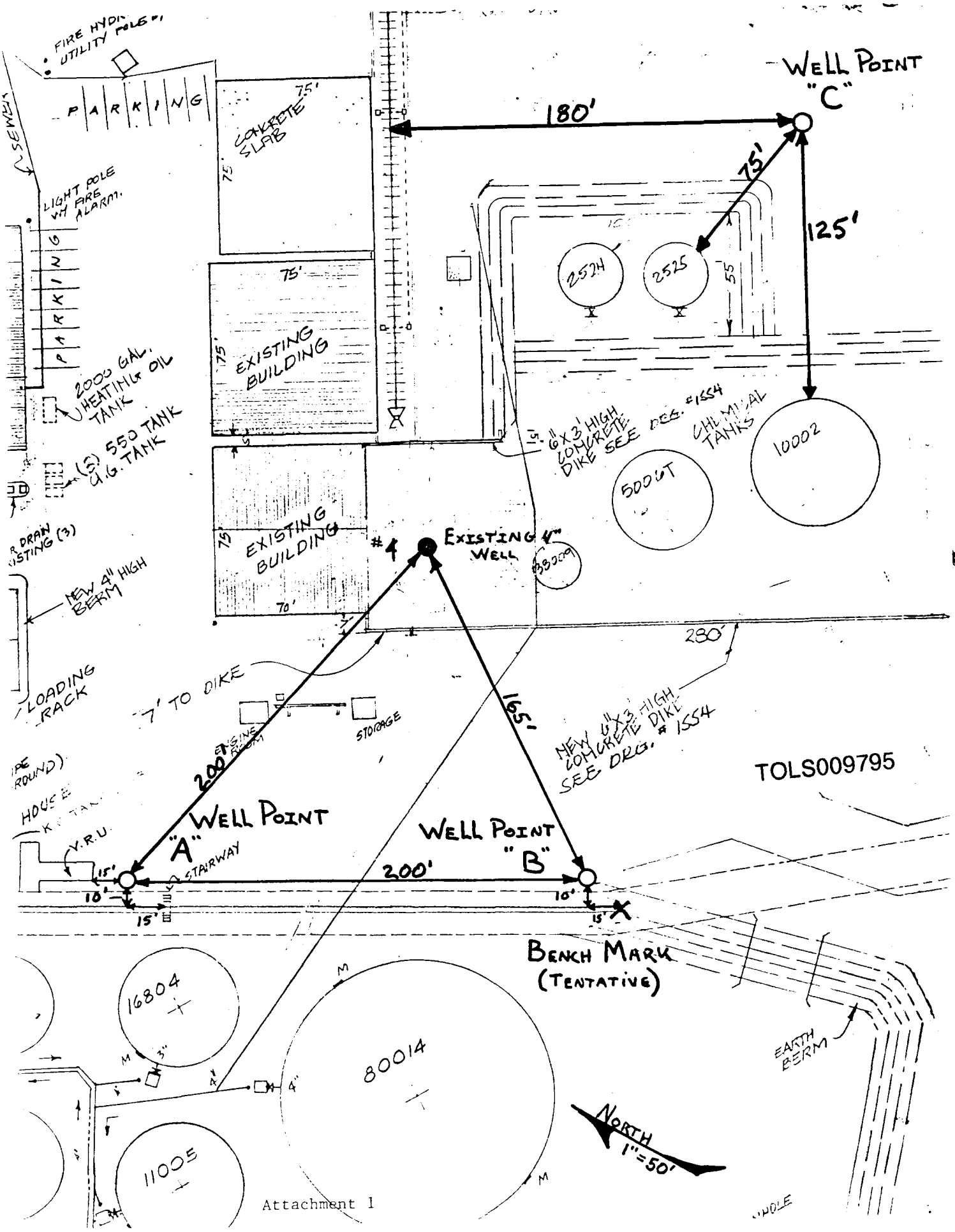
4. File small notch on north side of well rim for use as reference mark. Survey elevation of reference mark relative to common bench mark established for all wells. Arbitrarily designate bench mark elevation as 100.00'. Tentative bench mark location is shown on enclosed map (attachment 1). All four wells (three well points plus existing 4" well) need to be visible from bench mark. Bench mark location might have to be shifted to achieve this. Record reference elevations to nearest 1/100' on well tags and in field notes.

5. Let water stabilize for several hours following installation of well point then measure water level according to enclosed procedures (attachment 3).

attachment a/s

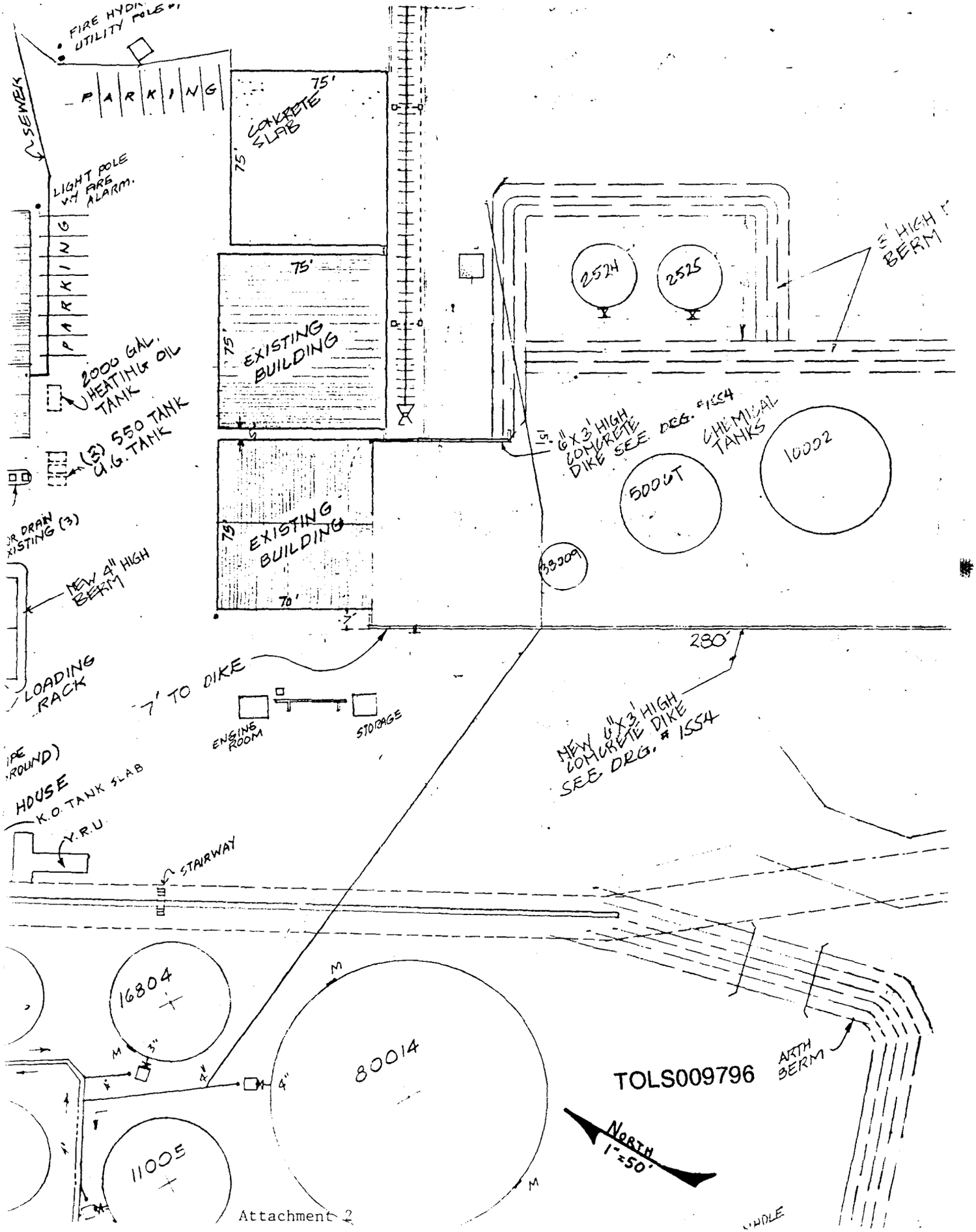
FLP/jam

TOLS009794



Attachment 1

BZTO104(e)046627



Attachment 2

WATER TABLE ELEVATION MEASUREMENT FOR MONITORING WELLS

The following procedure is to be followed when a tape and bob is used to measure water level in monitoring wells.

1. Rub a thin film of water indicating paste on the back of the tape from the one foot to the two foot mark.

2. Hold ungraduated side of tape in contact with the rim of the monitoring well at the reference point.

3. Lower tape and bob into well until bob touches surface of water.

4. When the bob is motionless, lower tape slowly until top of bob is submerged 6 to 10 inches below surface of water and an even "inch" graduation mark on the tape is at the reference point. Record tape reading at the reference point to the nearest 1/8 inch. This is the "reference reading".

5. Permit tape and bob to remain stationary in well from 15 to 20 seconds. More time may be required during cold weather. Paste will change color at cut line.

6. Withdraw tape and record "water cut" to the nearest 1/8 inch.

7. Subtract the water cut reading from the reference reading. This is the "depth to water". Example follows:

Reference reading	10 Ft. 4 In.
Water cut	1 Ft. 1 1/4 In.
Depth to water	9 Ft. 2 3/4 In.

8. REPEAT STEPS (1) THROUGH (7) UNTIL THE RESULTS OF TWO SUCCESSIVE GAUGINGS AGREE.

9. Subtract the "depth to water" from the "reference elevation" for that well. This is the "water table elevation". (The reference elevation is a surveyed elevation written on the well tag.)

10. Record results on Monitoring Well Water Level Report.

Attachment 3

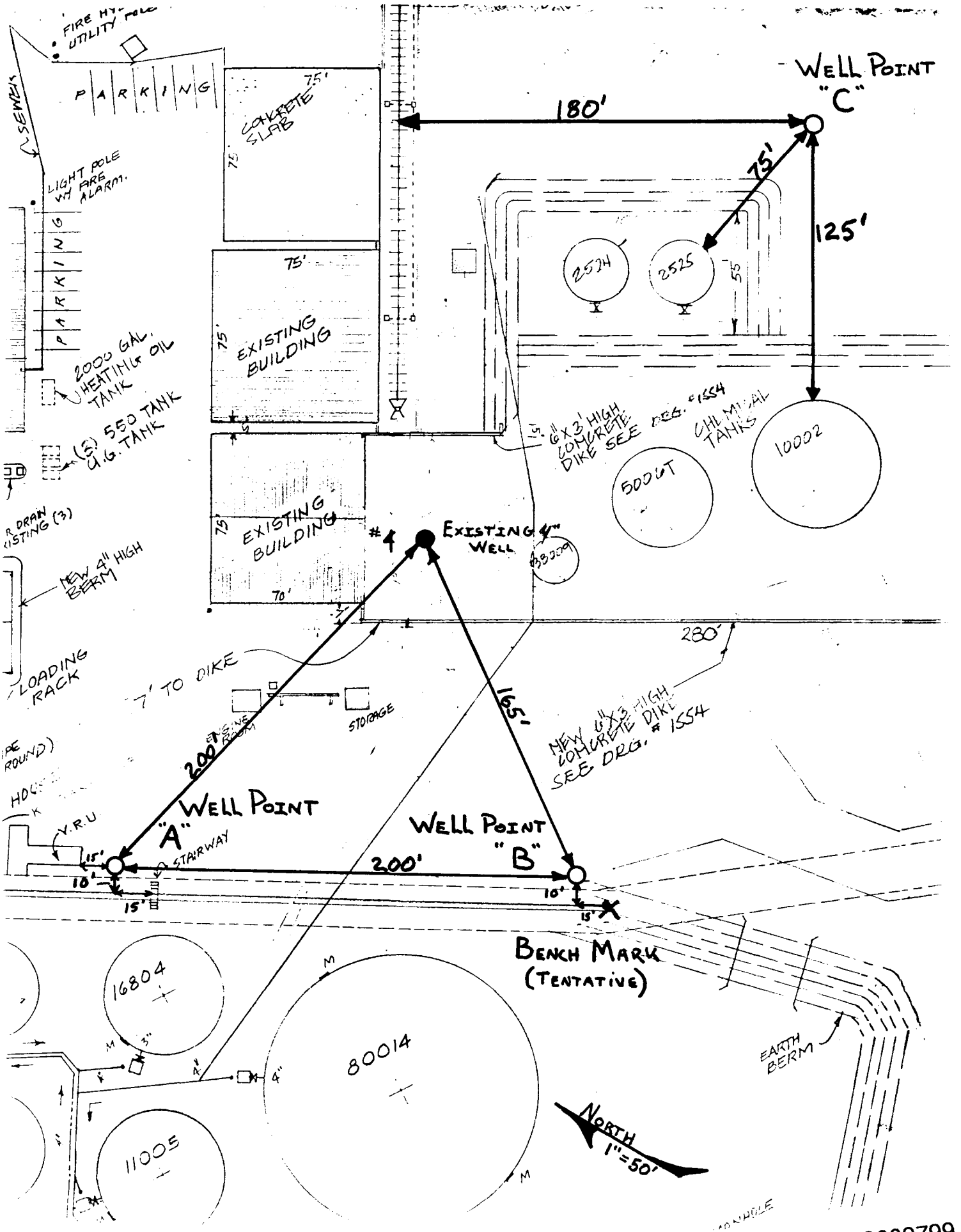
TOLS009797

MONITORING WELL WATER LEVEL REPORT

LOCATION_____

1	2	3	4	5	6	7	8
GAUGER'S INITIALS	DATE	WELL NUMBER	REFERENCE READING	WATER CUT	DEPTH TO WATER (4-5)	REFERENCE ELEVATION	WATER TABLE ELEVATION (6-7)

TOLS009798



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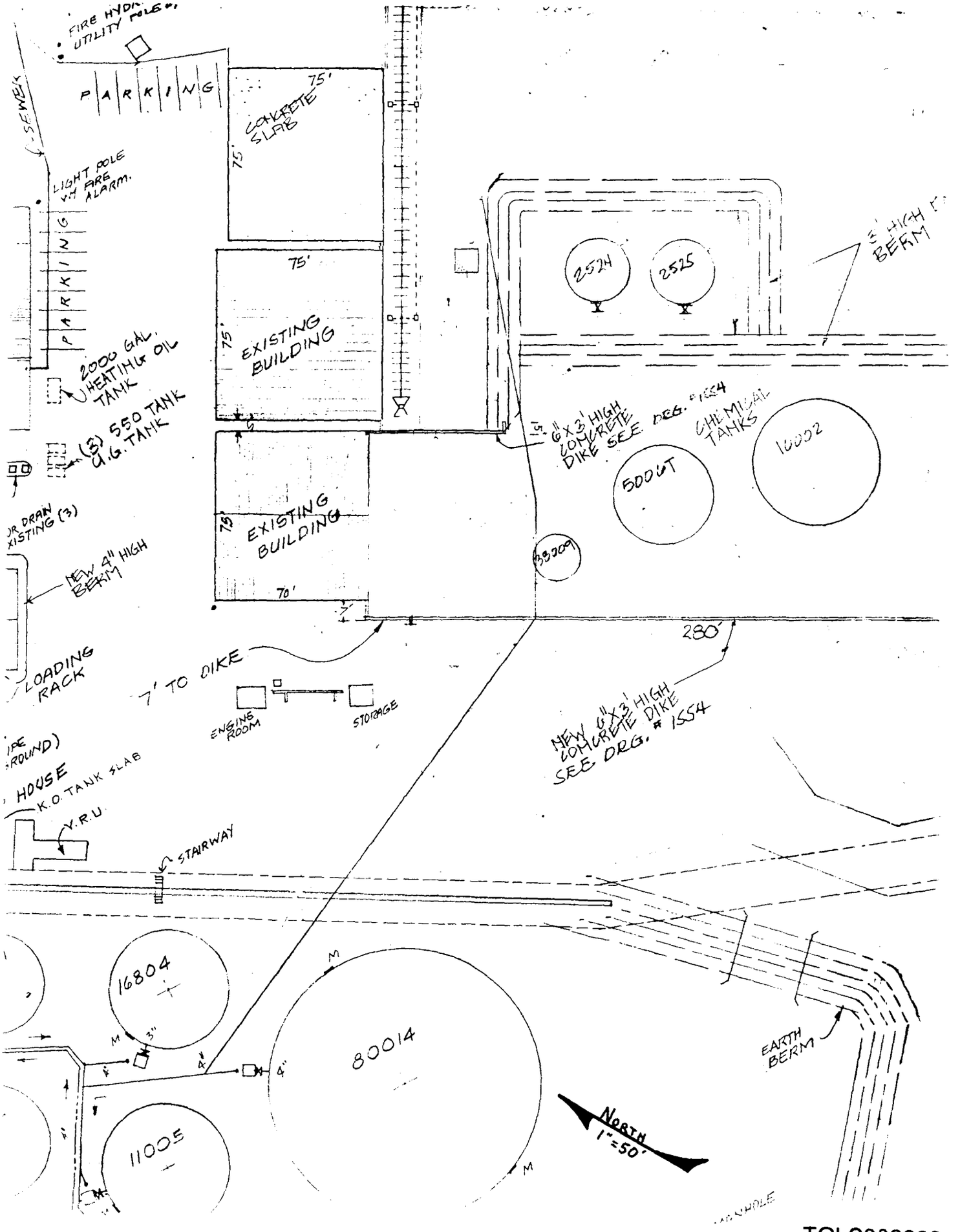


TOLS009800

BZTO104(e)046632

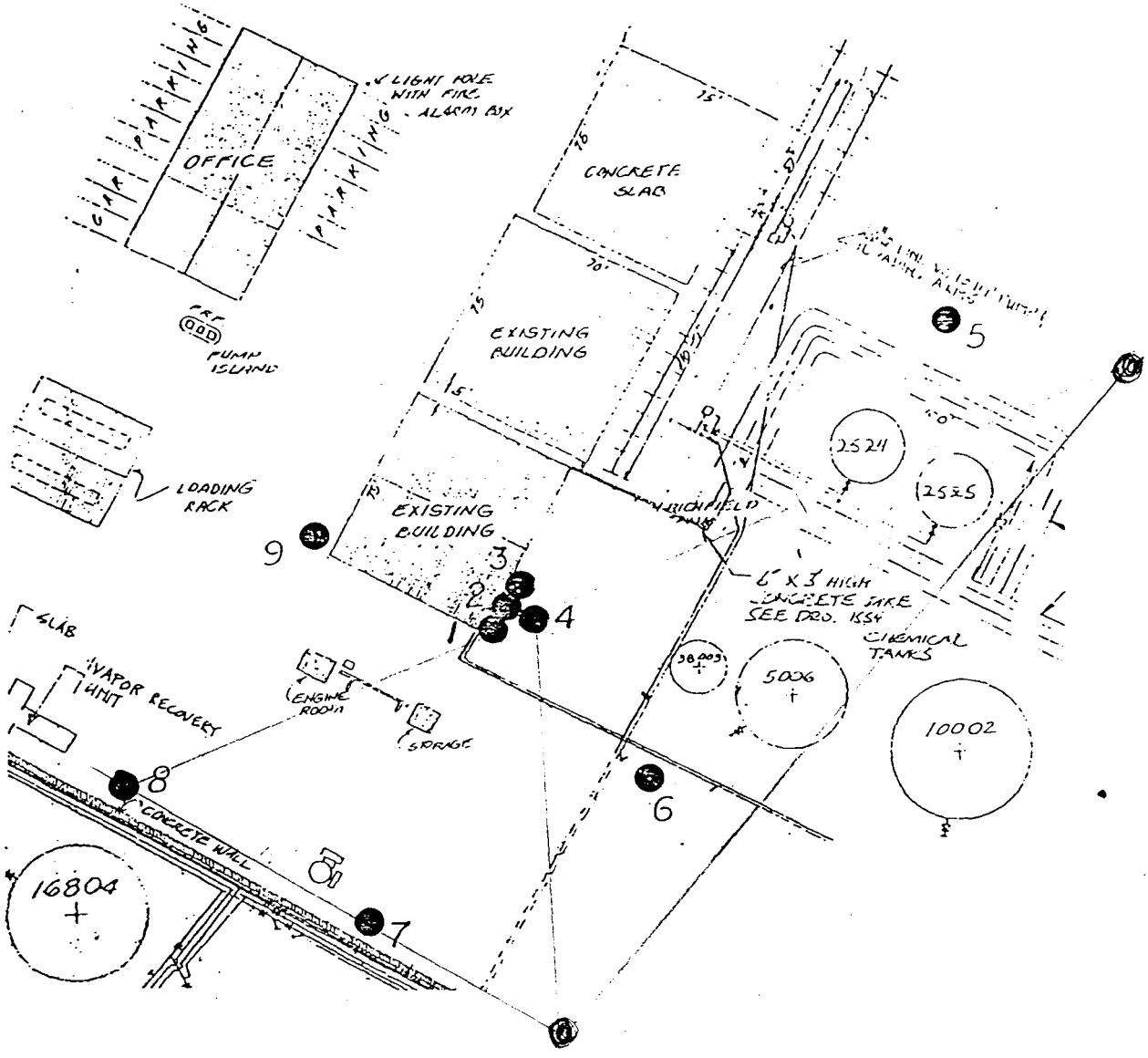


FIGURE 5-

1-4: Existing Monitoring Wells

5-9: Proposed Monitoring Wells

TOLS009801

NW Terminal Well Points

Ken McAlpine survey 2/27/86

	Elevation Relative to Transit	Bench mark minus Well	Elevation Relative to Bench Mark	
Bench Mark =	11 7/8 (.989')		100.00	Arbitrarily Assigned
A =	46 1/4 (3.854)	-2.865	97.14	"Reference Elevations"
B =	49 3/4 (4.146)	-3.157	96.84	
C_1 =	48 1/4 (4.021)	-3.032	96.97	
C_2 =	63 1/4 (5.271)	-4.282	95.72	
4 =	54 1/8 (4.510)	-3.521	96.48	

TOLS009802

Bm	11 7/8 .989	= 100.00		
A	46 1/4	3.854 2.865	2.	97.14
B	49 3/4	4.146 3.157		96.84
C-1	48 1/4	4.021 3.032		96.97
C-2	63 1/4	5.271 4.282		95.72
#1	54 1/8	4.510 3.521		96.48

2/27/86

Ken - NW. well Points

	#1	#2
Point C · 2 in ground	10'	12'

Broke hammer adapter on #2
fitting collapsed on #1
Both are in water

Installation schedule:

A · Monday · 11 AM 2/24
B · Mandy 2 pm
C1 ~~10'~~ mon 5 pm
C2 · 12 Tues 9 am 2/25 less accurate

will shoot elevations this AM 2/27

- Ken went through procedure with Ron of NW team

TOLS009804

BZTO104(e)046636

M E M O R A N D U M

February 21, 1986

TO: Ken McAlpine — Gig Harbor
Neil Wallis — Portland

FROM: Fred Proby — Seattle

SUBJECT: NORTHWEST TERMINAL WELL POINTS

The following instructions are for installing well points to enable measuring water table elevations at Northwest Terminal:

1. Install well points to a total depth of 20' at locations A, B and C shown on attached map (attachment 1). Well should be vertical. If indicated locations are unsuitable due to underground lines or other obstructions show actual well location on blank map (attachment 2) and provide reference measurements.

2. Top of well should extend approximately 2 feet above ground surface. Cover well with threaded cap. Drive stakes around well and mark with colored surveyor's tape.

3. Affix well tags to three well points and existing 4" well using plastic tie bands.

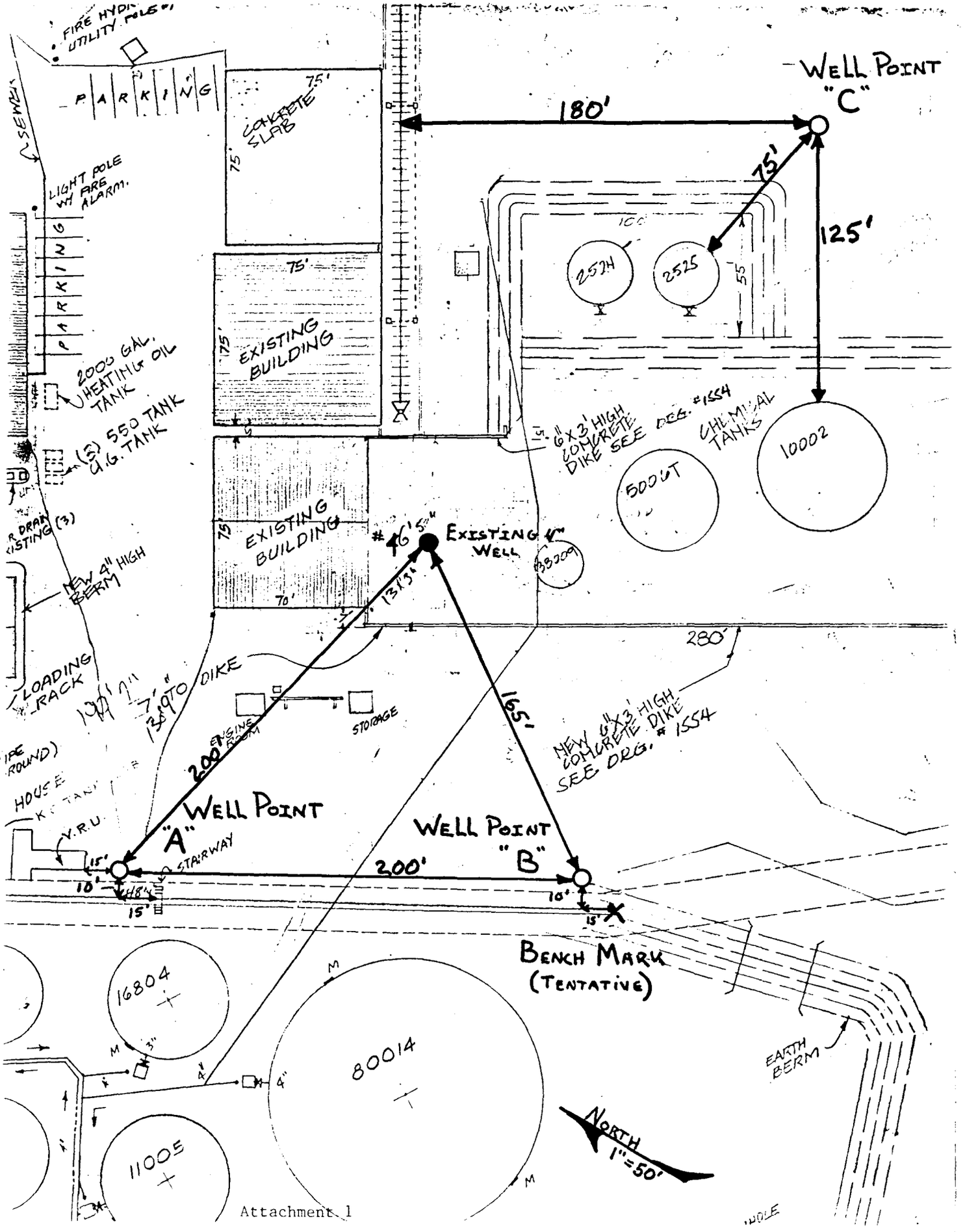
4. File small notch on north side of well rim for use as reference mark. Survey elevation of reference mark relative to common bench mark established for all wells. Arbitrarily designate bench mark elevation as 100.00'. Tentative bench mark location is shown on enclosed map (attachment 1). All four wells (three well points plus existing 4" well) need to be visible from bench mark. Bench mark location might have to be shifted to achieve this. Record reference elevations to nearest 1/100' on well tags and in field notes.

5. Let water stabilize for several hours following installation of well point then measure water level according to enclosed procedures (attachment 3).

attachment a/s

FLP/jam

TOLS009805



Attachment 1

TOLS009806

BZTO104(e)046638

MONITORING WELL WATER LEVEL REPORT

LOCATION_____

1	2	3	4	5	6	7	8
GAUGER'S INITIALS	DATE	WELL NUMBER	REFERENCE READING	WATER CUT	DEPTH TO WATER (4-5)	REFERENCE ELEVATION	WATER TABLE ELEVATION (6-7)
K.M.	2/27	A	144"	7'4"	136 3/4"	~~97.14~~ 97 1/8	85' 8 1/8"
K.M.	2/27	B	156"	3'8"	152 7/8	~~96.84~~	
K.M.	2/27	C #1					
		A	13'	1.927	11.073	97.14	86.067
		B	14'	1.760	12.24	96.84	84.6
		C #1	10'	1.792	8.208	96.97	88.76
		C #2	8'	1.854	6.146	95.72	89.574
		#4	13'	1.343	11.657	96.48	84.823

TOLS009807

BZTO104(e)046639

MONITORING WELL WATER LEVEL REPORT

LOCATION N. W. Terminal

1	2	3	4	5	6	7	8
GAUGER'S INITIALS	DATE	WELL NUMBER	REFERENCE READING	WATER CUT	DEPTH TO WATER (4-5)	REFERENCE ELEVATION	WATER TABLE ELEVATION (6-7)
K.M.	2/28	A	13'	1.927	11.073	97.14	86.067
K.M.	2/28	B	14'	1.760	12.24	96.84	84.6
K.M.	2/28	C #1	10'	1.792	8.208	96.97	88.76
K.M.	2/28	C #2	8'	1.854	6.146	95.72	89.574
K.M.	2/28	#4	13'	1.343	11.657	96.48	84.823

TOLS009808

BZTO104(e)046640

Reading at Bench Mark 11 7/8"

A - 46 1/4" - 11 7/8 = R.E 97.14'

B - 49 3/4" - 11 7/8 = RE 96.84'

C #1 48 1/4" - 11 7/8 = RE 96.97'

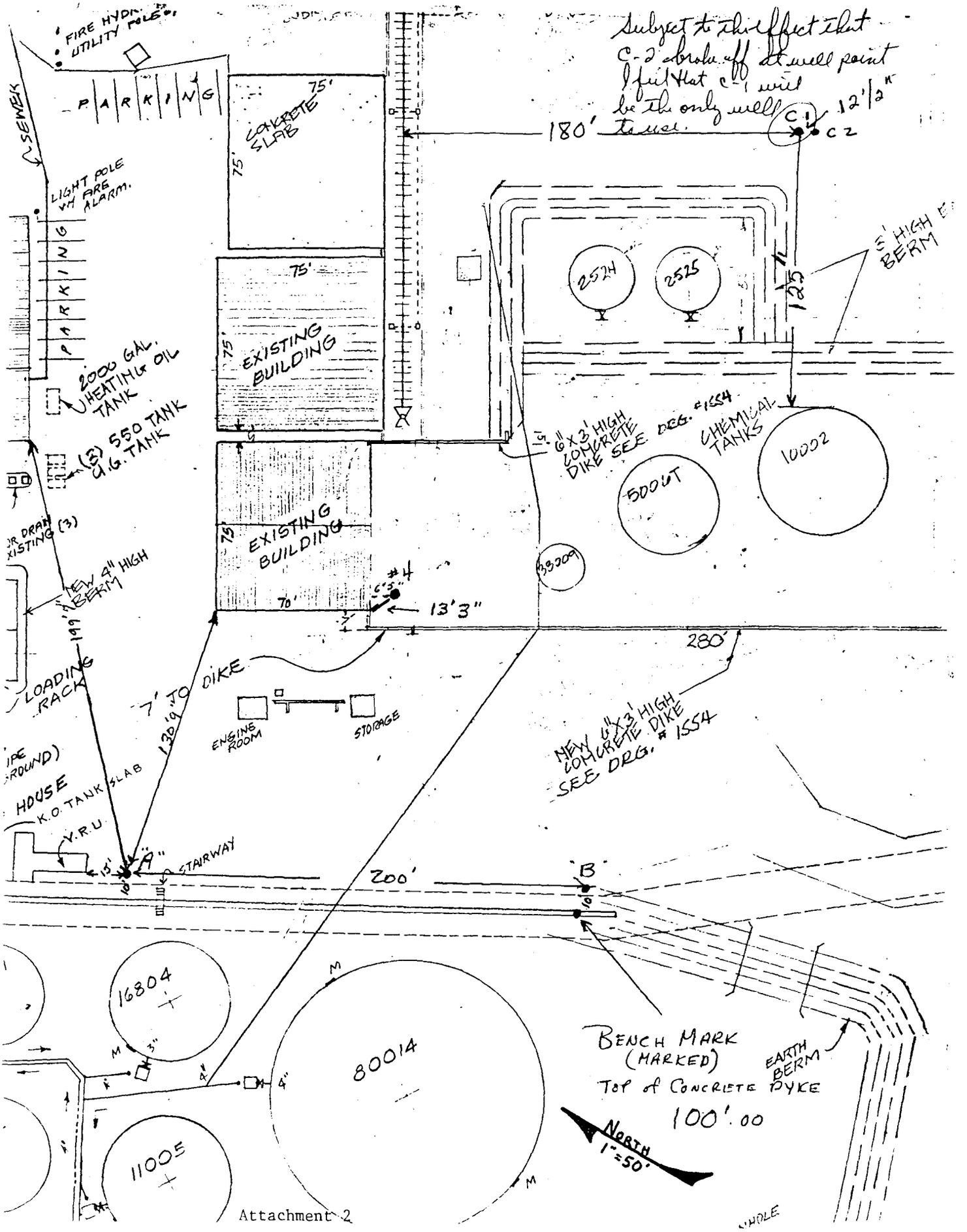
C #2 63 1/4" - 11 7/8 = R.E 95.72'

#4 54 1/8 - 11 7/8 = 96.48'

A Ref Read 13' Water Cut 1'1 1/8"
B " " 14' " " 1'9 1/8"
C #1 " " 10' " " 1'9 1/2"
C #2 " " 8' " " 1'10 1/4"
#4 " " 13' " " 1'4 1/8"

TOLS009809

BZTO104(e)046641



Attachment 2

TOLS009810

BZTO104(e)046642

WATER TABLE ELEVATION MEASUREMENT FOR MONITORING WELLS

The following procedure is to be followed when a tape and bob is used to measure water level in monitoring wells.

1. Rub a thin film of water indicating paste on the back of the tape from the one foot to the two foot mark.

2. Hold ungraduated side of tape in contact with the rim of the monitoring well at the reference point.

3. Lower tape and bob into well until bob touches surface of water.

4. When the bob is motionless, lower tape slowly until top of bob is submerged 6 to 10 inches below surface of water and an even "inch" graduation mark on the tape is at the reference point. Record tape reading at the reference point to the nearest 1/8 inch. This is the "reference reading".

5. Permit tape and bob to remain stationary in well from 15 to 20 seconds. More time may be required during cold weather. Paste will change color at cut line.

6. Withdraw tape and record "water cut" to the nearest 1/8 inch.

7. Subtract the water cut reading from the reference reading. This is the "depth to water". Example follows:

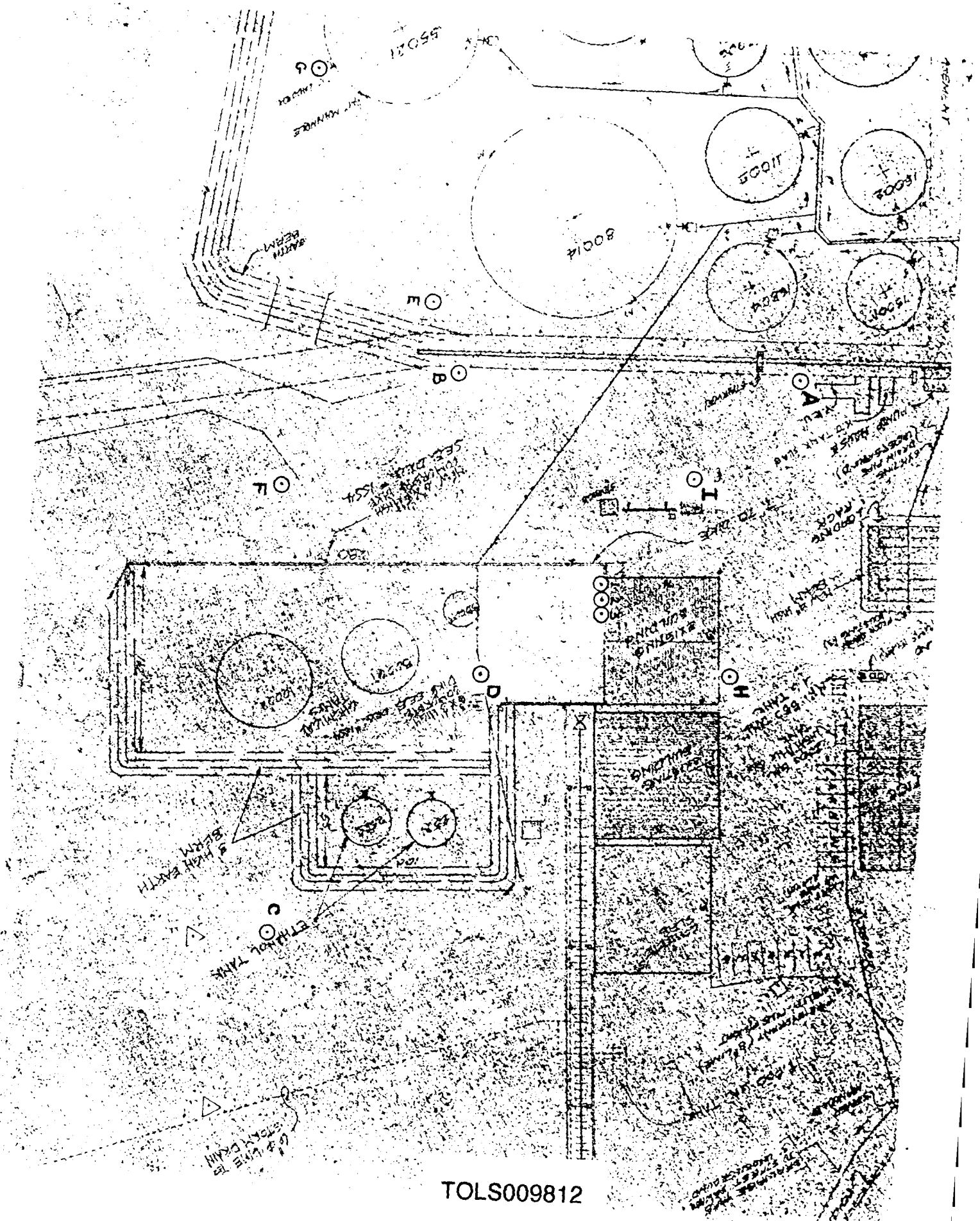
Reference reading	10 Ft. 4 In.
Water cut	1 Ft. 1 1/4 In.
Depth to water	9 Ft. 2 3/4 In.

8. REPEAT STEPS (1) THROUGH (7) UNTIL THE RESULTS OF TWO SUCCESSIVE GAUGINGS AGREE.

9. Subtract the "depth to water" from the "reference elevation" for that well. This is the "water table elevation". (The reference elevation is a surveyed elevation written on the well tag.)

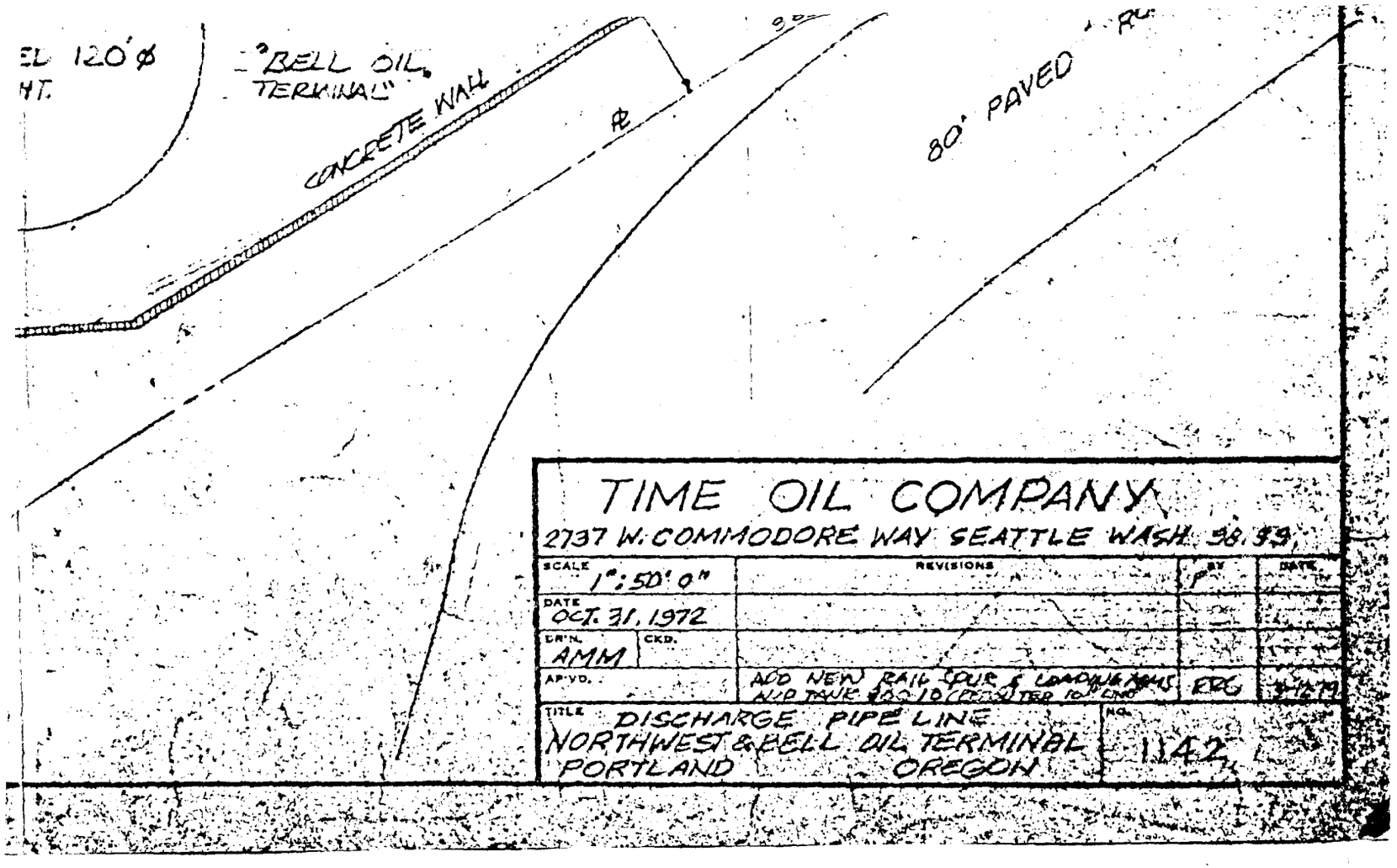
10. Record results on Monitoring Well Water Level Report.

Attachment 3



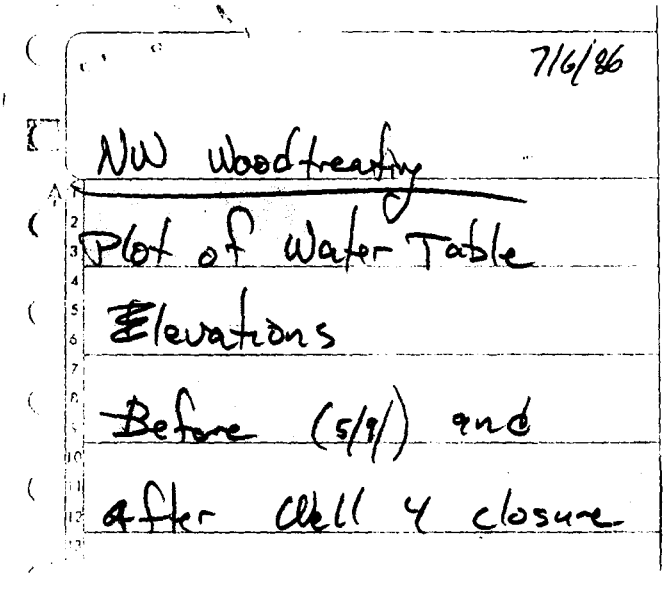
TOLS009812

BZTO104(e)046644

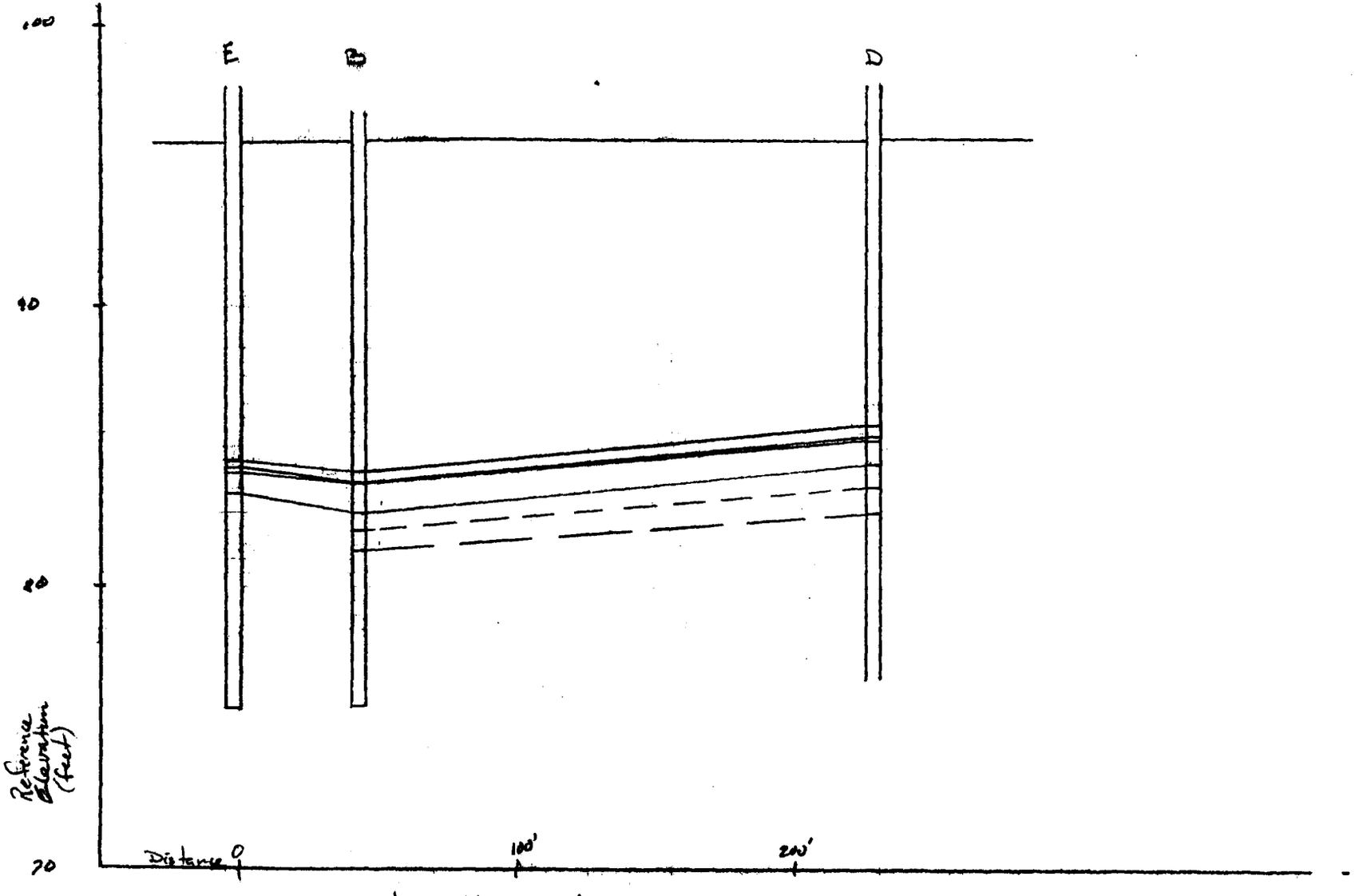


TOLS009813

BZTO104(e)046645

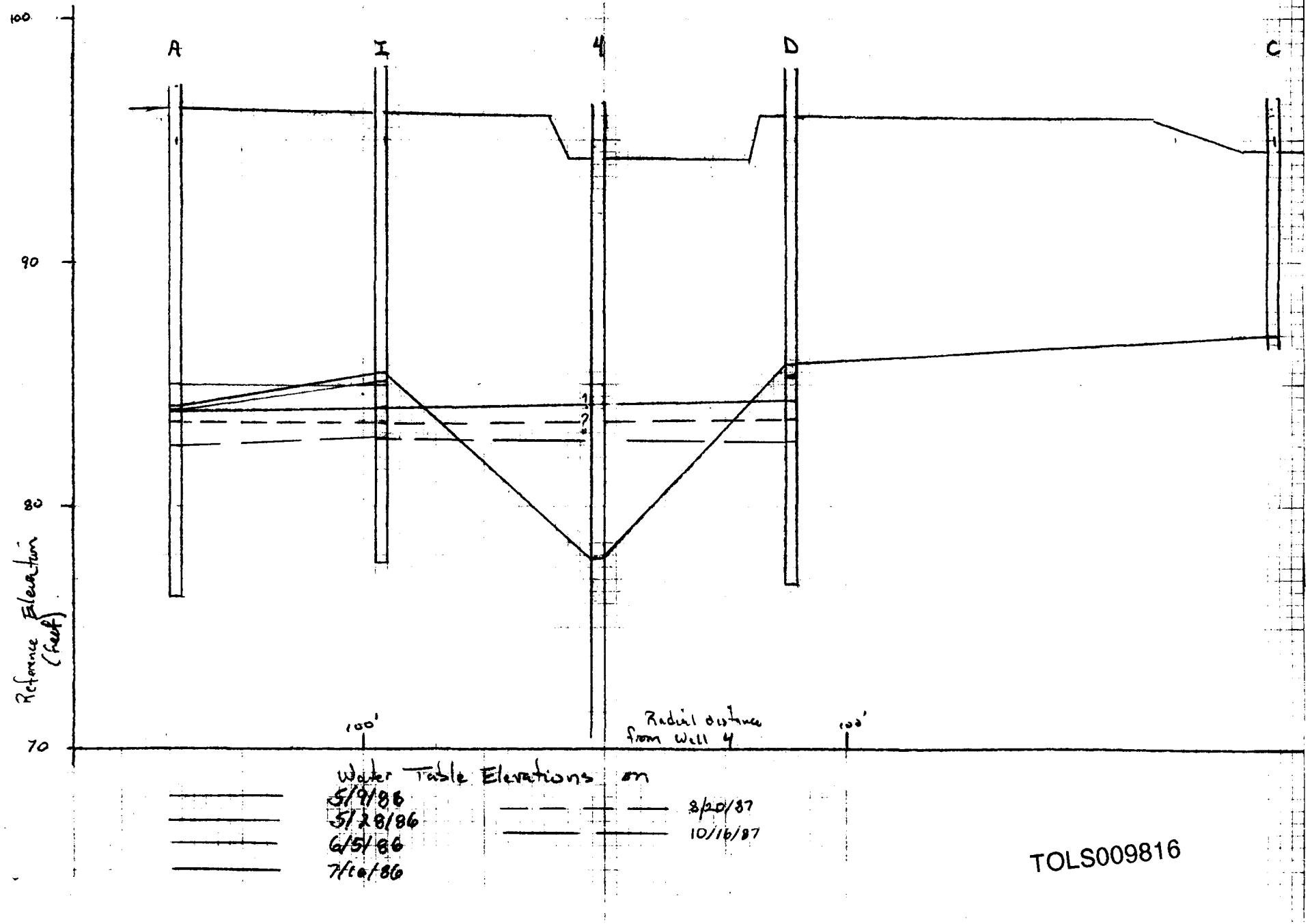

7/6/86
NW Woodtreating
Plot of Water Table
Elevations
Before (5/9/) and
after Cell 4 closure

TOLS009814



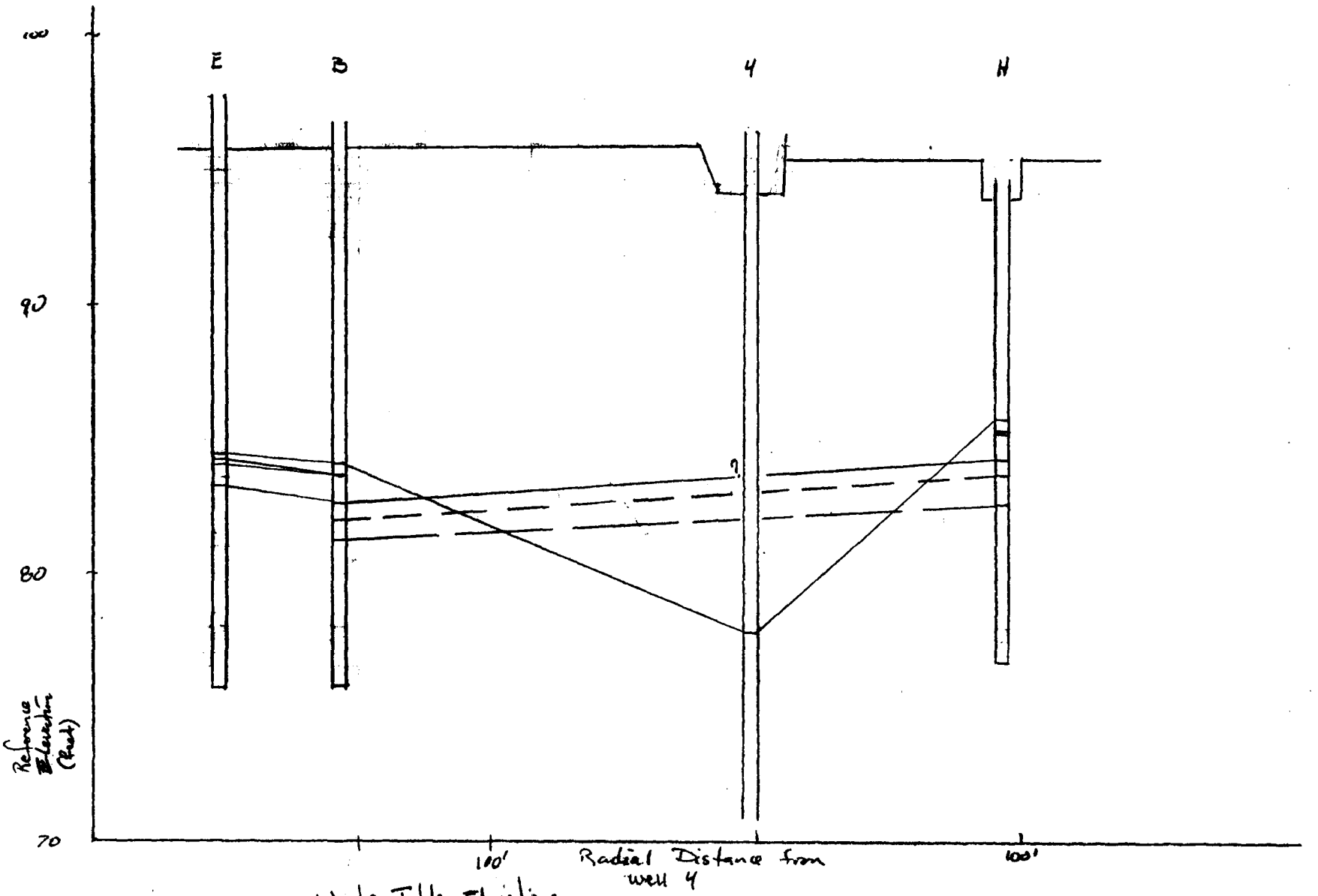
TOLS009815

BZTO104(e)046647



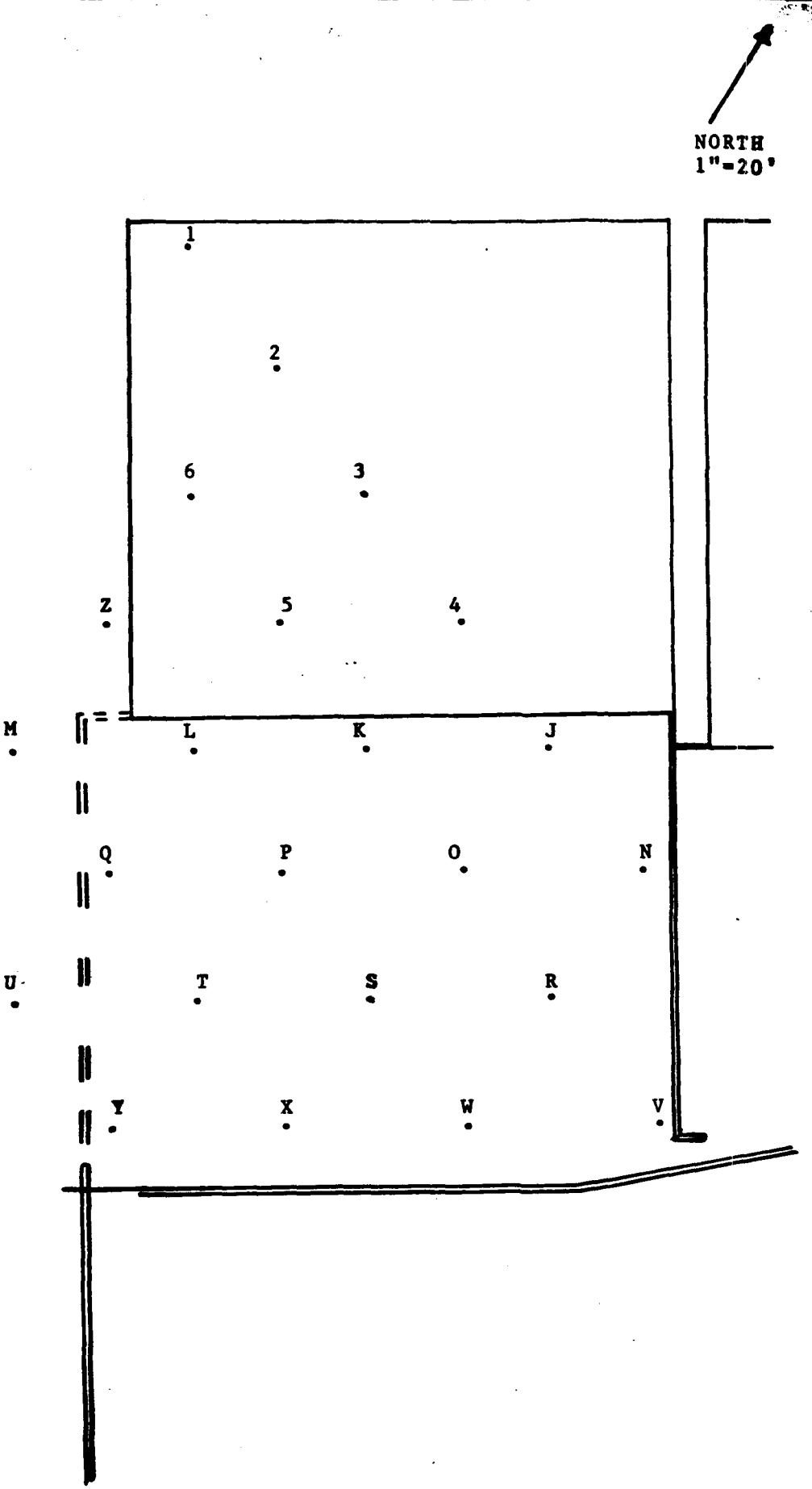
TOLS009816

BZTO104(e)046648



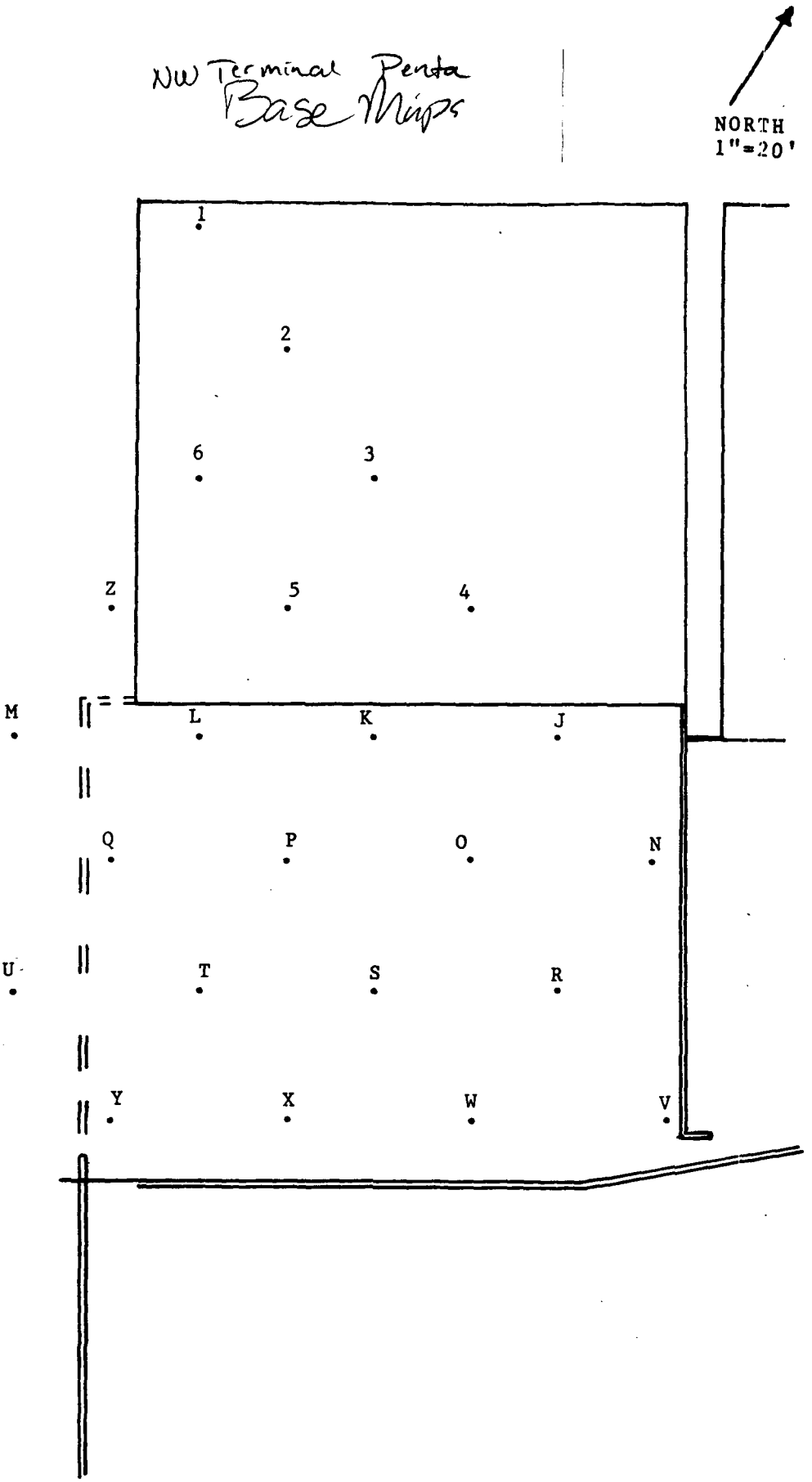
TOLS009817

BZTO104(e)046649



TOLS009818

NW Terminal Penta
Base Maps



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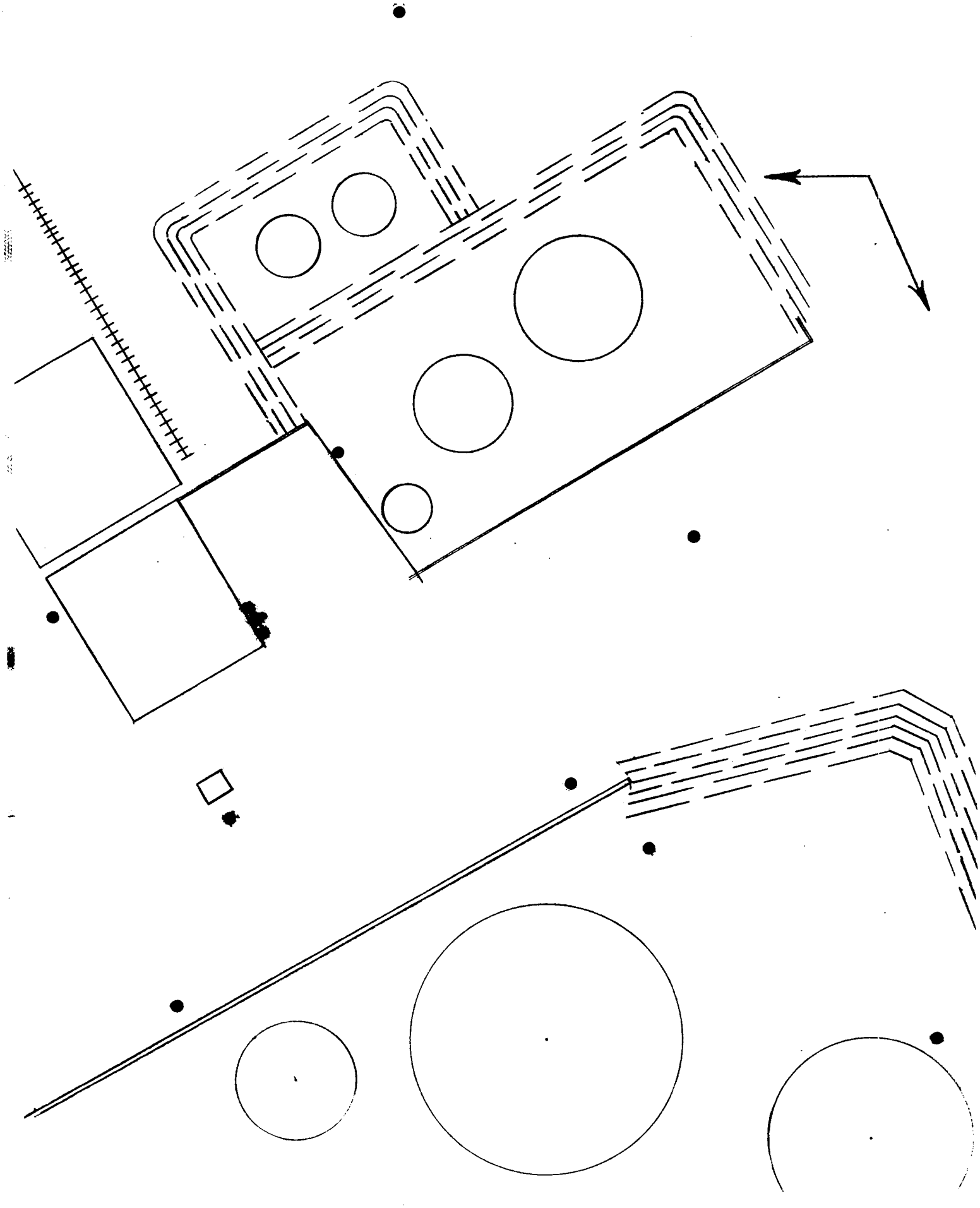
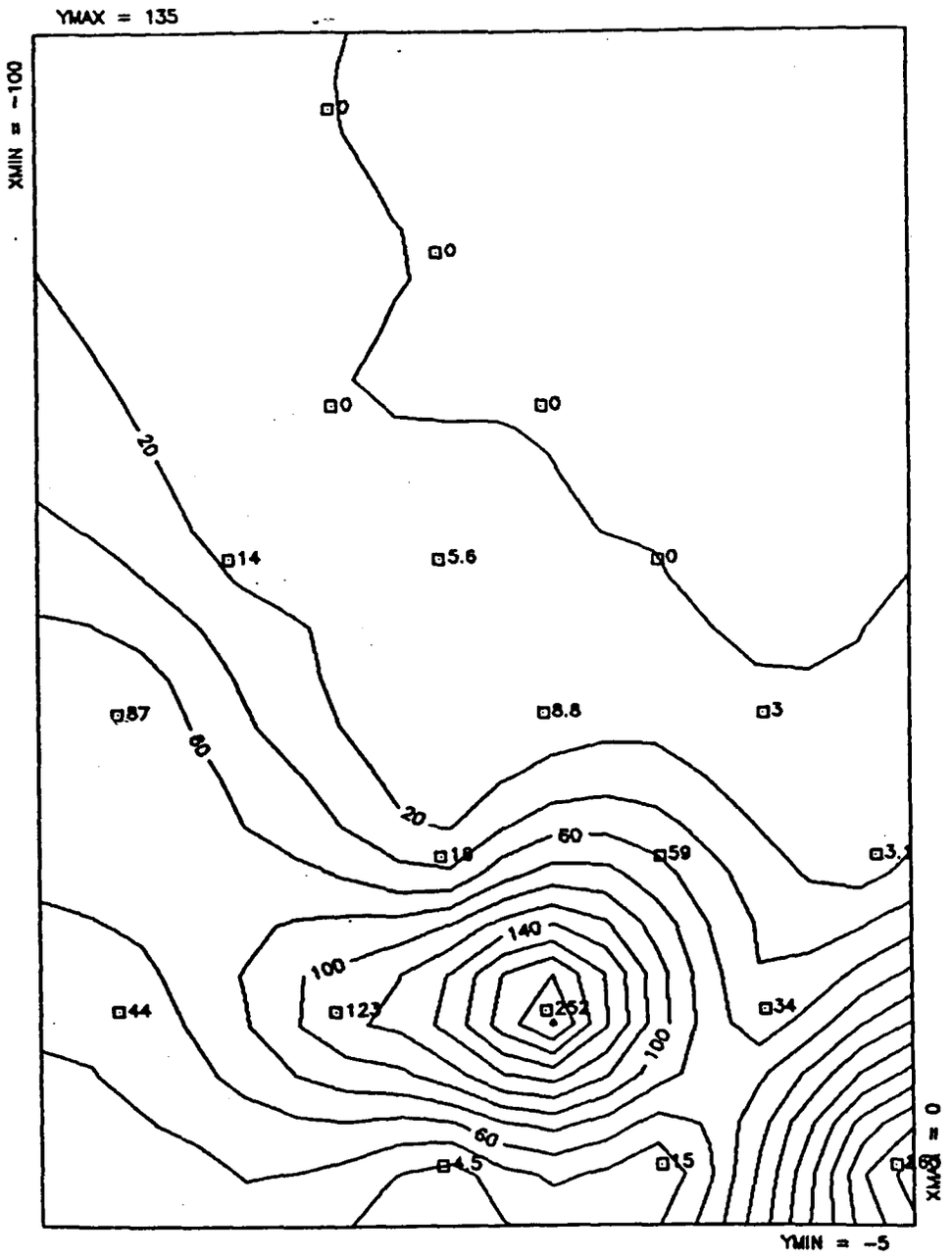


TOLS009820

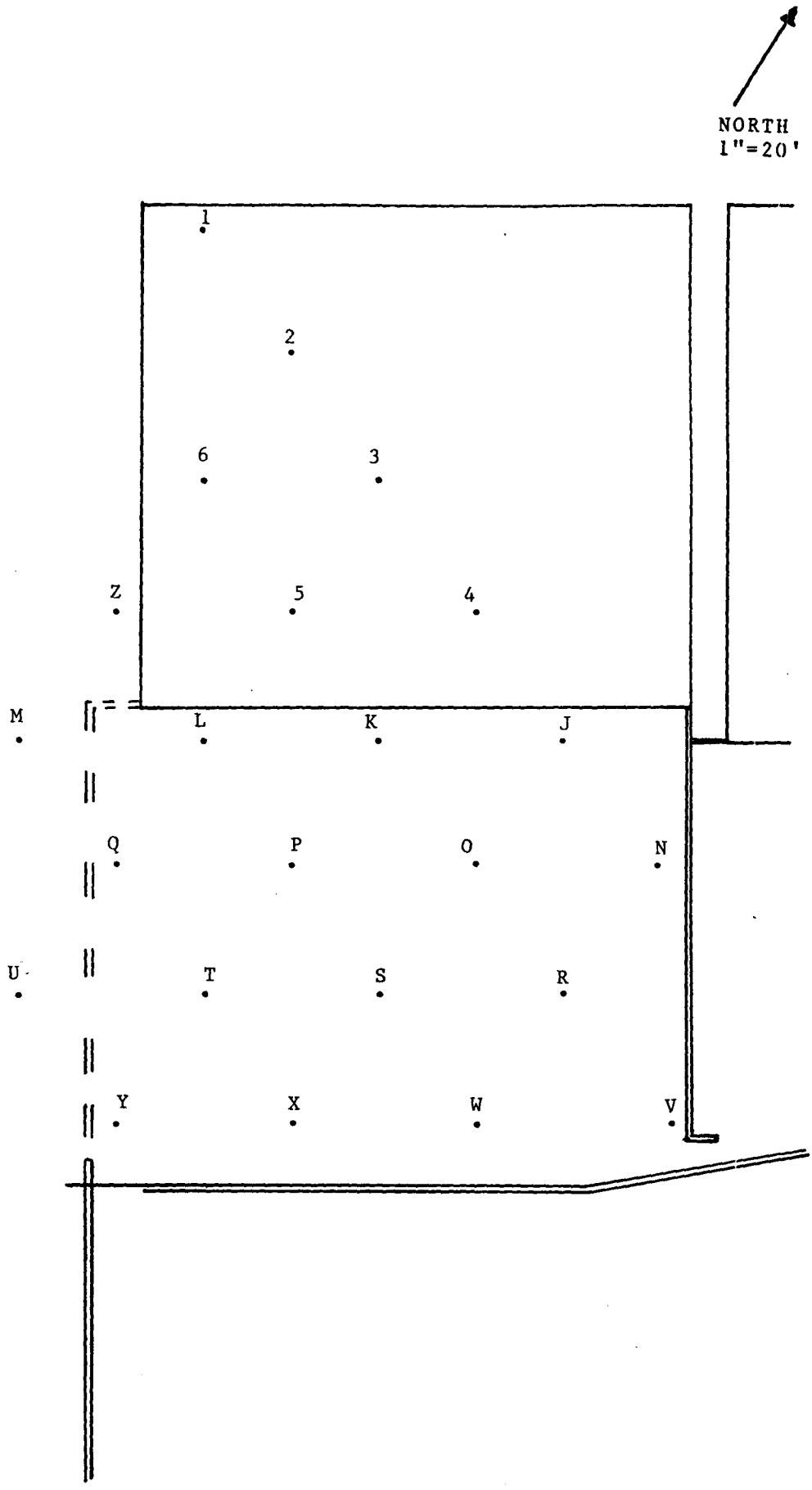
For reference only

~~FIGURE III-2~~



TIME OIL CO. – 2 FOOT PCP CONTOURS

TOLS009821



TOLS009822

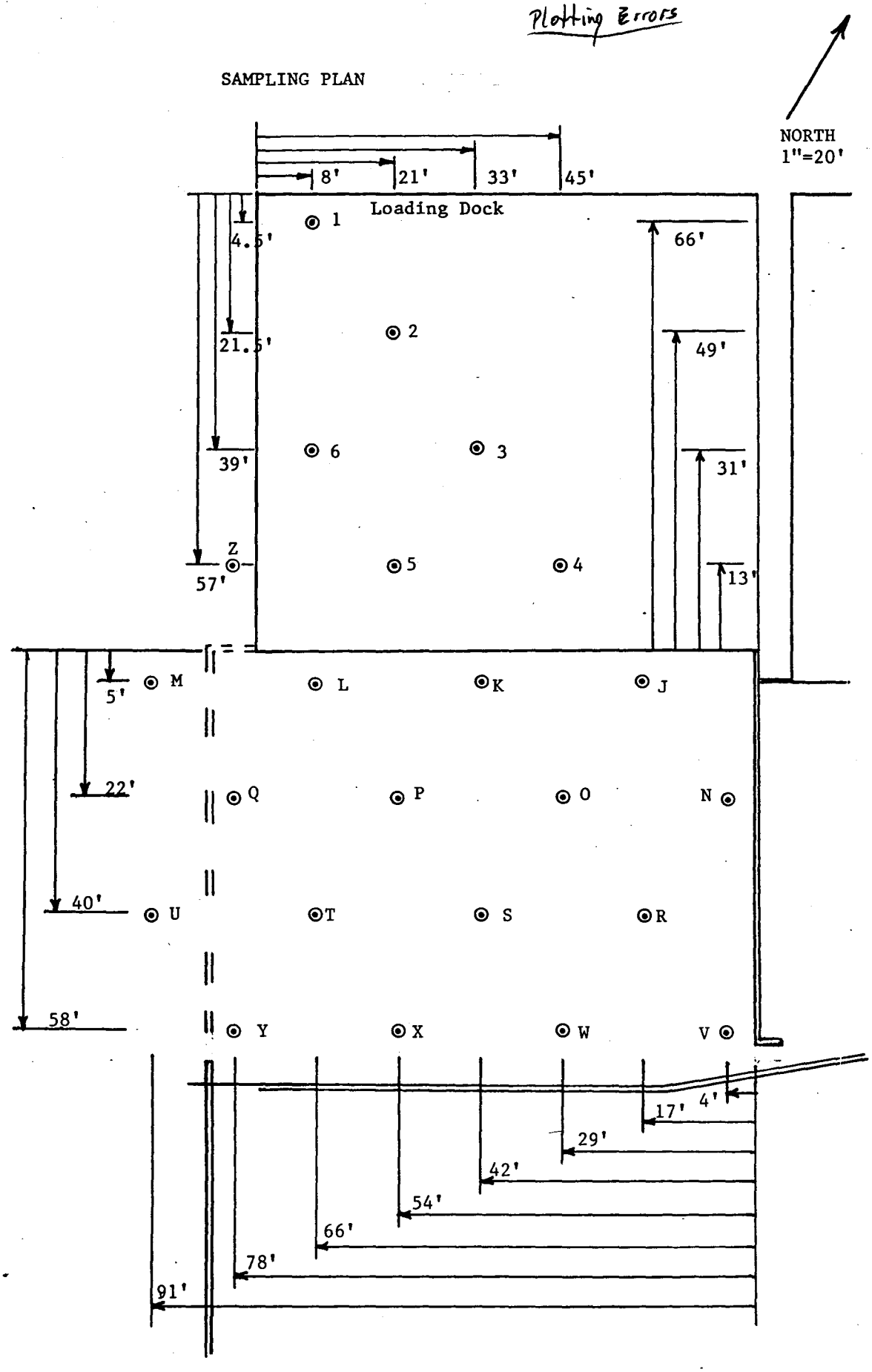
Original

TOLS009823

TOLS009824

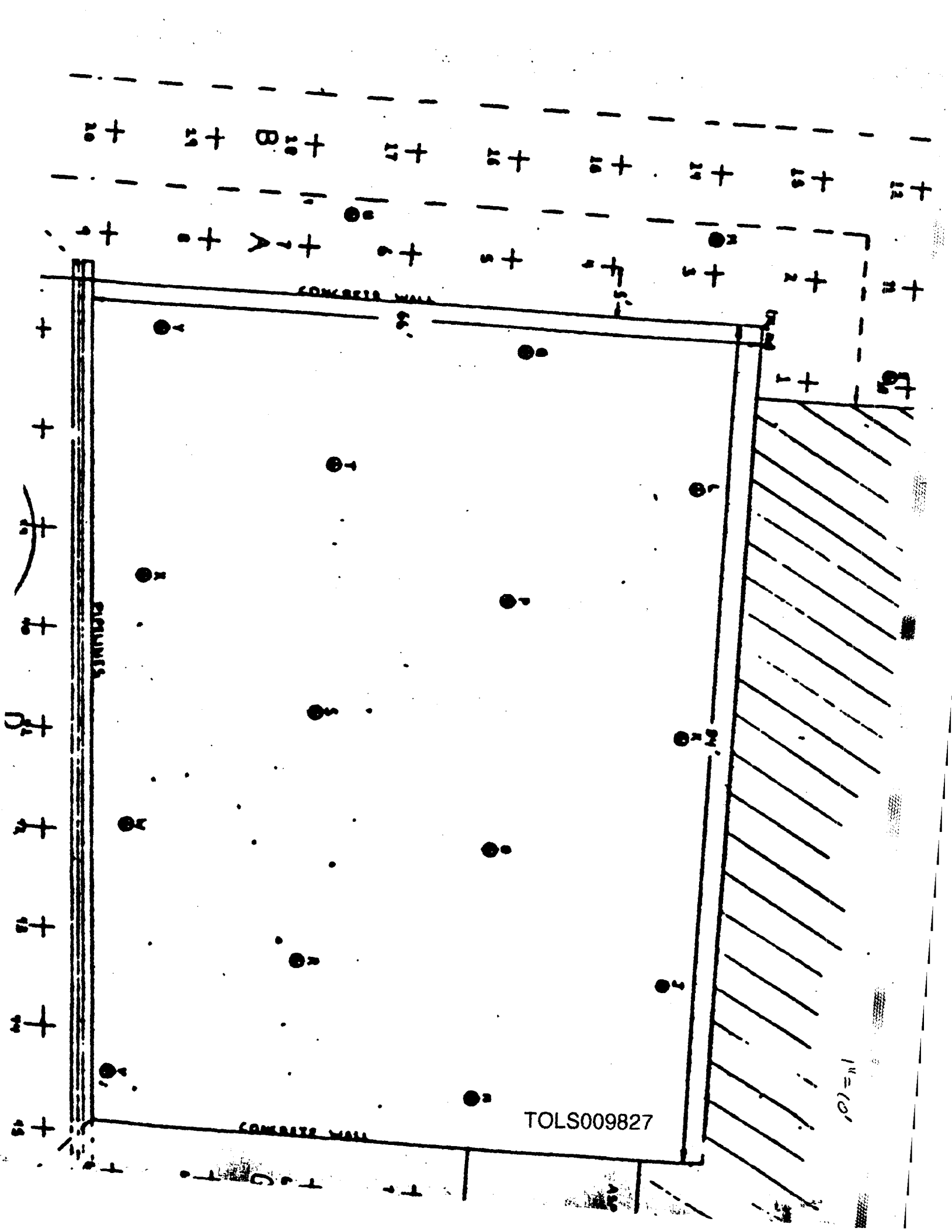
Plotting Errors

SAMPLING PLAN



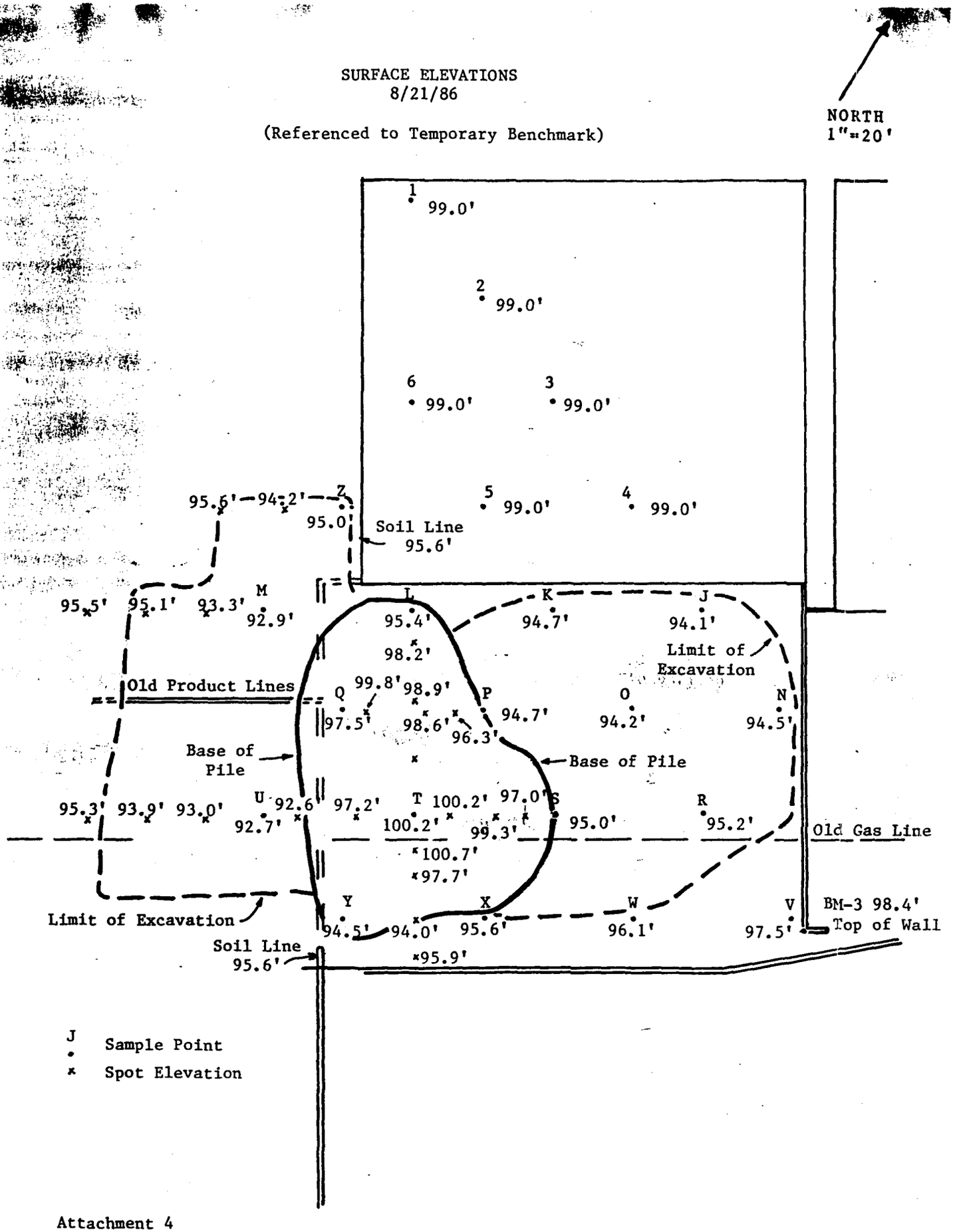
TOLS009825

WAREHOUSE
TOLS009826
A
B
C
1" = 20'


TOLS009827

SURFACE ELEVATIONS
8/21/86

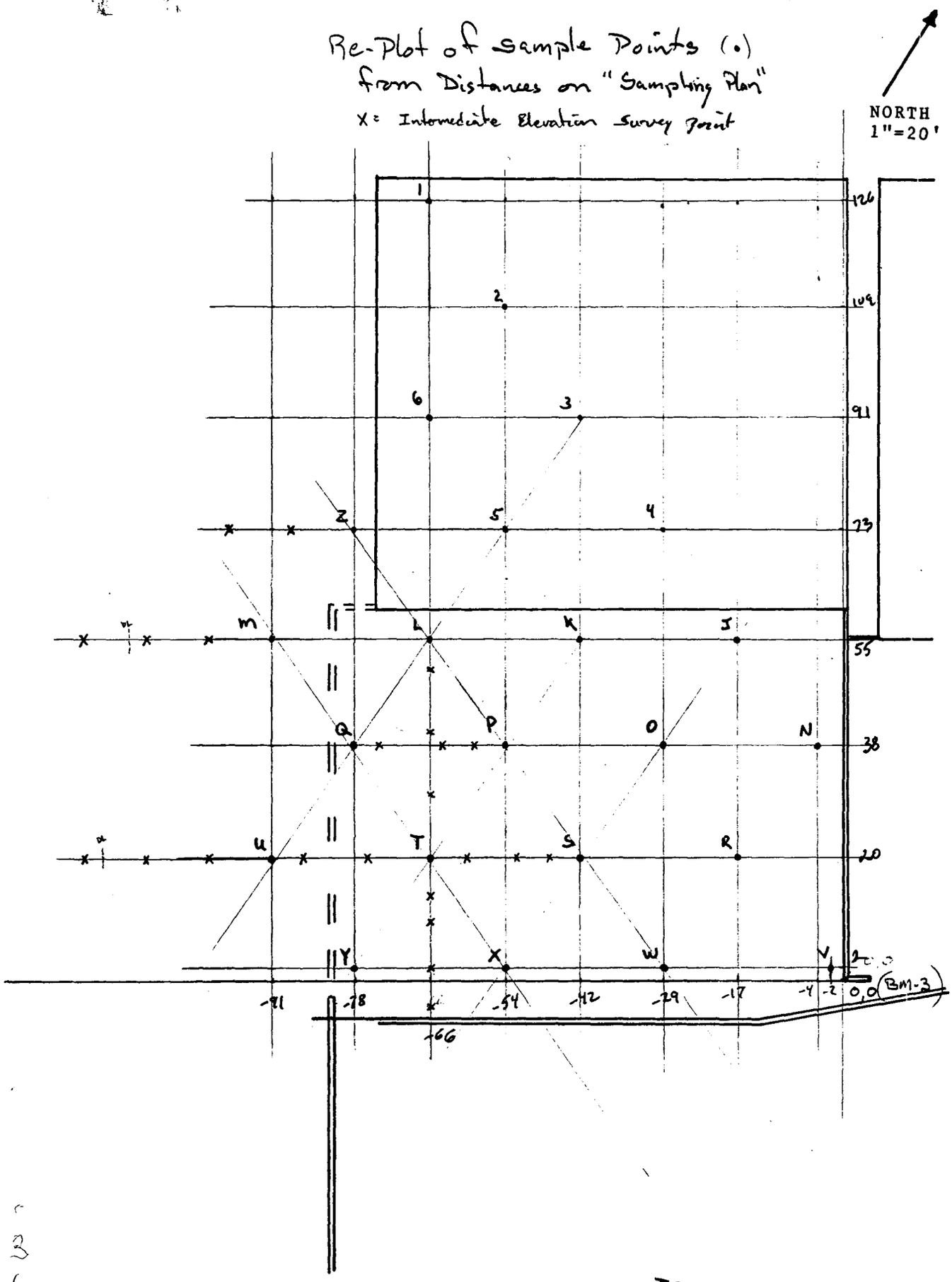
(Referenced to Temporary Benchmark)



Attachment 4

TOLS009828

Re-Plot of Sample Points (•)
from Distances on "Sampling Plan"
X = Intermediate Elevation Survey Point



3
6
1

TOLS009829

M E M O R A N D U M

May 16, 1986

TO: File

FROM: Fred Proby

SUBJECT: NORTHWEST WOODTREATING RIEDEL WELL #4

Three alternative methods of sealing the annular space of well 4 were proposed in discussions with Riedel, Century Environmental Sciences and Hart-Crowser.

Method 1, Pressure Grouting (or "Jetting"). Preferred by Riedel. Cost is approximately $1,700. Approach consists of drilling three evenly spaced small holes (1 1/4" to 1 1/2" diameter) adjacent to the existing 4" well casing. Grout would be injected into the formation through pipes placed in the small holes. A liquid polymer-type grout would be used that would harden after it is injected. The existing casing could either be pulled out or left in place as a monitoring well for the lower aquifer.

Riedel drillers contacted Oregon DEQ about this procedure on a "hypothetical" basis. DEQ approved of concept.

Method 2, Overdrill and Grout. Preferred by Century Environmental Sciences. Cost is approximately $7,500. Approach consists of using a 24" diameter air rotary drilling rig to drill out the existing 4" well and 16" bore hole. A temporary casing would be advanced to keep the bore hole open. When the existing well is completely drilled out, the bore hole would be filled using a bentonite slurry as the temporary casing is removed.

A variation on this method proposed by Riedel would be to use a cable tool rig to overdrill the existing bore hole. The existing casing would be pulled first. Then a 24" temporary casing would be driven over the 16" borehole. The cable tool and bailer would then be used to loosen and remove soil from inside the temporary casing. When the hole is completed it would be filled with a cement grout as the temporary casing is pulled out.

With either variation of Method 2, new wells could be properly installed in the bore hole above and below the confining layer.

Method 3 Overdrill with Nesting Casings. Preferred by Hart-Crowser. Cost not estimated. Method involves drilling a temporary 24" casing over the existing bore hole and into (but not through) the confining layer. A permanent 20" casing would be placed inside the 24" casing. Grout would then be pumped between the 20" and 24" casings as the 24" casing is pulled out. After the grout sets up (72 hours) the remainder of the existing bore hole would be drilled out while setting a 16" temporary casing. A 4" PVC well casing screened below the confining layer would be placed inside the 16" casing.

As the 16" casing is removed, Monterey sand would be added up to the confining layer. From the confining layer to the surface, the annular space between the 20" casing and the 4" PVC well would be filled with concrete or bentonite. This method is primarily suited for installation of a new monitoring well in a confined aquifer below a contaminated aquifer.

Method 1 has a lower reliability of sealing annular space according to Century and Hart-Crowser. Riedel disagrees. Method 1 produces a small quantity of cuttings. Methods 2 and 3 produce a larger volume of cuttings.

Decision was made by Robert Abendroth to use Method 2 (overdrill and grout). No new wells are to be installed. Three monitoring wells (2" diameter by 20' deep) are to be placed around well 4 to verify success of the sealing operation.

Riedel completed installation of monitoring wells (designated D, H and I) on 5/8/86. Well locations are shown on Attachment 1 and construction details on Attachment 2. Removal and sealing of well 4 was completed by Riedel with cable tool rig and 24" temporary casing on 5/14/86. Seal extends from surface to depth of 40' and consumed 120 sacks of "High Early Portland Cement" placed by the tremie method.

Attachments a/s

FLP/ch

BZT0104(e)046664

1" = 50'

TOLS009832

N

EXIST. 8" WATER LINE

EXIST. 6" SEWER LINE

EXISTING FENCE

DRAINAGE AREA TO STREET GUTTER & UNDERGROUND

SETTLING BASIN

TO OIL CONT. TANK

SEWER MANHOLE

12,000 GAL. TANK

FIRE HYDRANT (8" LINE) UTILITY POLE W/ LIGHT

CONCRETE SLAB

LIGHT POLE W/ FIRE ALARM

EXISTING BUILDING

5,000 GAL. OIL CONTAINING TANK

TO TANK

EXISTING BUILDING

E. FLOOR DRAIN EXISTING (3)

NEW 24" HIGH BERM

LOADING RACK

TO DIKE

EXISTING DRAIN PIPE (DIRECTS RUNOFF)

PUMP HOUSE

KO TANK SLAB

V.F.U.

ETHANOL TANK

100

25'

25'

5' HIGH EARTH BERM

DIKE

CHEMICAL TANKS

BOILER

15002

SEE DET. 1554

15001

16804

80014

15003

11005

BERM

A

B

C

D

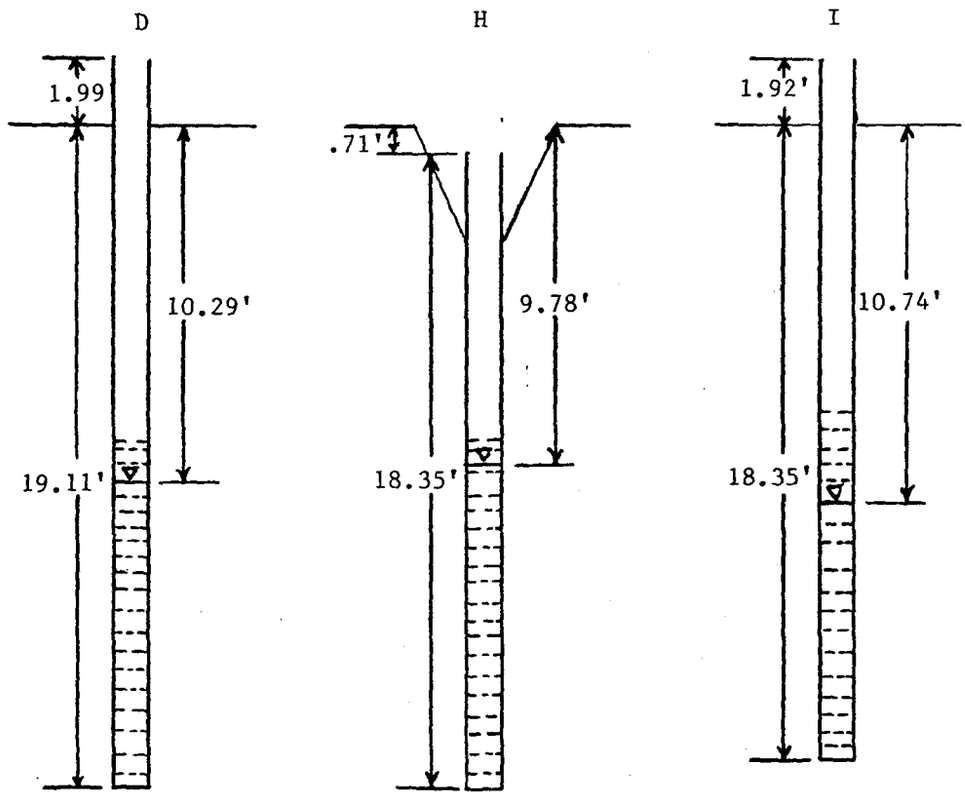
E

F

G

H

WELL CONSTRUCTION DETAILS



Attachment 2

TOLS009833

from Russ Prior

Pony 4/17/86

(1) set ~~24"~~ temp steel csg 5' into conf. layer

(2) drop 20" perm. steel into 24"

(3) withdraw ~~24~~" and seal ~~20~~" by injecting grout in annular space between csgs

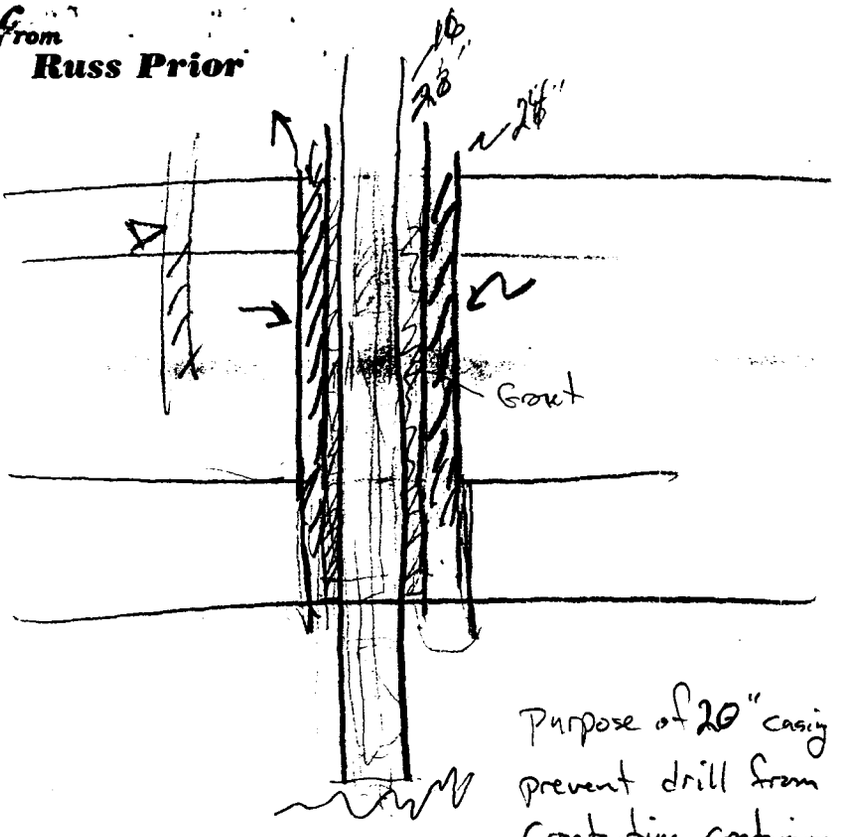
(4) after grout sets (72 hours) coring drilling w/ 16" temp steel inside the 20"

(5) complete as well in lower aquifer by placing 4" PVC inside 16" and pull back 16"

TOLS009834

BZTO104(e)046666

from Russ Prior



Purpose of 20" casing
prevent drill from
Contacting contamina
Soil. and carrying it
to lower aquifer.
Also stops leakage d
drilling.

Air Rotary VS Cable

Either would work

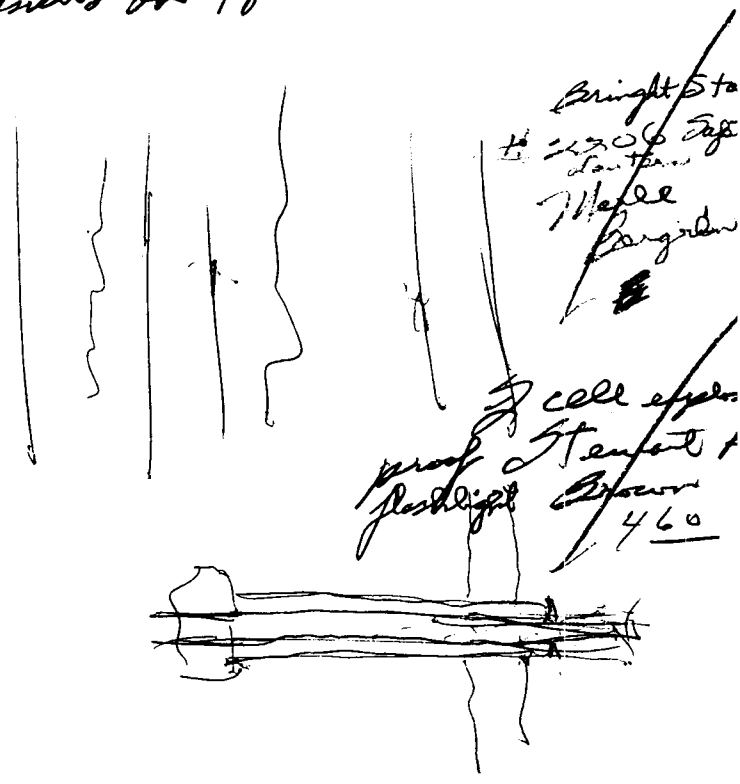
Might have trouble getting circulation w/ air.

Air rotary is more expensive per foot but is fa than cable.

TOLS009835

BZTO104(e)046667

water Century
sampling on 10th
results by 18th Call Riedel



TOLS009836

Reidel Rick Ferguson
10 AM Fri 11th

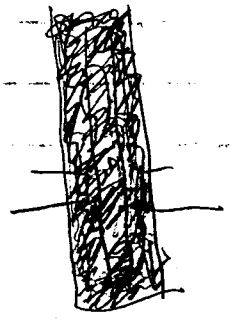
more well points at 82' & at other side of bldg
confining layer not as definite as shown - leaking
more lateral flow than vertical

(1.) Jet down 4 1/4" - 1 1/2" pipe - pressure & fluid grout outside 4" PVC $170
pull out PVC or grout in place

2. Put 24" casing over top of PVC & drive in ground, use cable
sure fire tool to break up 4" PVC, fill up hole

pull & grout

use this



TOLS009837

BZTO104(e)046669

FLP 4/8/8

John Ruddick & Terry Balamas – Century Enviro.

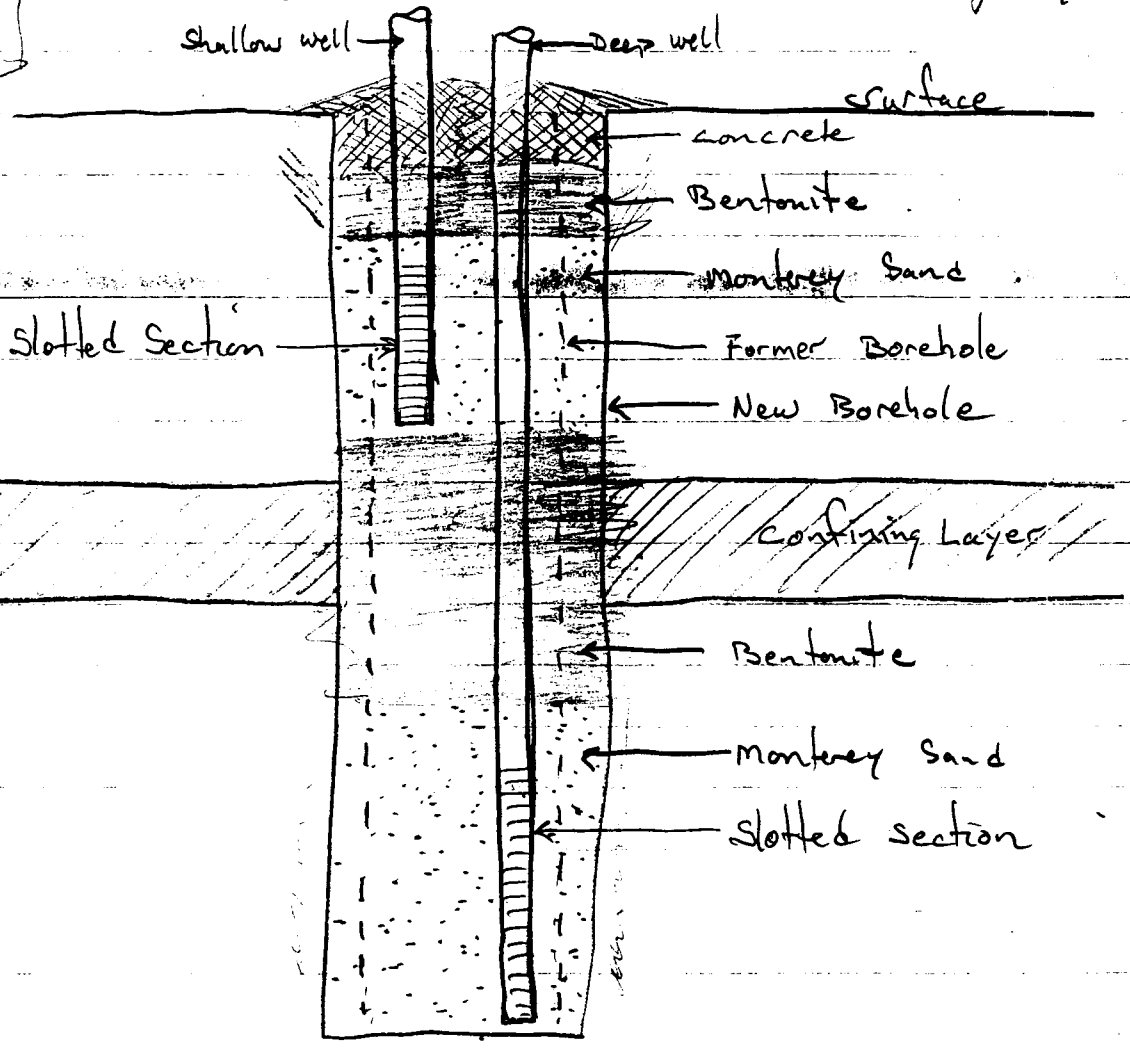
Re: seating well 4

Terry - should pull casing & redrill hole. (overdrill) No pressure grouter avail in Portland - One's in Seattle can't guarantee that annular space will be fully sealed.

Could use an air rotary tri-cone 18" drill bit.

(casing ring)

It would be a good idea to replace well #4 with 2 wells, one above & one below confining layer:



TOLS009838

BZTO104(e)046670

Ed Jr

Terry Balunus Hydrogeologist

Pressure grouters cd not guarantee job

Reconstruct properly
1. Remove casing
2. Overdrill & redo entire well
Use air rotary Trico to drill (18" dia)

Automatic Whip 2150
(503) 283-2602
Penny

Telecopier @ Riedel

---

re Penta

Groundwater Technology
(415) ~~761~~ 671-2387

fm Jim Bruya

literature to biodegrade - have done it

Fred will send

Tony 324-9530

TOLS009839

BZTO104(e)046671

FLP

Rick Fergusson - Reidel

4/21 1130

Suggested that we install intermediate wells (ie closer to #4) before we remove #4.

DEQ approved pressure grouting approach
Other Alt was to drive oversize casing

RF talked to drillers about oversize casing on Fri - they're not gotten back to RF

Reidel feels that pressure grouting has a greater degree of certainty than overdrilling. Would use 5 grout holes.

1. Drill 3 grout holes
2. inject grout in stages going up.
3. Pull well casing as grout is injected.

Reidel would do the pressure grouting themselves.

Can mobilize cable tool rig, to do either method, this week.

4/23 2:30
Hasn't heard from drillers yet. Will call me back.
Drillers are in-house, but they can do outside work

4/24 3:30 Hasn't heard from drillers yet about overdrilling. They are available May 5. Need to no manner of construction

TOLS009840

BZTO104(e)046672

on intermediate wells - steel vs PVC.

4/25 10:30 Driller will be available around May 7
Driller prefers pressure grouting but can do overdrill.
Overdrilling with cable tool rig would use 20" temporary casing.
Doesn't have a 24" casing readily available.

5/2 3:00 Hasn't talked to drillers yet to confirm time - will call back.
will tell drillers we want 24" casing
Discussed 3, 2" wells - agreed that about 10' of screen (10'-20' depths) would be adequate.

5/5 3/5 Rick Fugesun called - Overdrilling will take 1 week, 3 2" wells 20' deep would take 2 days for 3 wells. Can start drilling Wed 3rd Am. will drop off Well 4 casing 24" 1 Tues. Cost for monitor wells will be 3/5 of Amend #2 cost. Driller is "Don"

TOLS009841

BZTO104(e)046673

Inventory
In Shop

11 3' Drive points
4 5½' Screen extensions
11 2" NPT couplings
12 2" PVC caps (drilled)

2 2" x 5' sch 80 ♂ NPT x ♂ Flush thread Pipe
10 2" x 5' sch 80 ♂ ♀ Flush thread Pipe

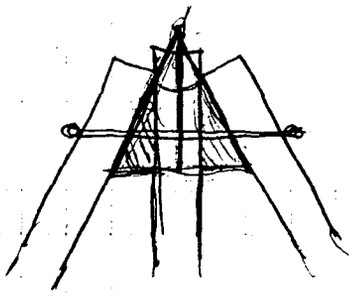
In Penta Whse

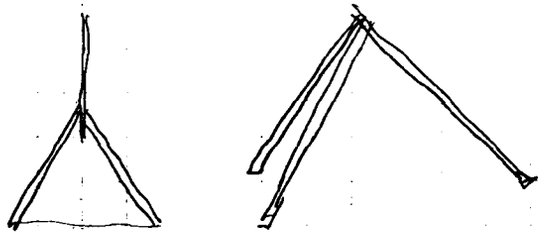
~~5 5 10~~ 2" x 5' ♂ NPT ♂ Flush
5 5 5 5 5 5 = 30 2" x 5' ♂ ♀ Flush
3 locking covers w/ Locks returned to Seattle & used @ Sparks

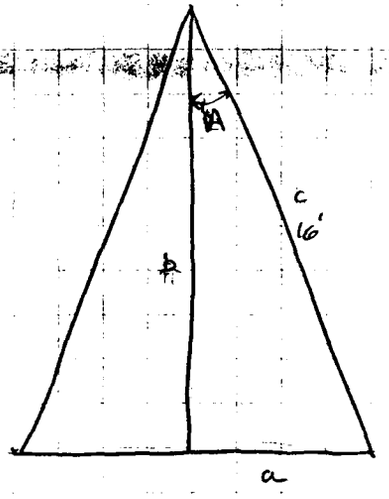
Tripod
Drive pipe

TOLS009842

BZTO104(e)046674







c = 16'

A	c cos A = b	c sin A = a
22.5°	14.8	6.12
30°	13.8	8.0 ←
45°	11.3	11.3
75°	15.4	4.14

TOLS009843

Materials for NW Terminal

O=ordered

✓O s	15	36" Well Points	Instrumentation NW (send by TBA)
Portland O: Air	7	5½' Screen extensions	
✓O s	15	2" NPT steel couplings	
mon 3/17 O s	15	2" x 5' NPT PVC Adapters	
mon 3/17 O s	45	2" x 5' Sch 80 PVC Pipe	
mon 3/17 ✓O s	15	2" Slip Caps	
O	5	1" x 5' black steel pipe thread both ends	Neil
O	1	1" x 4' " " " " " "	
O	1	1" Pipe caps	
O	1	60# Jackhammer	Neil Star Rentals
O	1	1" Pipe driver attachment for Jackhammer	
O	1	Transit & Tripod	Any Pickup
O	1	Transit Rod (Neil has one)	
✓O wed or Thur 3/16 e	6	1" Tool Couplings — Amer Well supply	
O s	11 (10?)	Locking well covers & locks — TOC (send by TBA)	
O	4	16' 2"x4" lumber for Jackhammer support — Neil	

Mike

TOLS009844

BZTO104(e)046676

Neil

Star Rentals 622-7880

Mon - Am - following Mon Am = 1 week

Pipe Driver = $8/week

Jackhammer "60# breaker" (air) $55/week

Chicago Pneumatic (CP), Thor, or Bose - fitting?

Transit, tripod & rod = Rankin

TOLS009845

BZTO104(e)046677

Ver1

Ballard Hdware 783-6626

1" Black steel pipe, threaded both ends

/ Comes in 21' length = $.75/ft
= $15.75

5, 5' 1" sections	25'	@ $.8. = $40.00	
1, 4' x 1" section	4'	$6.88	
	29'	46.88	
2, 1" Pipe Cap	$.85	1.70	
		$48.58	(15.38 for cut & thread)

PO

2, 1" x 21' Black steel pipe 0.75/ft = 15.75 ea = $31.50
2, 1" Pipe cap .85 ea = 1.70
$33.20

1. Cut into 5, 5' lengths and 1 4' length
2. Thread at both ends

TOLS009846

3/13/86 FLP

Misc Materials for NW project

- Drive

Amer Well supply - Patrick Carroll 283-9850

Drive coupling - 1" NPT OD =

$5.25 ea weigh 1/2 lb ea = 4 lbs

2nd day air $6.00

~~Hydratech 767-6114 Sid Hall - Floyd~~

~~1" Drive Coupling~~

~~has 1 1/4" OD = 2" +~~

~~" Unavailable to us"~~

stronger & heavier than drive coupling

Tool Coupling 1 5/8" od 1" thread 3 1/2" long

Minimum billing

6 couplings = $6.50 ea + shipping $10 =

estimate

Should be in Auburn Wed

3211 C St NE Auburn 272 st south

I-5 to exit 147 1st after Kent - Demoins exit

Left at ins E on 272 under fwy

down to Valley floor to W. Valley Hwy - turn R

S to 1st intersection (1 1/2 mi) 37th Ave NW - turn L

over fwy Hwy 167 to 1 set RR tracks 2nd set RR

to "D" st NE ~~[illegible]~~ C st NE R on C to 3211

TOLS009847

BZTO104(e)046679

RIC'S TRANSFER CO., INC.

1530 UTAH AVENUE SOUTH • SEATTLE, WA 98134 • (206) 622-0550

UNIFORM STRAIGHT BILL OF LADING

ORIGINAL - NOT NEGOTIABLE - DOMESTIC

AMERICAN WELL SUPPLY SHIPPER NO. _____ DATE 3/20/86

TO: CONSIGNEE Time Oil Co.	FROM: SHIPPER American Well Supply
STREET 2737 West Commodore Way,	STREET 3211 "C" ST., N.E.
DESTINATION Seattle WA ZIP CODE	ORIGIN AUBURN WA ZIP CODE 98002

ROUTE ~~RIC'S TRANSFER CO., INC.~~ AMERICAN WELL SUPPLY VEHICLE.

NO. PKGS.	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS	WEIGHT (SUB TO CORR.)	CLASS OR RATE	CHARGES
1 ctn	1" Special Tool Couplg	8#		
	TOTAL			

REMIT COD TO _____ ADDRESS _____

COD AMT: $ _____ C.O.D. FEE _____

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $_____ Per_____

Note—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

TOTAL CHARGES $ _____

SHIPPER American Well Supply	CARRIER ~~RIC'S TRANSFER CO., INC.~~ Time Oil Co.	Subject to Section 7 of Conditions of applicable bill of lading, if the shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges. (Signature of Consignor) _____	IF CHARGES ARE TO BE PREPAID WRITE HERE TO BE PREPAID
PER P. F. Linnell	PER Jeff Leggett		
PERMANENT ADDRESS OF SHIPPER 3211 "C" ST. N.E. AUBURN	DATE	NO. PACKAGES (1)	*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in the National Motor Freight Classification in effect on the date hereof, if this is a rail or a rail water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

ORIGINAL

TOLS009848

BZTO104(e)046680

SHIPPING ORDER - COMBINED STRAIGHT BILL OF LADING - THRU FREIGHT BILL ORIGINAL
SUBJECT TO THE TERMS ON ORIGINAL BILL OF LADING

REFER TO LAST SHOWN PRO. NO. WHEN REMITTING

3RD CARRIER | 2ND CARRIER | 1ST CARRIER

1 carton missing

ADV	REV	BYD	ADV	REV	BYD	ADV	REV	BYD

CONSIGNED TO (Mail or street address of consignee—For purposes of notification only.) Time Oil Inc 2737 W Commodore Way

DESTINATION STREET CITY & STATE Seattle, WA

CAR OR VEHICLE INITIALS & NO.

ROUTE SEATTLE AIR CARGO, P.O. BOX 69438, SEATTLE, WA 98168 206-433-5365

CODE | CODE | SHIPPER'S NO.

ADVANCE | TRACING NUMBER

C.O.D. AMT. S | LOADED ON | BY

CHARGES | LOADED ON | BY

No. Pkgs.	Kind of Package, Description of Articles, Special Marks, and Exceptions	*Weight (Sub. to Corr.)	Class or Rate	✓
12/13	Ctns PVC Pipe	300/344		
	AB# 012-61683753			
	Special Del.			
	6 Ctns open Contents Exposed			

Subject to Section 7

Per

If charges are to be prepaid, write here "To be Prepaid."

TOTAL AMOUNT COLLECT $

TOTAL AMOUNT PREPAY $

SHIPPER North West Air Lines Sea Tac Airport

STREET CITY Seattle, WA 98158

RECEIVED IN GOOD ORDER EXCEPT AS NOTED X

NO. PCS. | DATE REC'D

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ PER _____

SHIPPER'S SIGNATURE _____ DATE SHIPPED _____

ORIGIN CARRIER NAME Glenn Harrison

PER 3/18/86 1515 DATE

F 85

TOLS009849

BZTO104(e)046681

UNIFORM AIRBILL NON-NEGOTIABLE

Subject to Conditions of Contract on the Back of the Airbill

Carrier's liability is limited under Conditions of Contract on reverse side unless shipper requests additional declared value (subject to additional charge)

CARRIER 012 | ORIGIN MSN | AIRBILL NUMBER 6168 3753 | DATE MO DA YR | DECLARED VALUE $853.54

AIRPORT OF DESTINATION: Seattle-Tacoma

ROUTING — AIRLINE ROUTING APPLIES UNLESS SHIPPER INSERTS SPECIFIC ROUTING HERE

TO | VIA | TO | VIA | TO | VIA

☐ PREPAID ☒ COLLECT

NORTHWEST ORIENT
Northwest Airlines, Inc.
ST. PAUL, MINNESOTA U.S.A. 55111

TC | CHGS | FLIGHT/DATE | FLIGHT/DATE | CUBIC INCHES

CARRIER 6565 | CHARGES 191.43

A. WEIGHT CHARGES 184.80

B. PICK-UP CHG. 11.62

C. DELIVERY CHGS.

D. EXCESS VALUE 1.05

G. SHIPPER'S C.O.D.

H. C.O.D. FEE

I. TAX 5.29

R. TOTAL SHIPPER PAYS $

S. TOTAL CONSIGNEE PAYS $ 418.82

CODE NUMBER

PICK UP TRUCKER

DELIVERY TRUCKER

CONSIGNEE

CONSIGNEE'S ACCOUNT NO. 56 pd KD

NAME: Instrumentation Northwest Inc

STREET ADDRESS: 14972 NE 31st Circle

CITY, STATE, ZIP CODE: Seattle-Tacoma Airport Redmond, Wa 98052

HOLD & NOTIFY 206-885-3729

SHIPPER

SHIPPER'S ACCOUNT NO.

NAME: Dunco Mfg. Inc.

STREET ADDRESS: 851 15th Street

CITY, STATE, ZIP CODE: Prairie du Sac WI 53578

"TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER AS PER APPLICABLE RULE, UNLESS SHIPPER GIVES INSTRUCTIONS HEREON."

RECEIVED BY CARRIER AT ☐ SHIPPER'S DOOR ☐ CITY TERMINAL ☐ AIRPORT TERMINAL

DESCRIPTION OF ORIGIN ADVANCE CHGS: 6 Use ones Contents Expensed

DESCRIPTION OF DESTINATION ADVANCE CHARGES

DESCRIPTION OF OTHER CHARGES

INSTRUCTIONS TO CARRIER (INCLUDE CUSTOMER REF. NO. & BILLING INSTRUCTIONS): P.O.#2056 Invoice #87583

HOLD & NOTIFY 206-885-3729

PCS/PKGS | LENGTH | WIDTH | DEPTH | CUBIC INCHES

DIMENSIONAL WEIGHT — LBS.

C.O.D. SHIPMENT IF AMOUNT ENTERED HERE BY SHIPPER

R.F.C. SHIPMENT IF AMOUNT ENTERED HERE BY SHIPPER

RATE AUTHORITY | ITEMS PREPAID

GBL GTR NO. | ITEMS COLLECT

SHIPPER'S SIGNATURE

NO. PCS.	GROSS WEIGHT	CHARGEABLE WEIGHT	DESCRIPTION OF PACKING, PIECES AND CONTENTS	CARRIER COMMODITY GROUP NO.	MULTIPLE CONTAINER/COMMODITY CODE	RATE	CHARGE
13	3448	3448	PVC Pipe				
12/B	300		5ft				

CARRIER REMARKS: Deliver to: Tenie Oil Inc. - Phone 285-2400 2737 W. Commodore Way - Seattle John Det Denham Operator Sig.

WEIGHT CHARGES | PICKUP ZONE | PICK UP CHARGES | DEL. ZONE | DELIVERY CHARGES | ORIG. ADV. CHGS. | DESCRIPTION OF ORIGIN ADVANCE CHARGES

EXCESS VALUE | DEST. ADV. CHGS. | DESCRIPTION OF DEST. ADVANCE CHARGES | OTHER CHARGES | DESCRIPTION OF OTHER CHARGES

TAX | SHIPPER'S C.O.D. | C.O.D. FEE | SHIPPER'S R.F.C. | 1ST RATE | 2ND RATE | 3RD RATE

SHIPPER PAYS $ | ITEMS PREPAID | CONSIGNEE PAYS $ | ITEMS COLLECT

RECEIVED Matt Lettelf IN GOOD ORDER EXCEPT AS NOTED

DATE 3/18/86 TIME 1415

EXECUTED BY | DATE 3/18 | TIME 14 15 | CARRIER 012 | ORIGIN MSN | SERIAL NUMBER 6168 3753

TOLS009850

AC-1 OS-3 Rev. (8-79) — 6 - CONSIGNEE MEMO

NOTICE — Notwithstanding any limitation of liability for which it is legally liable.

BZTO104(e)046682

PLP
3/14/86

NW Terminal Well Point Materials
Shipping Arrangements

7 Well screen extensions
Factory will ship direct to Portland - ~~Fred~~ will Pick up at Northwest Orient Air Cargo terminal Tues 3/25 mid A

TBA Truck 3/18

Rec'd 15 Well Points
Rec'd 15 2" NPT Couplings
15 2" x 5' PVC Adapter Pipe
15 2" x 5' Sch 80 PVC Pipe
15 2" PVC Slip Caps Rec'd
10 locking well covers and Tools fabricated by Bob Harrison

Ship by TBA truck or Commercial carrier to NW Terminal to arrive Tuesday 3/25 latest

6 1" Tool Couplings from American Well Supply
Receive at TOC - Wed 3/19 or Thurs 3/20
Hold for Fred to carry to NW Terminal or Ship

TOLS009851

Robert Landick of Instrumentation Northwest (885-3729) will bring to TOC when they come in

American Well Supply 288-9850
Patrick Carroll 3211 C st NE, Auburn

PO # 61612 mailed 3/14 order made by phone

6, 1" Tool Couplings

Scheduled arrival at Amer. Well supply: Wed 3/19 or Thur 3/20

Patrick will deliver to TOC or TOC Pickup
(Arrangements to be made when notice is given of receipt of order)

Directions to American well supply:
I-5 south to 272nd S (exit # 147)
Turn Left at signal, proceed east on 272nd under freeway
Follow 272nd to floor of valley to West Valley Hwy,
Turn Right at W. Valley Hwy proceed south
Turn Left at 37th Ave NW - first intersection after 1½ miles.
Cross over Hwy 167, and two sets of RR tracks.
Turn Right at C ST NE proceed to 3211

TOLS009852

PLP
3/14/86

NW Terminal Well Point Materials
Shipping Arrangements

7 Well Screen extensions
Factory will ship direct to Portland - ~~Fred~~ will Pick up at Northwest Orient Air Cargo ~~terminal~~ Tues 3/25 mid AM

15	Well Points	Ship by TBA truck or Commercial carrier to NW Terminal to arrive Tuesday 3/25 latest
15	2" NPT Couplings	
15	2" x 5' PVC Adaptor Pipe	
45	2" x 5' Sch 80 PVC Pipe	
15	2" PVC Slip Caps	
10	locking well covers and locks fabricated by Bob Harrison	

6 1" Tool Couplings from American Well Supply
1 Receive at TOC Wed 3/19 or Thurs 3/20 ~~received~~
Hold for Fred to carry to NW Terminal

TOLS009853

American Well Supply 283-9850
Patrick Carroll 321 C st NE, Auburn

PO # 61612 mailed 3/14 order made by phone

6, 1" Tool Couplings

Scheduled arrival at Amer. Well Supply: Wed 3/19 or Thur 3/20

Patrick will deliver to TOC, or TOC Pickup
(Arrangements to be made when notice is given of receipt of order)

Directions to American well supply:

I-5 south to 272nd S (exit # 147)
Turn Left at signal, proceed east on 272nd under freeway
Follow 272nd to floor of valley to West Valley Hwy.
Turn Right at W. Valley Hwy proceed south
Turn Left at 37th Ave NW - first intersection after 1½ miles.
Cross over Hwy 167, and two sets of RR tracks.
Turn Right at C ST NE proceed to 321.

TOLS009854

For Neil

1. What is river elev. relative to Terminal

(Jack says LW = 0.0 HW = 10.0
Terminal is ± 26 relative to LW)

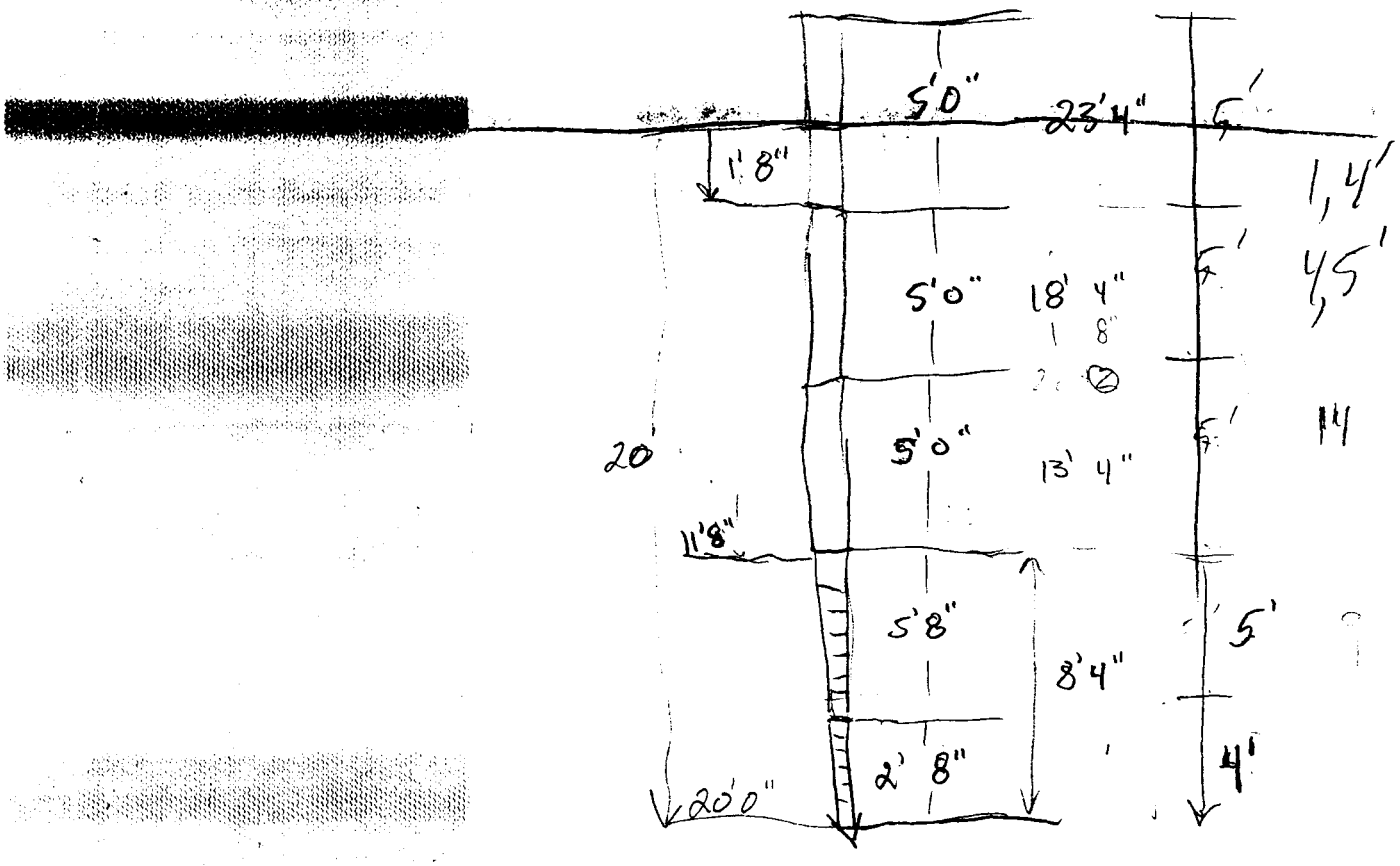
Recent high water 1½ wk ago: dock ± 7' above River
dock & tank farm on same plane
Dropping steadily since

2. What materials avail for 3-4' platform

Sawhorses & planks

TOLS009855

BZTO104(e)046687



TOLS009856

CASCADE CULVERT
DIVISION OF ATV RECORDS, INCORPORATED
P. O. BOX 217
ARLINGTON, WA 98223

CUSTOMER'S ORDER NO.	DATE 3-11 1986
NAME Time Oil	
ADDRESS 2737 W. Commodore Way	
Seattle, WA 98124	

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RETD.	PAID OUT
JL						

QUAN.	DESCRIPTION	PRICE	AMOUNT
6 ea	16 ga 8" x 10' Galv	2.95	177 —
	0 bands		
3	cuts	5	15 —
			192 —
W/C	3/12/86	tax	14 98
	aft 12:00 noon		206 98
	Thank You!		
	Pd ck # 3/12/86		
	D. Taylor $206.98		
		TAX	
		TOTAL	

ALL CLAIMS AND RETURNED GOODS MUST BE ACCOMPANIED BY THIS BILL.

76265

REC'D BY

5R330 REDIFORM®

TOLS009857

BZTO104(e)046689

Cascade Culvert

for 60' + 3 cuts (4, 15' lengths)

Total $206.98

625-0554 sea

8" 5.9 lb X ft x 3 = 17.7 lb

chain 3 lb

Cons - or Lid 10 lb

say 30 lb

1 section 8" x 60' culvert
(cut into three 20' lengths)
for monitoring well covers ~~[illegible]~~
at Richmond and Northwest terminals

TOLS009858

BZTO104(e)046690

Pipe weight = 5.9 lb/ft x 3 = 18 lb

488 Wright Ave
Richmond
94804

Chain + lock say 4 lb

Lid say 13 lb

35 lb

5 pieces 8" dia x 3' long x 5 = 175 lbs

Consolidated 283-7179

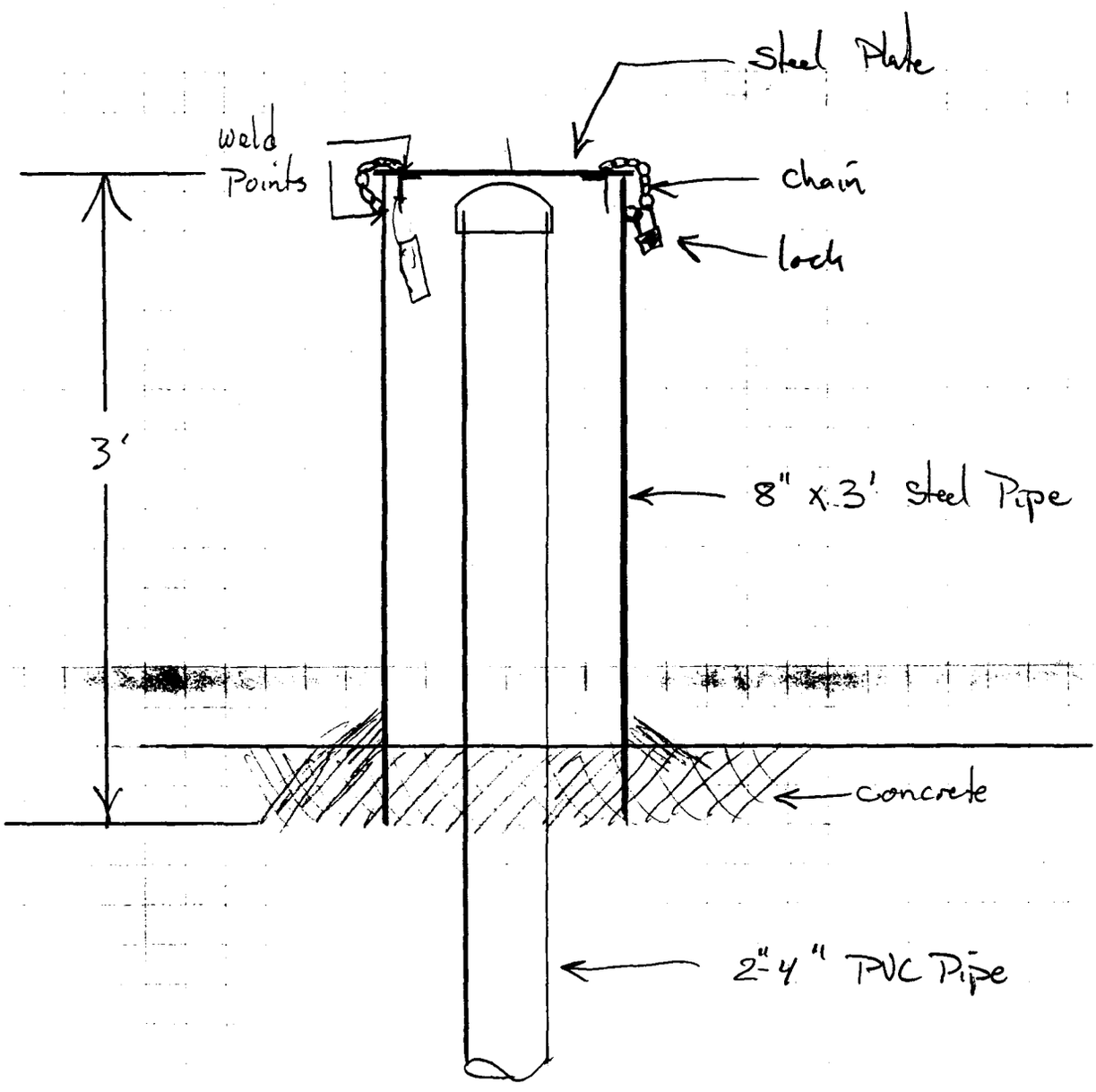
Ballard - Pier 88, 16th & West Galer
Magnolia St Bridge

$65 total

Takes 3-4 days

Fri → Mon or Tues

TOLS009859


Steel Plate
weld Points
chain
lock
3'
8" x 3' steel Pipe
concrete
2"-4" PVC Pipe

TOLS009860

26399

CITIBANK (NEW YORK STATE), N.A.
NORTH AMERICAN BANKING GROUP

50-817
213

TIME OIL CO.

P.O. BOX 24447 TERMINAL ANNEX SEATTLE, WASHINGTON 98124

March 12, 1986

PAY TO THE ORDER OF

Cascade Culvert
Arlington Airport
Arlington, WA

PROTECTED AMOUNT	AMOUNT
$ **206.98**	$ **206.98**

BY _____

BY _____

TWO SIGNATURES REQUIRED

⑈026399⑈ ⑆021308176⑆ 30991597⑈

TIME OIL CO. 26399

INVOICE	REFERENCE NO.	AMOUNT	INVOICE	REFERENCE NO.	AMOUNT

TAP 110 4/81

CHECK DATE	3/12/86	DISCOUNT	
CHECK NO.	26399	TOTAL	$206.98

WHEN DETACHED AND PAID, THIS CHECK BECOMES A RECEIPT IN FULL PAYMENT OF THE ITEMIZED ACCOUNT

TOLS009861

TIME OIL CO.
SEATTLE, WASHINGTON

CHECK REQUEST

DATE: March 12, 1986

ISSUE CHECK TO COVER THE FOLLOWING:

PAYEE: Cascade Culvert $ 206.98

ADDRESS: Arlington Airport
Arlington, WA

REASON FOR PAYMENT:

1 section of 8" x 60' culvert (cut into four 15' lengths) for monitoring well covers at Richmond and Northwest terminals.

REQUESTED BY: John P. Denkson CHARGE ACCOUNT NO.

PAYMENT SCHEDULE

TODAY (or) [X] MAR 12 PAID

SPECIFY DATE _____ [ ]

CHECK # _____

VOUCHER # _____

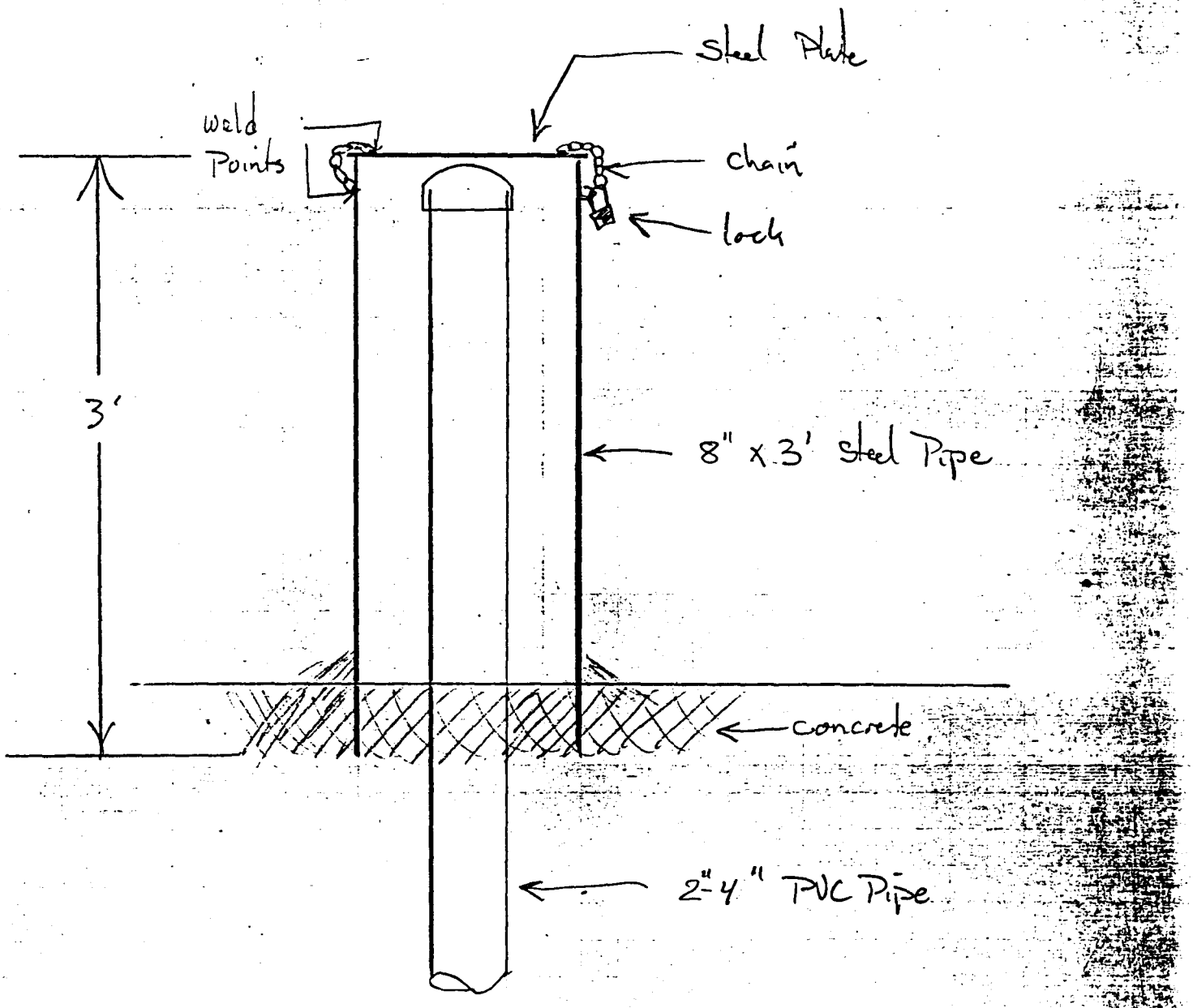
R Abendroth
APPROVED

APPROVED

Please return check to Fred Proby! Thanks

TAP 140 REV. 3-82

TOLS009862


steel Plate
weld Points
chain
lock
3'
8" x 3' steel Pipe
concrete
2"-4" PVC Pipe

TOLS009863

Pentachlorophenol Solutions

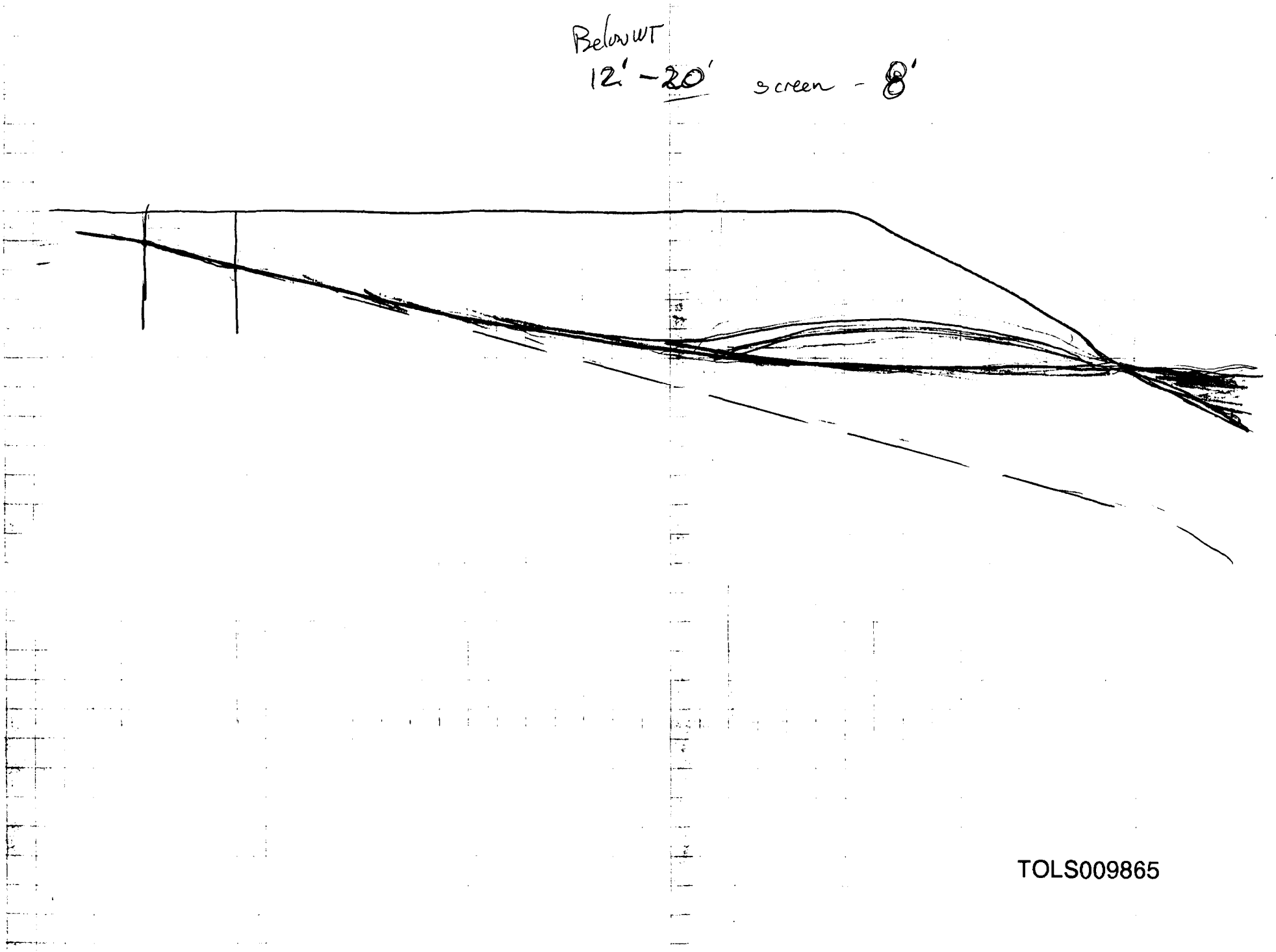
	Koppers Trade Name	Specific Gravity (MSDS)
1.	Timbertox 40 Concentrate	1.12
2.	Woodtox Preprime T-RTU	0.808
3.	Woodtox 140 T Concentrate	0.97
4.	Woodtox 140 T Ready To Use	0.837
5.	Woodtox Preprime Conc. T	0.97
	Average	0.941

Solvents (from MSDS)

1. Ketone mixture, Hydrocarbon solvent
2,3. Mineral Spirits
4. Mineral spirits (= Stoddard solvent)
5. Solvents, Ketone mixture

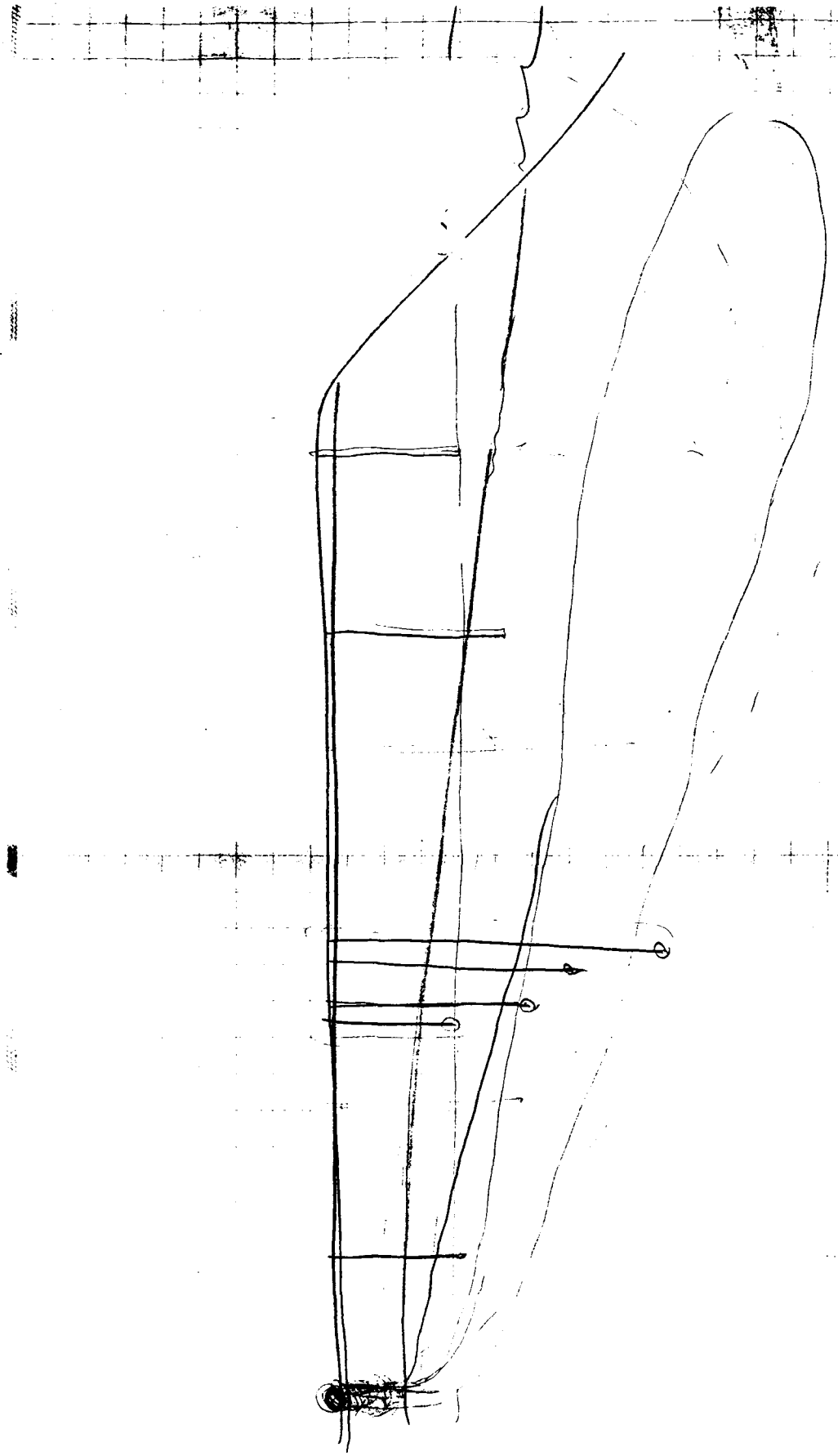
Per Robert L INW - PVC compatibility chart
Stoddard Solvent is "not recommended" for PVC (at 100% conc, 72°F)

TOLS009864



TOLS009865

BZTO104(e)046697



TOLS009866

Robert L

3/11/ec.

Best Approach will be to add screen extension

Screen extension - 5½' extension 152.88 ea = 8' screen
+ 86.25

~~cost for 8' screen point 196.88~~

ordered (7)

Oregon DEQ - very strict on wells
Against the law in OR to drill thru a confining layer

TOLS009867

BZTO104(e)046699

INW

Johnson well points come with striker plate "drive point"
(Pat of Amer. Well Supply did not come up w/ the idea)

"Guardian plate" SS

883-3113 Paul Querna Johnson Factory Rep.

Johnson Drive Points

(15) 2" ID (2 3/8 OD) 36" x 30" Drive Point SS screen - $115 ea (Recommends .010 slots)

(15) 5' Sch 80 "♂ NPT x ♀ flush joint" Adaptor $10 ea

(45) 5' Sch 80 2" solid PVC Pipe Flush Thread $9.75 ea

(15) Slip Caps $0.88

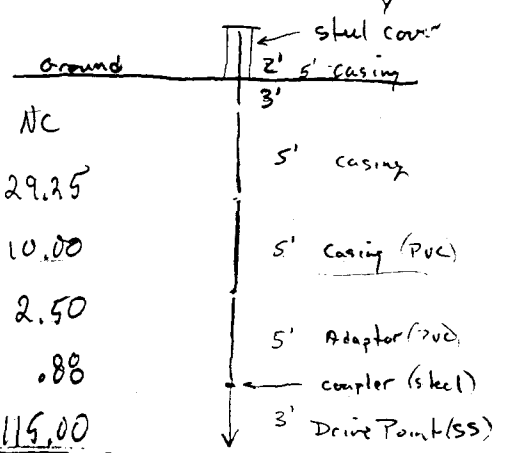
(15) Steel Couplings PVC → Drive point $2.50

3 days for Screen mfg + shipping (St. Paul MN) (1 day air 5-7 ground)
Air Freight $8.80 ea point
3 days for 5' NPT x Flush Adaptor (TIMCO)
Air Freight $0.41 / ft

1 Pump fitting (for Richmond)
1 Bailer drain

7 items

Steel Cover	NC
15' Solid PVC casing	- 29.25
5' Adaptor	10.00
Coupling	2.50
Slip Cap	.88
Drive Point	115.00
Total	157.63



TOLS009868

BZTO104(e)046700

Ken McAlpine
gets Well Points, etc

American Well Supply
"C" st Auburn
Patrick 939-9880

Clayton, Midwest

Pipe is GALV, screen is SS

Length screen		Price for 1-24
42 x 36"	SS screen =	56.85
36 x 30"	SS screen =	52.10
30 x 24"	SS screen =	*47.37 ea
Drive Point	=	

Johnson is continuous wire wrap sandpoint
can't drive very far

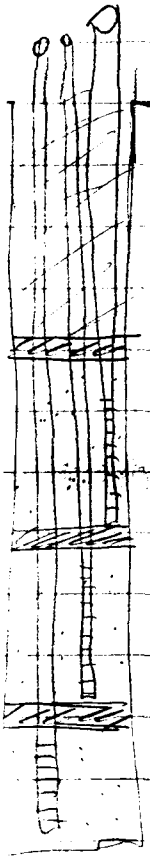
TOLS009869

BZTO104(e)046701

Well Points - Robert Landick

If you can get it in the ground then you've got a well.
No reason not to use WP w/ shallow WT

Can get galvanized or Stainless steel WP
Shouldn't pound PVC WP - designed for borehole w/ heaving sand.



Wash-down valves - "jet-in" takes lots of water - use PVC
can jet at least 15'.

Packers can cause problems - nested wells completed at different intervals are much easier. Drill 1, 8" hole & put 3-4" casings in.
Would have to drill wells, since well points won't go deep enough

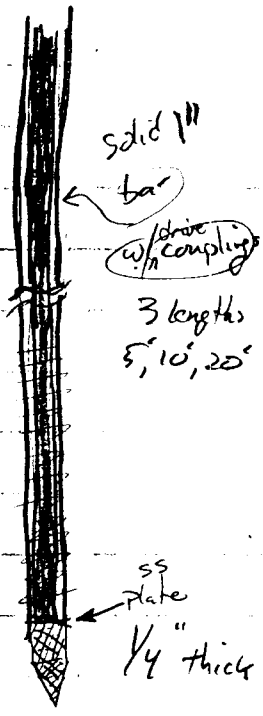
Actual drive point is a 18" 3' screen either galv or SS.
galv is stronger
36" screen 91.90 SS
→30" " 79.40 FS
"Red Head" drive point 18" screen x 1¼ (4-6" point) = 24 = 30 galv
No local supply, would take 1 wk truck, 2-3 days air (8-10 ea)
1¼" black steel pipe T&C (Threaded & Coupled) avail f/ Tsubota steel
on 15th use NPT Thread Drive Point is ♂ thread
Drive Head / strike Cap - thru Sears
Sears has drive points thru catalog.

TOLS009870

BZTO104(e)046702

All stainless is stronger than stainless/galv.

Better to drive from the "bottom"
Can use 2" - stronger than 1¼"
4' point SS w/ plate 42" screen
$200 each special made
Don't need drive couplings on the pipe



Can use PVC pipe flush-threaded inserted-joint

~~2 approaches~~
Steel w/ lead fill
Solid SS
Plate inside doesn't work

Not aware of any other supplier of this type of point
You have to have someone make you up something special

TOLS009871

3/11/86 FGP

Johnson Well - Paul Guerna Re Drive Points

Rep 883-3113

Possible concern is soil gripping PVC & causing breakage. Not usually done from surface w/ PVC.

If you go thru cobbles they could roll & pinch pipe.

In Puget Sound area glacial deposits aren't suited to this approach.

Biggest problem w/ drive bar is bending. Ok to use regular steel. Pipe will work but would bend faster than bar of same dia. Better to use larger pipe to cut weight - 1" should work
2" PVC sch 80 = 2-3/8 ID 1.94" ID black iron

Gravel is one of the hardest to drive thru - clay also.

★ Good to dig w/ post hole auger or hand as deep as you can (4'-5') to get point started - reduces sidewall friction. Gives lateral support.

Pipe needs drive couplings & drive cap drive cap - Pipe-pipe
Hydratech carries in stock (767-6114) coup. OD might be 2.2"

Screen ID is 1-3/4" total length = 36" screen = 30" & 3" nipple + 2" plate =
★ Longest screen length is 20' 7' would be no problem
5' list $193 add'l length = $35/foot

Also carries SS monitoring screen - has SS tip and

TOLS009872

BZTO104(e)046704

Flush-joint thread on top. Completly cleaned & bagged before shipment. Virtually same price as regular point. Not made for heavy driving. Intended for installation thru HS auger cleaning is only reason to use

$26.10/ft $26.60/fitting set

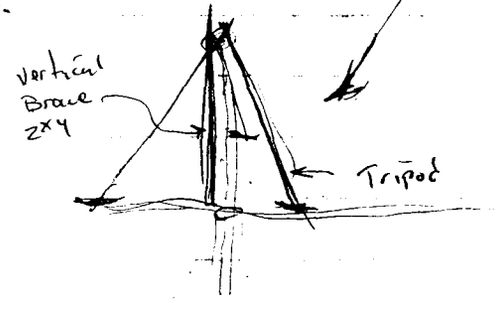
5' - $153.00 7'

With gravelly sand 20' shouldn't be a problem. Might not get much deeper than 30'. 40' would be rare.

Doesn't rec. slotted PVC: will break due to less strength and greater friction.

Can add open end screen extension to top of drive point 4½' = $175 list

Jackhammer - would be nice to rig a mast or jig to keep hammer vertical. You want to avoid glancing blows. Many people use a tripod & pully that lifts & drops a weight - you'd need at least 100 lbs.



TOLS009873

3/5/86 LP

Hydrophyllic – PVC Pipe for wellpoint

Mike 927-4321

Flush Thread

60, Sch 80 2" x 5' Solid 2.96 lf

60, Sch 40 2" x 5" " 2.76 lf x200 = 552

Sch 80 thread is a little longer but pipe isn't any thicker

Sch 80 warps faster than sch 40 in heat

Sch 40 = 69#/100 96#/100'

Work 280 psi Sch40 vs 400 psi sch 80

Can make up adaptor to fit well point

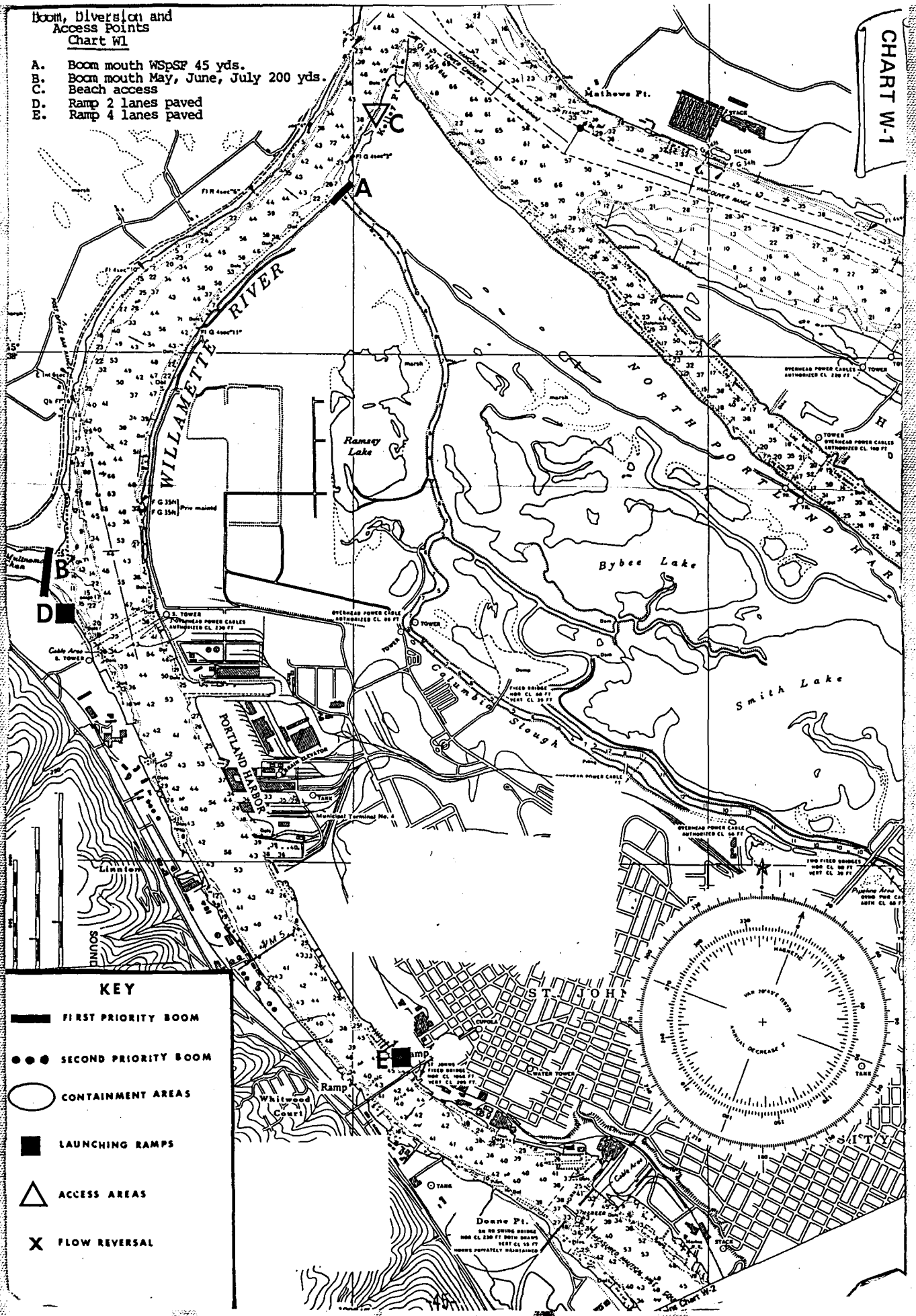
Instrumentation NW

40, 200 5' x 2" Solid PV Flush Thread = #1.60 A x200 = #320

Avail. in stock – 25'/box 5"x5"x5'

TOLS009874

BZTO104(e)046706


Boom, Diversion and Access Points
Chart W1
A. Boom mouth WSpSP 45 yds.
B. Boom mouth May, June, July 200 yds.
C. Beach access
D. Ramp 2 lanes paved
E. Ramp 4 lanes paved
CHART W-1
WILLAMETTE RIVER
NORTH PORTLAND HARBOR
Ramsey Lake
Bybee Lake
Smith Lake
Columbia Slough
PORTLAND HARBOR
Mathews Pt.
Doane Pt.
Whitwood Court
Ramp
KEY
FIRST PRIORITY BOOM
SECOND PRIORITY BOOM
CONTAINMENT AREAS
LAUNCHING RAMPS
ACCESS AREAS
FLOW REVERSAL

TOLS009875

M E M O R A N D U M

May 2, 1986

TO: File

FROM: Fred Proby

SUBJECT: NORTHWEST TERMINAL GROUNDWATER INVESTIGATION

Purpose of investigation was to establish depth and flow direction of groundwater. Location of groundwater measurement points are shown on attachment 1.

Riedel Environmental Services Inc. installed four 4" diameter PVC wells at the pentachlorophenol mixing site in November, 1985. Wells 1 - 3 were installed at an angle beneath the warehouse. Their vertical depth is 14'. Well number 4 was installed vertically to a depth of 40 feet. The boring log for well 4 is shown on attachment 2.

In February, 1986, Time Oil Co. (Ken McAlpine) installed well points at three locations for the purpose of measuring water table elevation. The well points consisted of 1 1/4" diameter steel pipe attached to a 30" drive point well screen which was driven in with a jackhammer. Wells A and B were driven to a depth of 20 feet. Two wells, designated C1 and C2, were placed at location C. Well C1 could only be driven to a depth of 8'. An attempt to go deeper with well C2 was unsuccessful. The elevation of each well was surveyed relative to an arbitrarily selected benchmark of 100.0'.

Water level measurements from wells A, B, C1, C2 and 4 were taken on nine occasions between 2/28/86 and 3/11/86. Analysis of this data showed a peculiarity between Well 4 and the well points, in that the water table measured at well 4 was as much as 7 feet lower than that measured by the well points. Furthermore, the water level in well 4 was dropping whereas the well points had a stable level.

In late March, 1986, Time Oil Co. (Fred Proby) installed three more well points (E, F and G), dug four pits, (P1 - P4) and established a river measurement point on the dock. The well points consisted of 2" PVC pipe attached to an 8.5' stainless steel drive point well screen which was driven in with a jackhammer. Wells E and F were driven to 20' and 19', respectively. Well G could only be driven to a depth of 13'. The pits were dug in the back portion of the terminal where it was found that water could be encountered at a depth of approximately 6'. Reference elevations were surveyed for the wells, pits and dock. Water level measurements were taken from all locations over a period of several days. Well point C2 was removed and C1 was redesignated as well C. Construction details of the wells are shown on attachment 3.

The water level measurements from the new well points (E, F and G) and the pits were consistent with those from the old well points (A, B, C). However, the water table elevation in well 4 matched the river elevation. River elevations for March, obtained from the National Weather Service [Mr. Steiger, (503) 249-0666], showed that the water table drop in well 4 observed between 2/28 and 3/11 closely corresponded with a drop in the river elevation. When the wells are plotted in cross section, spaced according to their distance from well 4, the water table depression around well 4 can be clearly seen (attachment 4). Attachment 5 shows water table contours.

TOLS009876

BZTO104(e)046708

The boring log for well 4 (attachment 2) shows a series of clay lenses and silty sand between the depths of 18.5' and 25'. Above this zone is gravelly sand and below is medium to fine sand. The clay lenses form a 6.5' thick zone of relatively low permeability.

From these observations it is apparent that there are two aquifers, an upper and a lower, beneath the Northwest terminal. The upper aquifer is "perched" on the clay zone. The water table for this aquifer slopes from the rear fence line of the terminal, where water ponds in winter, to the Willamette River. The lower aquifer is "confined" by the clay zone, as shown by the fact that the water in well 4 rises above the top of the clay zone. This zone can therefore be termed a "confining layer". Only well 4 taps the lower aquifer so the slope and direction of flow can not be determined. Since the lower aquifer is fed by the Willamette River, groundwater flow can be expected to change direction with the seasonal rise and fall of the river.

Since the water level in well 4 is lower than in the surrounding wells, groundwater from the upper aquifer flows toward well 4. This well was drilled with a 16" diameter auger and the annulus was filled with coarse sand to within 6 feet of the surface. Consequently, water from the upper aquifer can flow down through the confining layer via the well annulus. (Water can not flow down through the well itself since it is screened below the confining layer.) This is an undesirable situation, in that contaminant could reach the lower aquifer at a higher rate than would otherwise occur.

The drainage through well 4 creates a cone of depression that extends nearly 200' and forms a groundwater divide between wells B and E. The normal direction of groundwater flow in the upper aquifer should be toward the river. However, this is reversed in the area between well 4 and wells A and B. The actual shape of the cone of depression can not be determined since there are no wells closer than 150 feet from well 4.

Conclusions

Well 4 was improperly installed in that it connected two aquifers which are separated under natural conditions. The result is a depression of the water table around well 4 and a reversal of the normal groundwater flow direction.

Sealing the annulus of well 4 would stop drainage from the upper to the lower aquifer.

Installing additional monitoring wells closer to well 4 would enable better definition of the cone of depression and would allow recovery of the upper aquifer to be observed. Without this, the success of the sealing operation could not be verified.

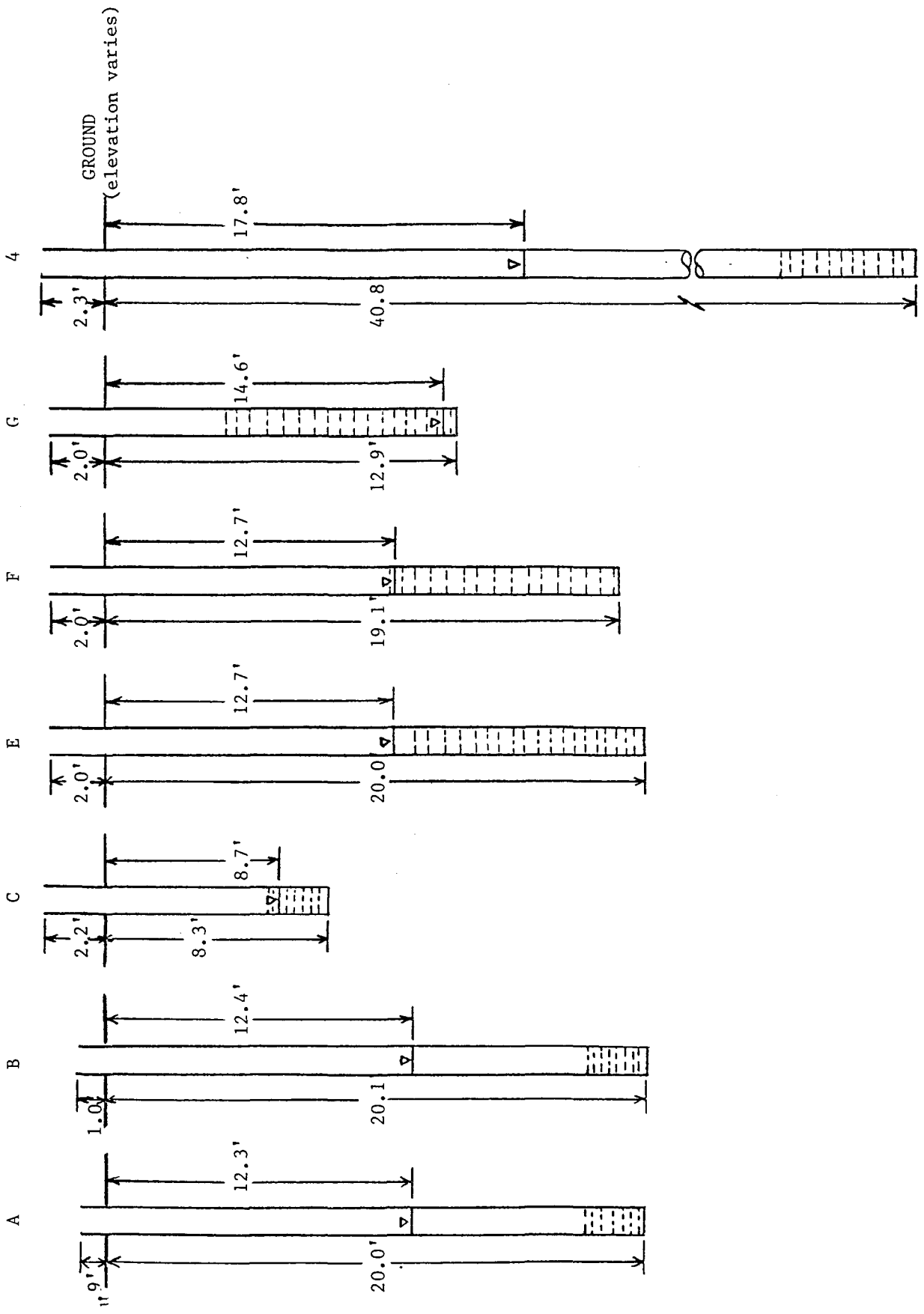
Recommendations

1. Seal the well 4 annulus.
2. Install additional monitoring wells closer to well 4 to verify that the well 4 annulus has been sealed.

Attachments a/s

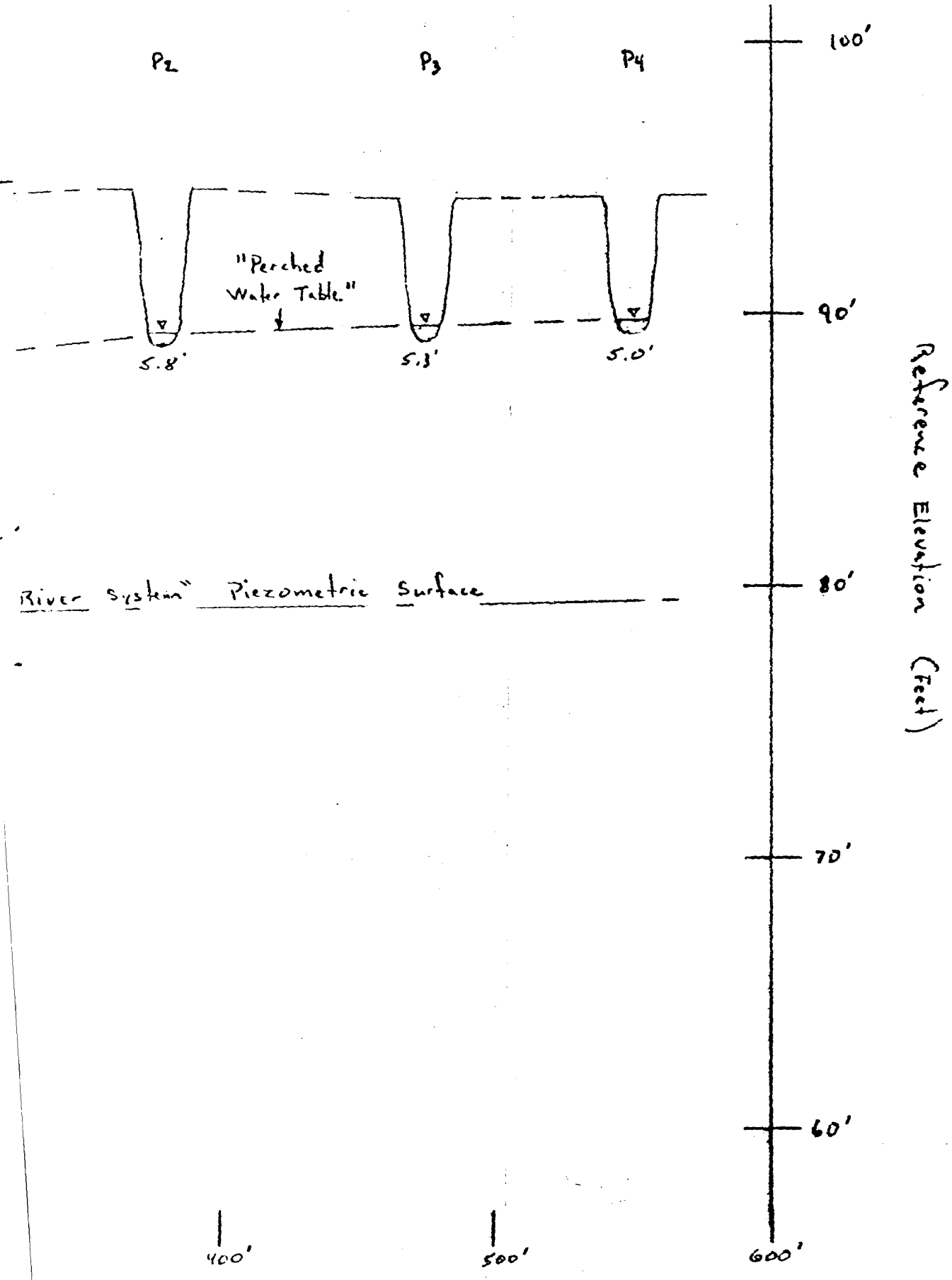
FLP/ch

WELL CONSTRUCTION DETAILS



Attachment 3

TOLS009878



TOLS009879

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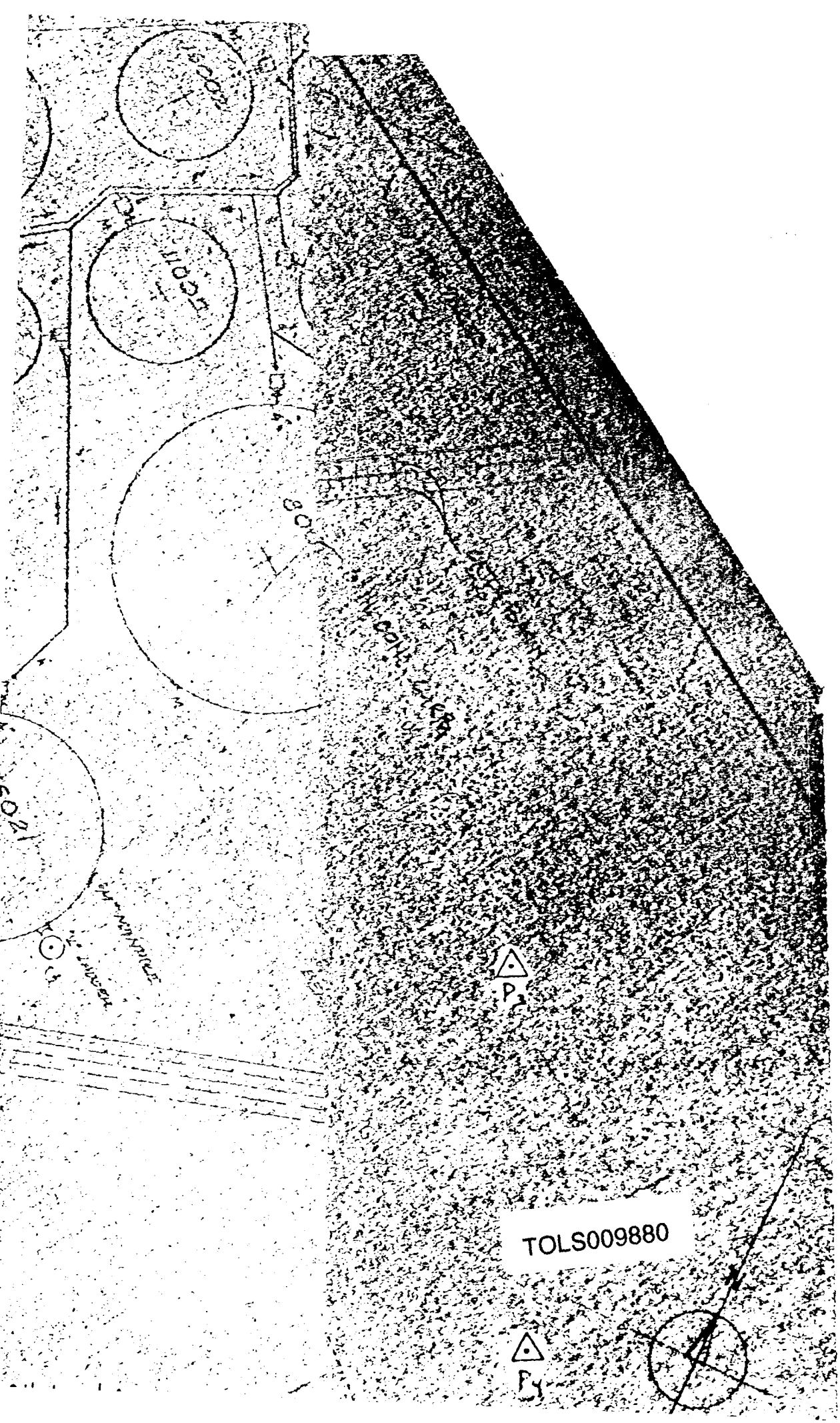


TOLS009880

WELL 4 BORING LOG

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)

"CONFINING LAYER"

Attachment 2

TOLS009881

TIME OIL CO. 163182

INVOICE	REFERENCE NO.	AMOUNT	INVOICE	REFERENCE NO.	AMOUNT
01515	046299	2,371.55	01851	046299	1,144.83
01891	046299	363.57CR			

PAID

CHECK DATE	[illegible]	DISCOUNT	.00
CHECK NO.	163182	TOTAL	3,702.85

TDP-120 REV. 3-84

WHEN DETACHED AND PAID, THIS CHECK BECOMES A RECEIPT IN FULL PAYMENT OF THE ITEMIZED ACCOUNT

163182

CITIBANK (NEW YORK STATE) N.A.
NORTH AMERICAN BANKING GROUP

TIME OIL CO.

P.O. BOX 24447 TERMINAL STATION SEATTLE, WASHINGTON 98124-0447

PAY TO THE ORDER OF

INSTRUMENTATION NORTHWEST INC
14977 NE 31ST CIRCLE
REDMOND WA 98052

PROTECTED AMOUNT
$ 3,702.85

AMOUNT
$ 3,702.85

VOID AFTER 6 MONTHS

BY

BY

NOT NEGOTIABLE
TWO SIGNATURES REQUIRED

TOLS009882

Instrumentation Northwest, Inc.

14972 N.E. 31st Circle • Redmond, Washington 98052 • (206) 885-3729

Invoice # 001881

SOLD TO
Time Oil Company
2737 W. Commodore Way
Seattle WA 98199
Attn: Fred Proby

SHIP TO

CUSTOMER'S ORDER	SALESMAN	DATE SHIPPED	SHIPPED VIA	F.O.B.	DATE
63790	RWL				04/25/86

Quantity Ordered	Quantity Shipped	DESCRIPTION	Unit Price	AMOUNT
15	15EA	Price correction credit on Invoice 1815 for the Johnson Stainless Steel 30" Screens, originally invoiced at $115.00 each. Corrected price is at $86.25 each. Shipping charges are in addition to Invoice 1815. shipping charges on Invoice 1831 were paid at the time of pickup by Time Oil Company.	28.75EA	431.25CR

MAY 05 RECD

<336.33>
<27.24>

3-176-22
1-634 00

PAID

MAY 01 RECD

CO. DIV.
VEND. AUTH
INV.
PO. PRICE
DUE
% MO.
DIST ATTACHED
REC/SIG

Sub-Total	431.25CR
Shipping	94.92
Tax	27.24CR
TOTAL	363.57CR

TERMS:
- Net 30 Days
- Please Remit from Invoice
- Past Due Invoices Subject to 1½% Finance Charge per Month

TOLS009883

BZTO104(e)046715

Instrumentation Northwest, Inc.

14972 N.E. 31st Circle • Redmond, Washington 98052 • (206) 885-3729

Invoice # 001831

SOLD TO
Time Oil
2737 W. Commodore Way
Seattle WA 98199

SHIP TO

CUSTOMER'S ORDER	SALESMAN	DATE SHIPPED	SHIPPED VIA	F.O.B.	DATE
63790	RWL		To Follow	Factory	3-31-86

Quantity Ordered	Quantity Shipped	DESCRIPTION	Unit Price	AMOUNT
7	7	2" x 5.5' Open-End Extension .010 Shipped to OR from MN	157.88ea	1,105.16

1105.16
89.52

3-176-22
1-634-~~68~~ 00

PAID

CO. DIV.
VEND. AUTH
INV.
PO. PRICE
DUE.
% MO. DIST ATTACHED REC/SIG

TERMS:
- Net 30 Days
- Please Remit from Invoice
- Past Due Invoices Subject to 1½% Finance Charge per Month

Sub-Total	1,105.16
Shipping	To Follow
Tax	89.52
TOTAL	1,194.68

TOLS009884

BZTO104(e)046716

Instrumentation Northwest, Inc.

14972 N.E. 31st Circle • Redmond, Washington 98052 • (206) 885-3729

Invoice # 001815

SOLD TO
Time Oil
2737 Commodore Way
Seattle WA 98199

SHIP TO

CUSTOMER'S ORDER	SALESMAN	DATE SHIPPED	SHIPPED VIA	F.O.B.	DATE
G3790	RWL		***	Factory	03/25/86

Quantity Ordered	Quantity Shipped	DESCRIPTION	Unit Price	AMOUNT
1EA	1EA	1.66" Bottom Device	14.70 ea	14.70
1	1	Hydrostar 4" Completion	45.00ea	45.00
15	15	Johnson S.S. Drive Point 30" Screen w/ plate	115.00ea	1,725.00
15	15	Timco 2" x 5' Schd 80 MFTJ x MNPT PVC pipe	10.00ea	150.00
45	45	Timco 2" x 5' Schd 80 FTJ x FTJ PVC pipe	9.75ea	438.75
15	15	2" Steel Coupling	2.50ea	37.50
15	15	2" PVC Caps	.88ea	13.20

***Items 1, 3 & 6 were delivered
Items 2 & 7 shipped UPS - Red
Items 3 shipped to Seatac via NW Orient
Shipping for Items # 4 & 5 to follow

3-176-22 2656.38
1-634-00 215.17

CO..... DIV.....
VEND.....
INV.....
PO.....
DUE.....
%..... MO.....
DIST
ATTACHED

AUTH
PRICE
REC/SIG

Sub-Total	2,424.15
Shipping	232.23
Tax	215.17
TOTAL	2,871.55

TERMS:
- Net 30 Days
- Please Remit from Invoice
- Past Due Invoices Subject to 1½% Finance Charge per Month

TOLS009885

TIME OIL CO.

P.O. BOX 24447 • TERMINAL ANNEX
2737 WEST COMMODORE WAY • SEATTLE, WASHINGTON 98124-0447
(206) 285-2400

PURCHASE ORDER

No. 63790

PLACE THIS NUMBER ON YOUR INVOICE AND ALL CORRESPONDENCE

TO Instrumentation Northwest
14792 N.E. 31st Circle
Redmond, WA 98052

DATE 03/11/86

SHIP BY

V	QUANTITY	PART NO.	DESCRIPTION	LIST UNIT PRICE	NET UNIT PRICE	AMOUNT
	15		2" x 36" SS Johnson Drive Points		$86.25	$1,293.75
	7		2" x 5 1/2' SS Screen Extension		157.88	1,105.16
	15		2" Steel NPT Coupling		2.50	37.50
	15		2" x 5' Sch 80 PVC NPT Adaptor		10.00	150.00
	45		2" x 5' Scho 80 PVC Pipe		9.75	4438.75
	15		2" Slip Caps		.88	13.20
	1		4" PVC Well Seal Fitting for pump		45.00	45.00
	1		Bailer Emptying Device		14.95	14.95
					Subtotal	$3,098.31
				Tax	(7.9%)	244.77
					Total	$3,343.08

FOR RESALE ☐ TAXABLE ☐

WASHINGTON STATE RESALE CERTIFICATE #C178-47526

TIME OIL CO.

BY Jim Coelling

DATE WANTED

THIS PURCHASE IS EXPENSE OF: ☒ T.O.C. ☐ OTHER

PAID

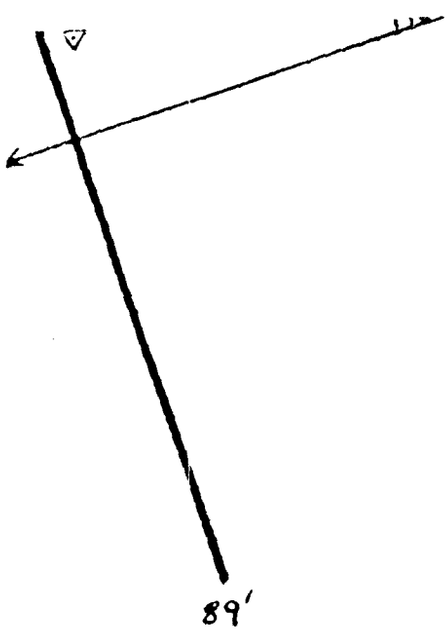
I F T. O. C.	DEPARTMENT	EXPLANATION
	SERVICE STATION (SHOW ADDRESS AND OPERATOR)	Northwest Terminal Monitoring Wells - Fred Proby

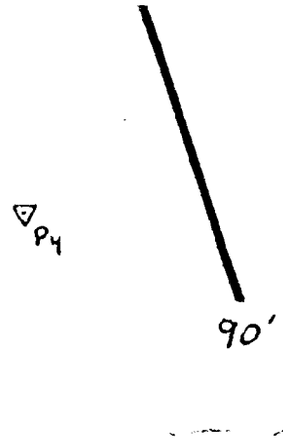
ACCOUNT NO. REQUESTED BY APPROVED BY RA

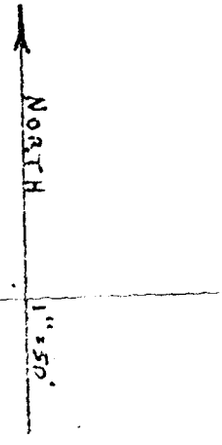
TAP-130 12/85

TOLS009886

BZTO104(e)046718







Contours

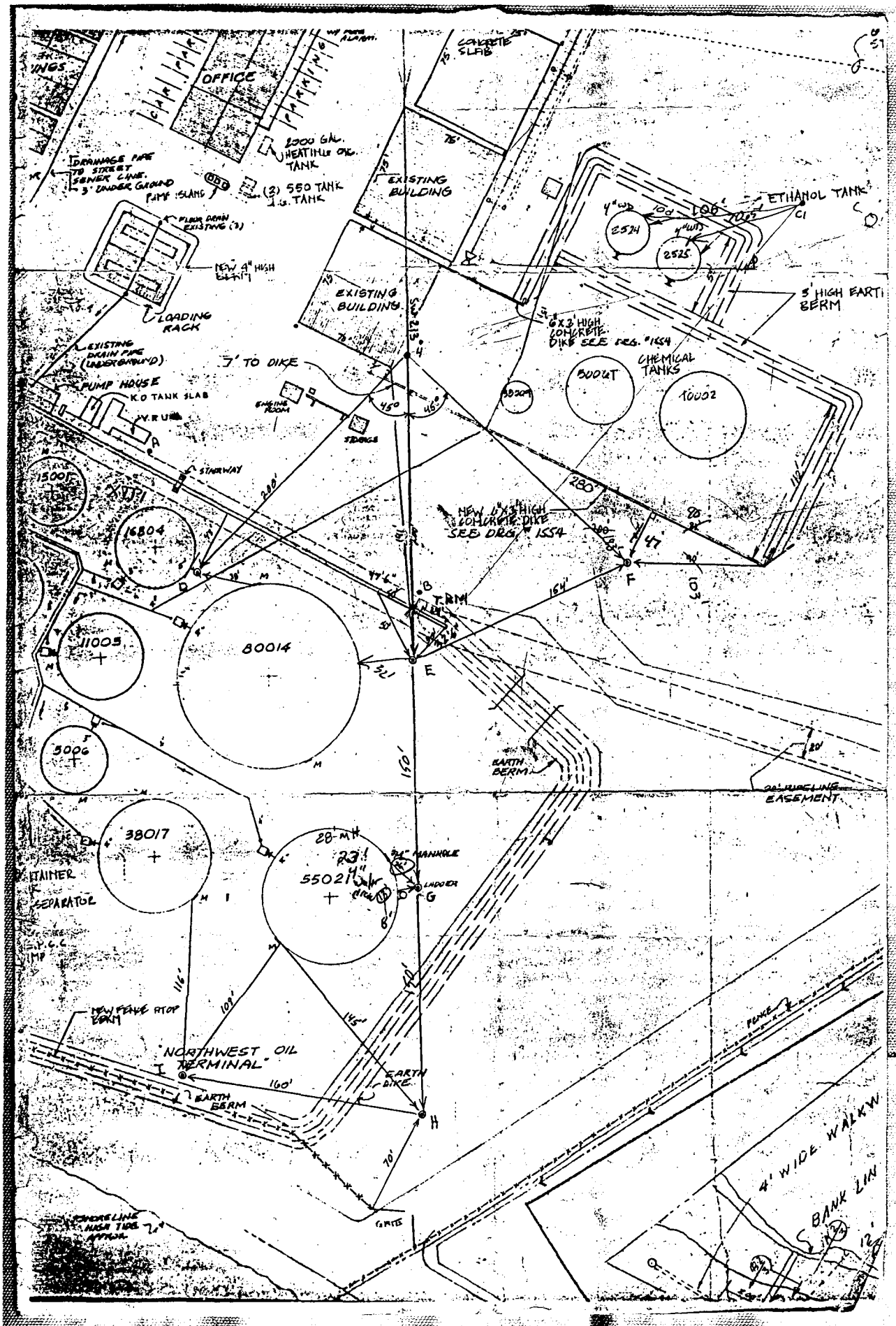
Measurements Taken

at 0800 hr

temporary benchmark.

imately 95'

TOLS009887



TOLS009888

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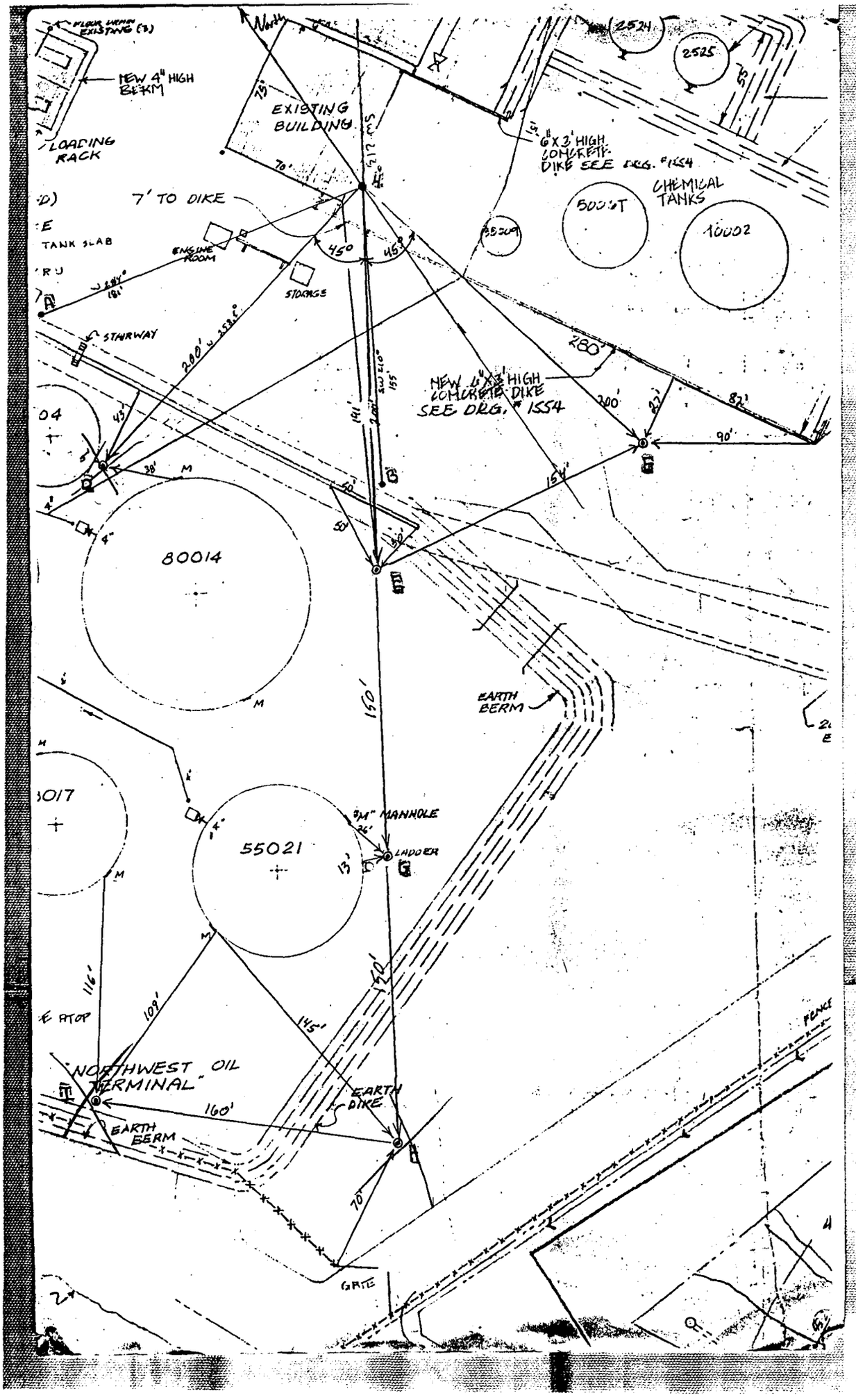
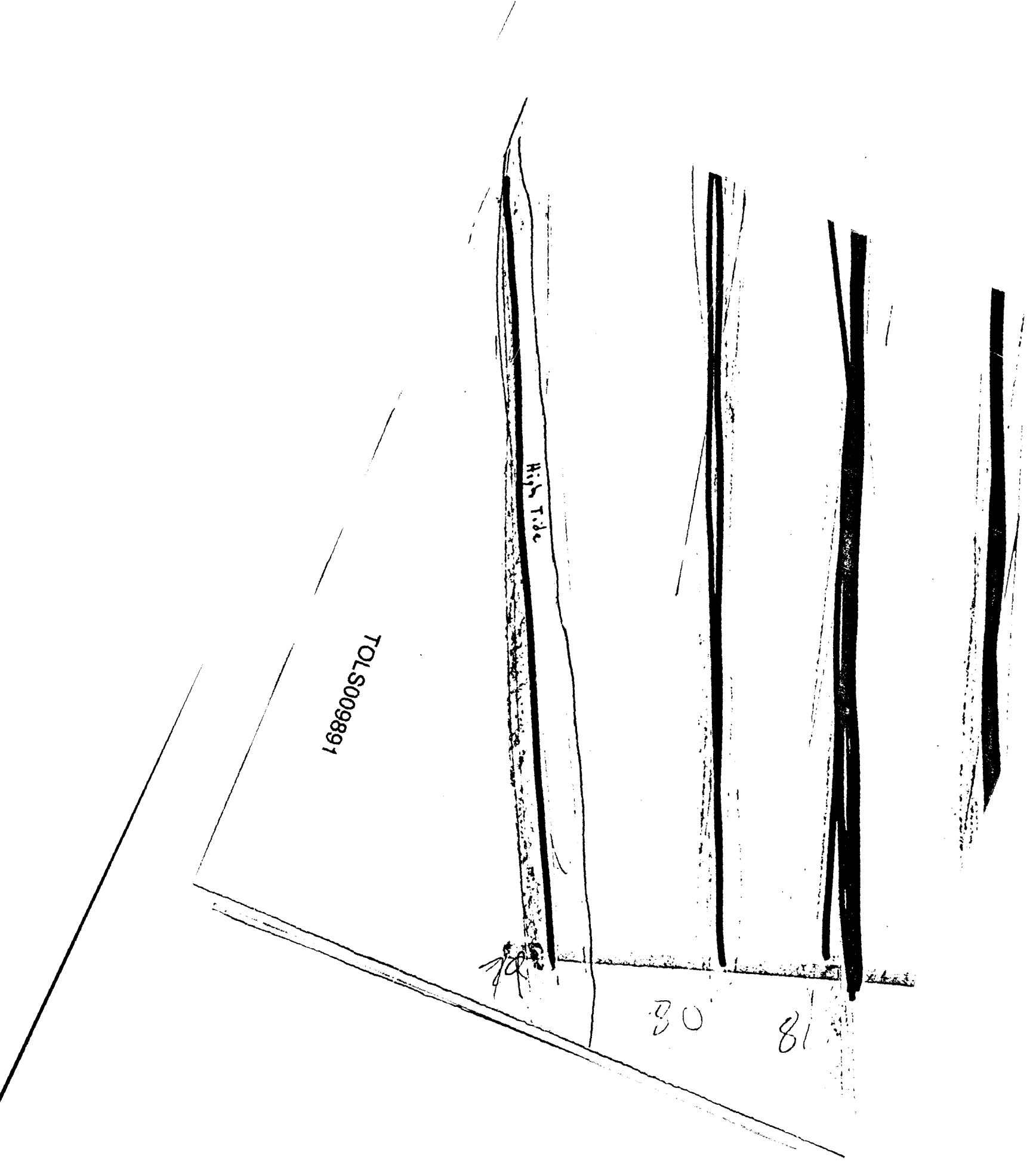
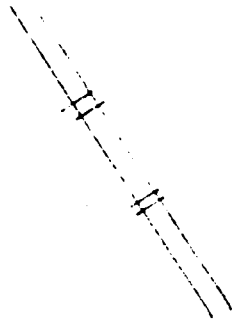


TOLS009889

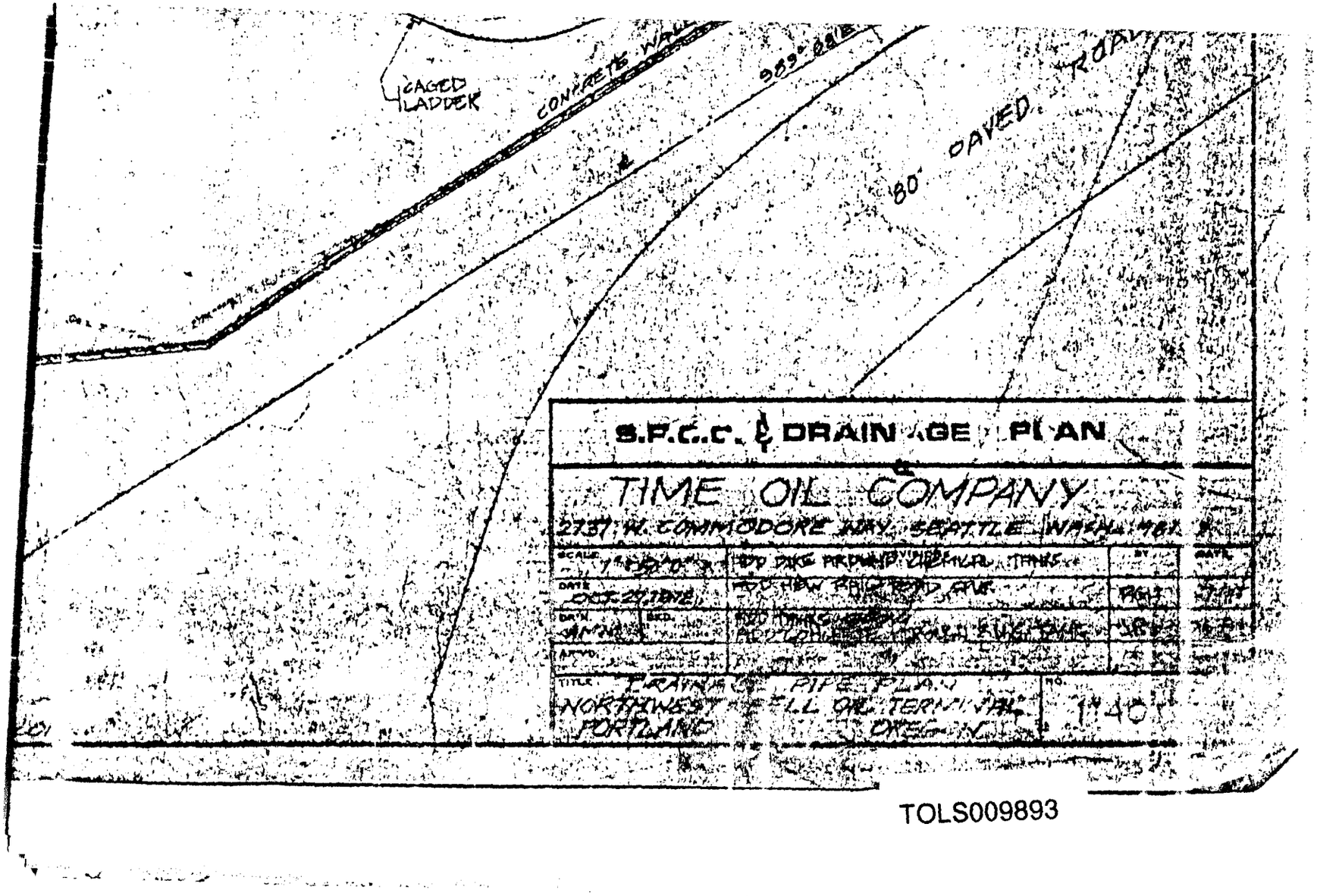
BZTO104(e)046721

TOLS009890


TOLS009897
High Tide
30'
81'



TOLS009892



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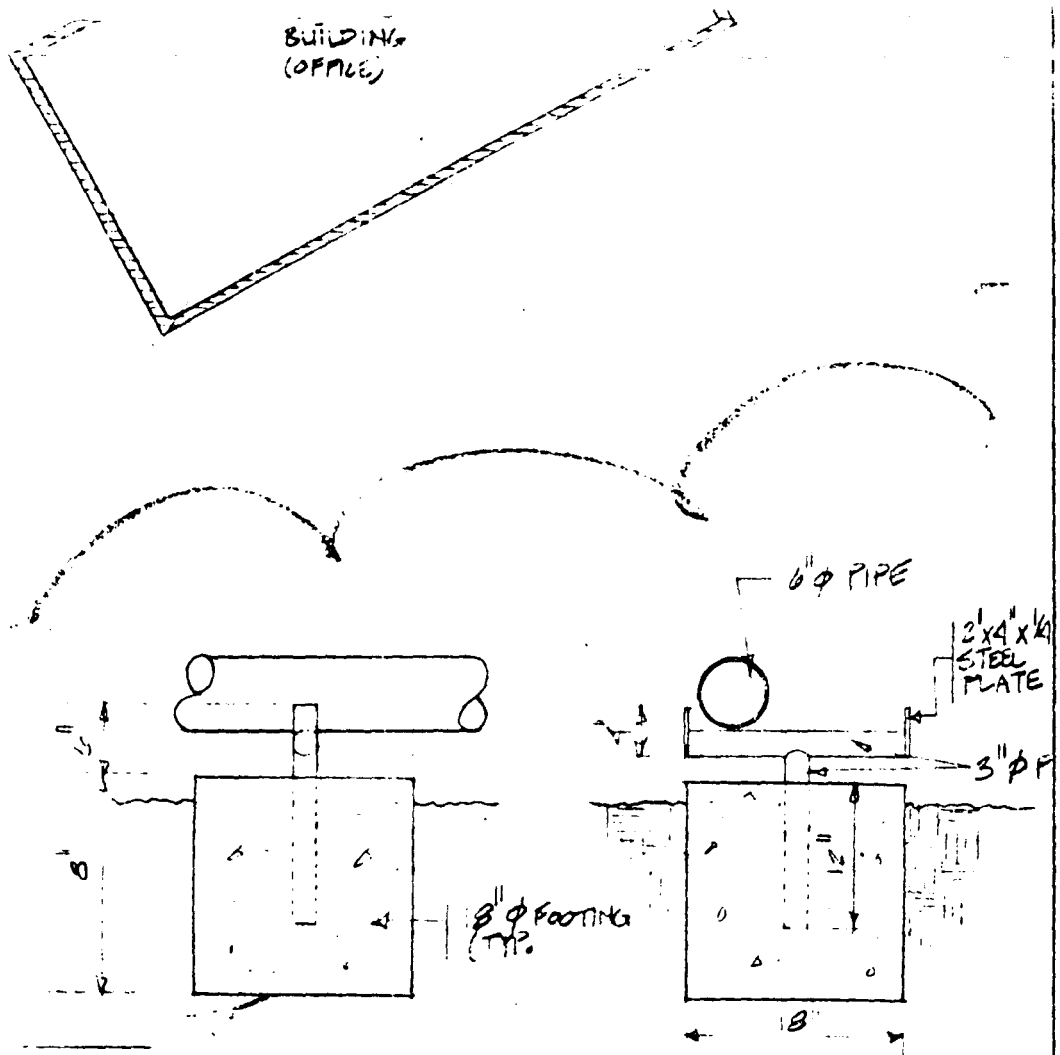
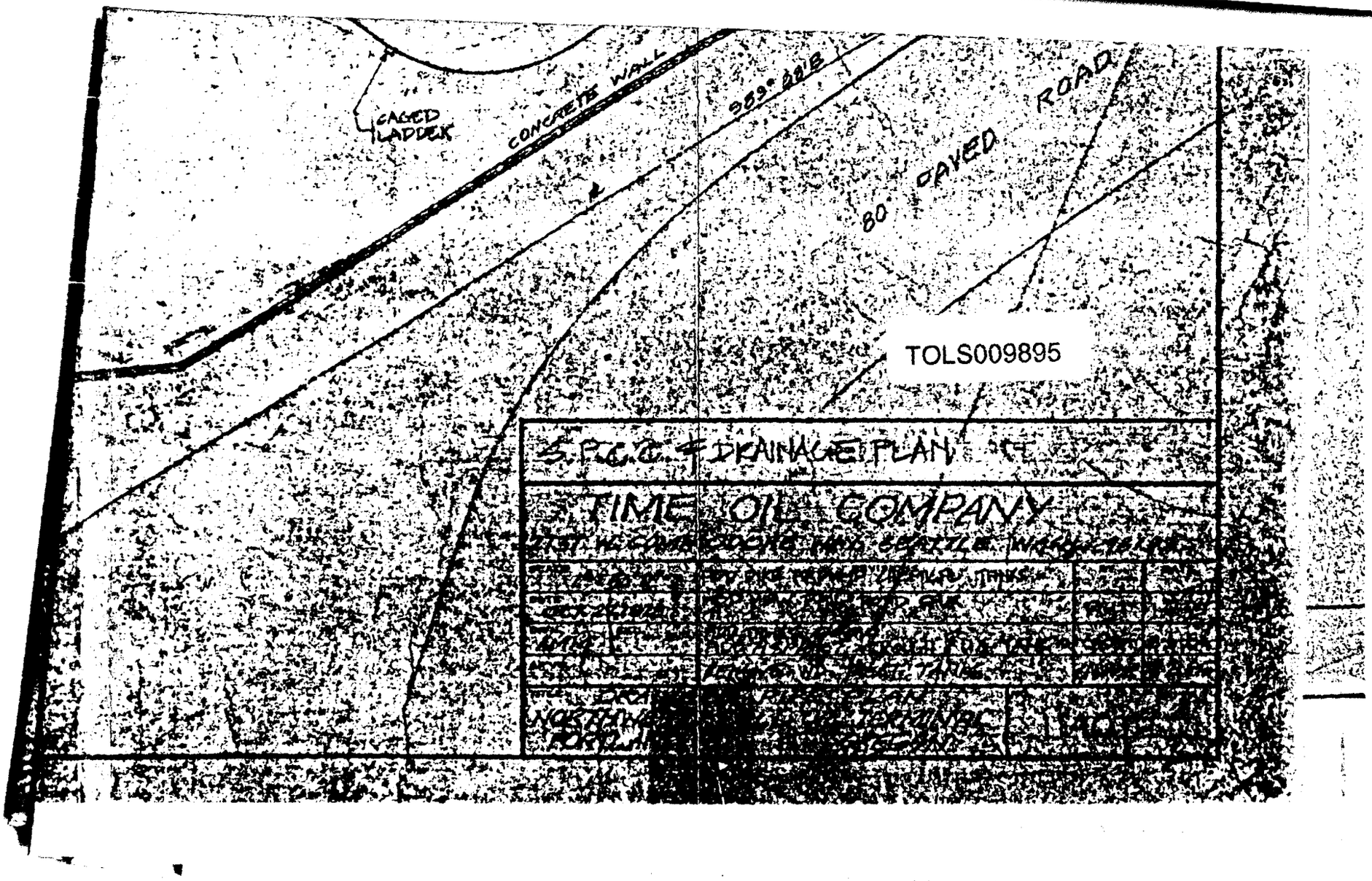


PIPE SLEEPER DETAIL @ 15'-0" O.C.

SCALE 3/4" = 1'-0"

TOLS009894



TOLS009895

BZTO104(e)046727

To Don

Date 7-9 Time 4.29

WHILE YOU WERE OUT

M Neal Wallace

Of Time Out

Phone 503-286-1611

Telephoned	X	Please Call	X
Called To See You		Will Call Again	
Wants To See You		Returned Your Call	

Message Tanks - Need to be cleaned out + removed Then discuss soil situation

~~BPAR:~~
Document in Pgh tomorrow, Doug to distribute.

K-56
Printed in U.S.A.

TOLS009896

BZTO104(e)046728

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

TOLS009897

TIME OIL CO. / U.S. OIL & REFINING CO.
5150 Wilshire Blvd. • Los Angeles, California 90036 • U.S.A.

TO: _____

This _____

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

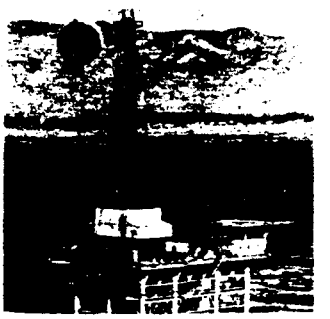
DOMESTIC TERMINALS

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

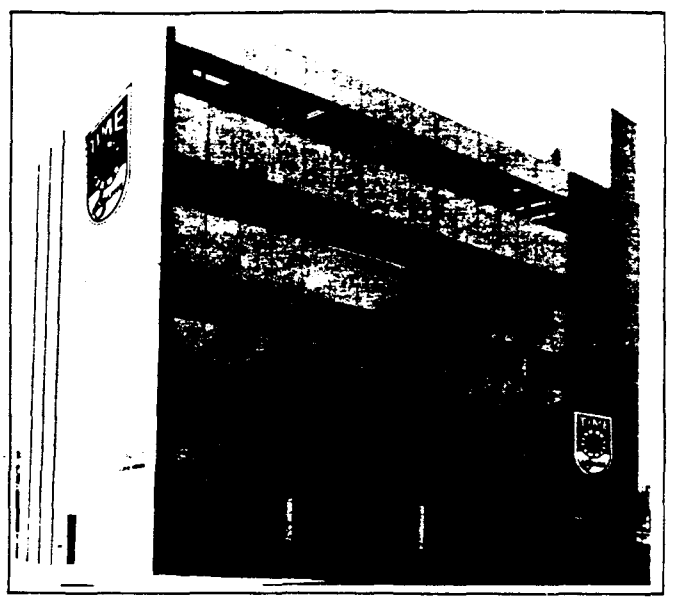


PRODUCING

REFINING

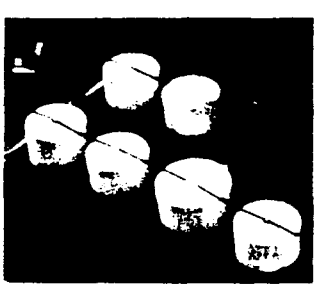
TIME OIL CO. / U.S. OIL & REFINING CO.

SUBSIDIARIES AND AFFILIATES



TIME OIL BUILDING – LOS ANGELES

Policy making headquarters. From this location, executive staff maintain close contact with the widespread operations.



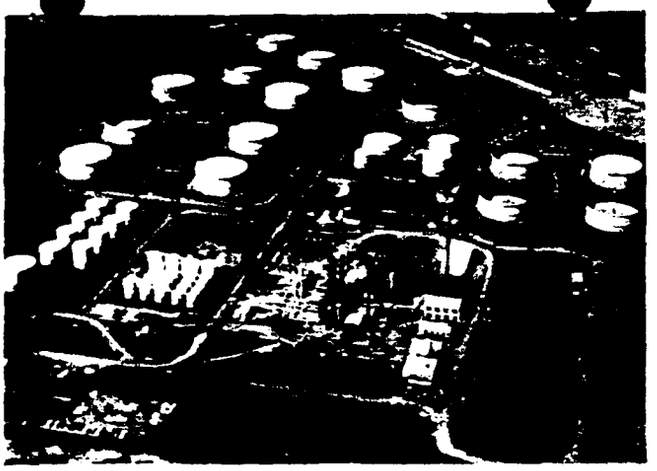
TERMINALING

MARKETING

TOLS009898

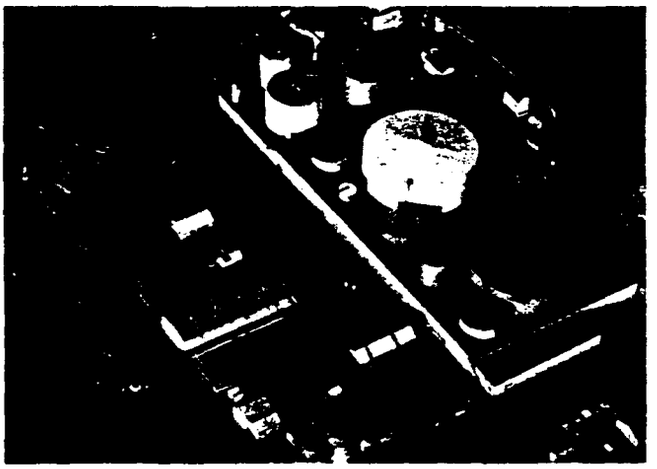
BZTO104(e)046730

TACOMA – WASHINGTON



U.S. OIL & REFINING – TACOMA PLANT

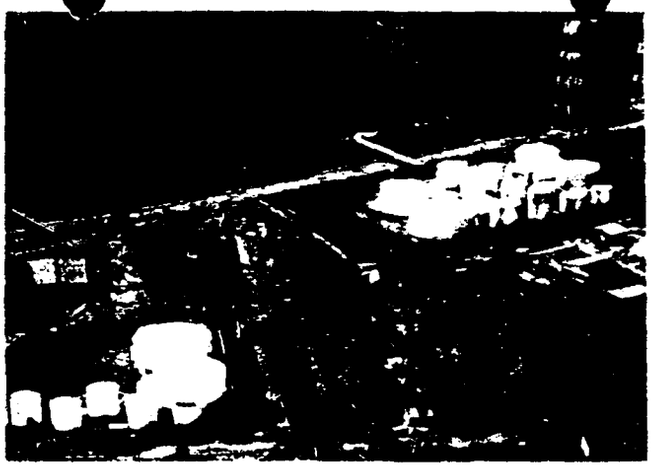
Located with deep water access near Tacoma harbor. This modern plant is the largest independent refinery in the northwest United States with a designed crude input capacity of approximately 33,000 barrels per day, and modern downstream facilities including catalytic, reforming, and hydrotreating, and 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.

TOLS009899

000627

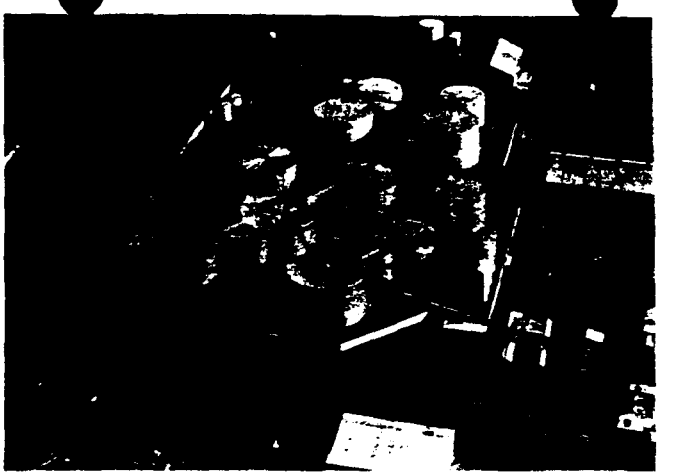
BZTO104(e)046731

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.

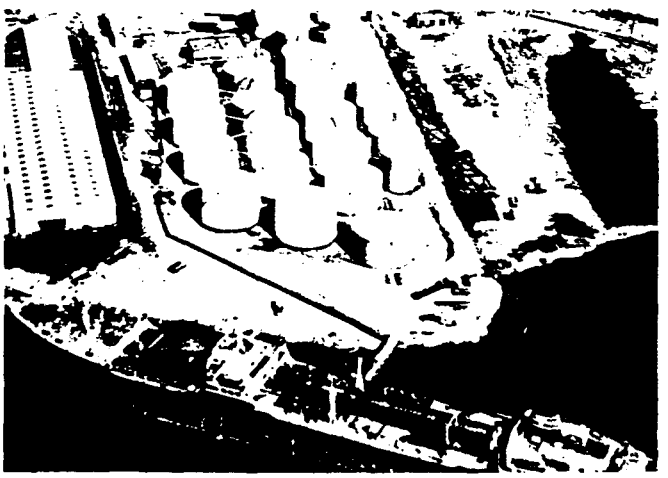
STOCKTON – CALIFORNIA



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.

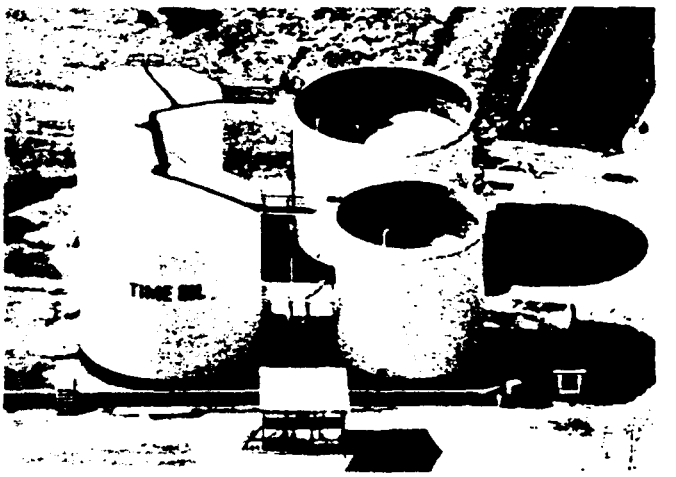
RICHMOND (SAN FRANCISCO BAY AREA) CALIFORNIA



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.

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.

TOLS009900

000628

BZTO104(e)046732

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

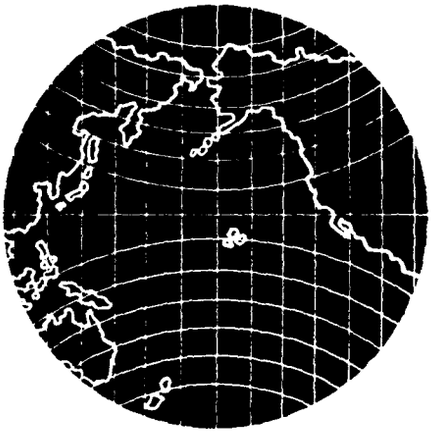
Located on Bellingham Bay on the coast of Washington, approximately 25 miles from the Canadian border – this terminal has a rail spur, truck loading facilities and total storage capacity of approximately 23,000 barrels.

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.

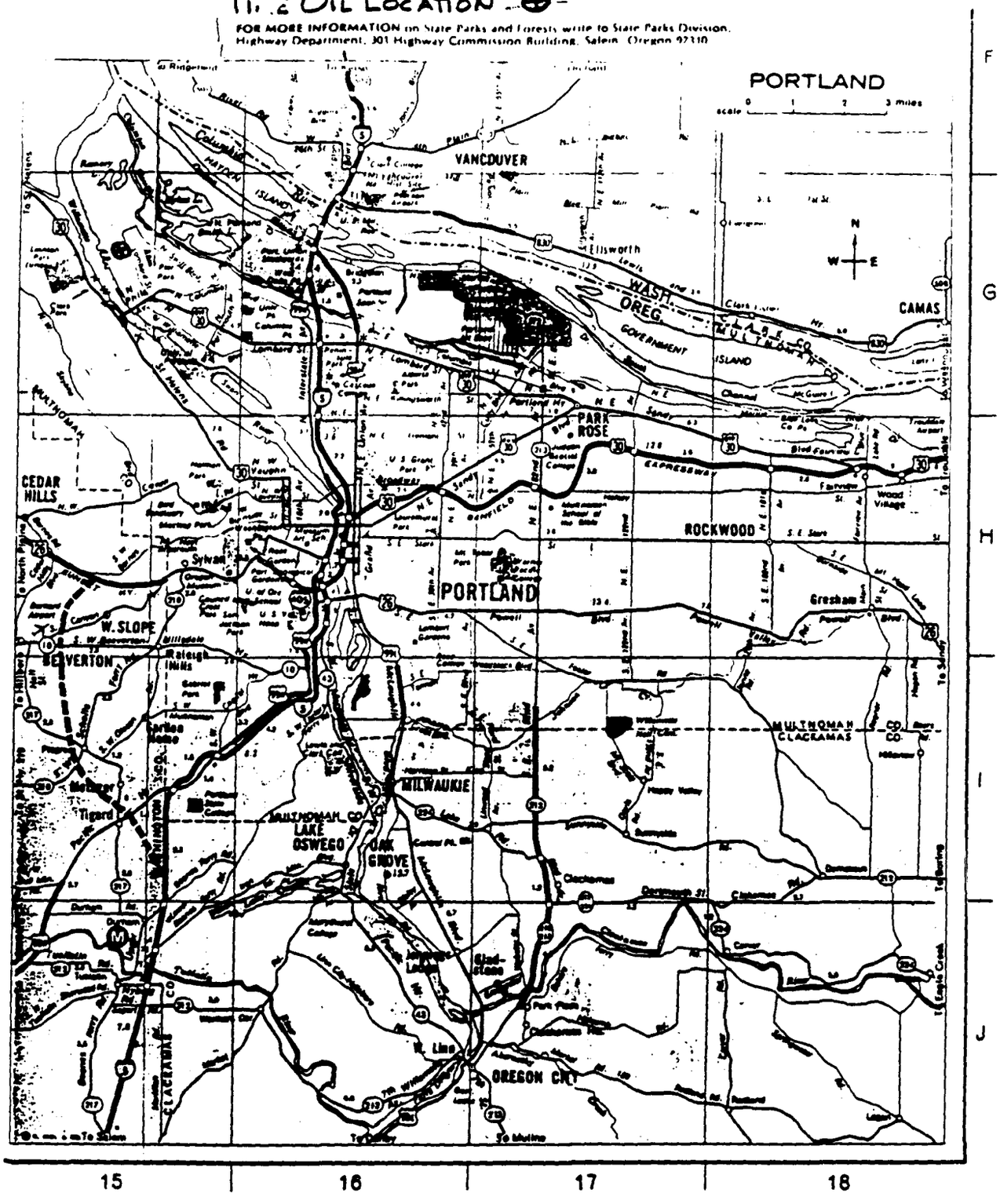
TOLS009901

000629

BZTO104(e)046733

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



TOLS009902

000614

K-64

BZTO104(e)046734

To TS

Date 1/2 Time 8:40

WHILE YOU WERE OUT

M Dave Kozak

Of

Phone

Telephoned	✓	Please Call	
Called To See You		Will Call Again	✓
Wants To See You		Returned Your Call	

Message He is detained in Munhalland will not be able to keep the 9:00 A.M. appointment this morning. He'll call you back around 1:00 P.M.

Dave

K-56
Printed in U.S.A.

TOLS009903

BZTO104(e)046735

To Bill

Date _____ Time 11:02

WHILE YOU WERE OUT

M Terry Henderson

Of Time Oil

Phone 206-285-2400

Telephoned	✓	Please Call	✓
Called To See You		Will Call Again	
Wants To See You		Returned Your Call	

Message _____

K-56
Printed in U.S.A.

TOLS009904

000585

BZTO104(e)046736

WOOD TREATING
CHEMICALS CO.

3107 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

July 24, 1967

Mr. James Barnet
Time Oil Company
2737 W. Commodore Way
Seattle, Washington 98100

Dear Jim:

There is a fairly sizeable water repellent market available to us in the Tacoma area. I estimate there is approximately 30,000 gallons of water repellent ready-to-use solution consumed in the industrial area within the city limits of Tacoma and at this time we don't have any of the business. One of the disadvantages we are faced with is one of our competitors has lined up the Shell oil distributor in the area and made an arrangement for him to deliver the ready-to-use in 500 gallon quantities.

Last week the thought occurred to us that if we were to set up bulk storage facilities in the area we could have the same Shell carrier deliver our ready-to-use material to these customers. The trade is not particularly loyal to the water repellent producer but rather to the Shell dealer and if we actively solicited their business and offered to make deliveries using the same trucking facility I think we could take part in a fair share of this market.

Would you therefore be kind enough to advise if you have an 8,000 gallon storage tank available at the Tacoma plant we looked at on the water front and if so how much would monthly rent be on this. We would like to set it up so that Mr. Lillyblad could actually draw materials from this inventory himself, and have a locking facility so that there would not be any danger of someone else taking the material. Please advise promptly what you have available and if you could lease us a tank at a fairly low price. Thanks for your help.

Sincerely yours,

WOOD TREATING CHEMICALS CO.

/ Hank

H. E. Morissette
District Sales Manager

HEM:lf

TOLS009905

BZTO104(e)046737

August 1, 1967

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

Attention: H. G. Morissette

Dear Herb:

In reference to your letter of July 24th for water repellent storage in the Tacoma area, I wish to advise you that we do have existing facilities to handle the quantity you are talking about. However, I believe for this product and for your customer's benefit it would be much smarter for us to purchase and install a 10,000 gallon horizontal tank with an exclusive system for your customer's benefit.

I would prefer waiting until our next meeting to discuss any terms or future work in regard to this project.

Very truly yours,

TIDE OIL CO.

J. W. Barnet
Traffic & Operations

JWB:mlm

TOLS009906

BZTO104(e)046738

WOOD TREATING
CHEMICALS CO.

2727 Southwest Avenue / St. Louis, Missouri 63110 / 314 PR 2-2200

July 27, 1967

Mr. James Barnet
Time Oil Company
2737 West Commodore Way
Seattle, Washington 98199

Dear Jim:

We are arranging to ship you immediately a 1 gallon sample of the aromatic oil that was taken from Monsanto's Texas plant. You will recall we agreed to give Bob Badger of your National Oil Division a sample of this material so that he could send it to the testing laboratory in Alberta to see if they could use their Tembina Clay to remove the offensive odor.

I noticed the other day the boys at the U. S. Refinery had run a series of tests on the samples that we sent them and they were not very encouraged with the results. You can send a copy of the work you performed here on to St. Louis to keep them posted of developments and relay any comments that they have right back to you.

We sure want to thank you, Jim, for all the help you have given us on this and look forward to seeing you soon. Best personal regards.

Sincerely yours,

WOOD TREATING CHEMICALS CO.

H. E. Morissette
District Sales Manager

HEM:lf

TOLS009907

BZTO104(e)046739

TIME OIL COMPANY
2737 WEST COMMODORE WAY
SEATTLE, WASH. 98199

November 4, 1970

Thomas J. Gassen
Fred. S. James & Co.
3435 Wilshire Boulevard
Los Angeles, California 90005

Dear Tom:

In connection with an agreement we have with Wood Treating Chemicals Co. for the storage and processing of certain materials for them at our Portland terminal we have agreed to furnish them with certificates of insurance evidencing liability coverage.

Kindly furnish them with a certificate of insurance with respect to this excess bodily injury and property damage coverage you have placed for us at their following address:

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

Sincerely yours,
TIME OIL CO.

A. A. Schneider

COPY

TOLS009908

BZTO104(e)046740

TIME OIL COMPANY
2737 WEST COMMODORE WAY
SEATTLE, WASH. 98199

November 4, 1970

Harold Brungardt
Farmers Insurance Group
Portland Regional Office
6700 S. W. Varns Street
Portland, Oregon 97223

Dear Harold:

In connection with an agreement we have with Wood Treating Chemicals Co. for the storage and processing of certain materials for them at our Portland terminal we have agreed to furnish them with certificates of insurance evidencing liability coverage.

Kindly furnish them with a certificate of insurance with respect to amounts you have insured us for under Policy Number 3110 00 56 at their following address:

5137 Southwest Avenue
St. Louis, Mo. 63110
Attn: Mr. R. M. Morriss, Jr.

Very truly yours,

TIME OIL CO.

A. A. Schneider

COPY

TOLS009909

BZTO104(e)046741

FRED. S. JAMES & Co.
Insurance Brokers and Consultants Since 1858
3435 WILSHIRE BLVD. • LOS ANGELES 90005 • (213) 385-0545

November 13, 1970

COPY

Wood Treating Chemicals Co.
5137 Southwest Avenue
St. Louis, Missouri 63110

Attention: Mr. R. M. Morriss, Jr.

TIME OIL COMPANY, etal
CERTIFICATE OF INSURANCE

Gentlemen:

Enclosed is our certificate of insurance evidencing the liability coverage provided by the Harbor Insurance Company at Time Oil's Portland Terminal.

If you have any questions, please do not hesitate to contact us.

Sincerely,

FRED. S. JAMES & CO.

T.J.G.

Thomas J. Gassen

TJG/wf
Encl.

cc: Mr. Fred Jonas
Mr. A. A. Schneider

TOLS009910

BZTO104(e)046742

TRUCK INSURANCE EXCHANGE

CERTIFICATE OF INSURANCE

When countersigned by an authorized representative of the Company, this certificate supersedes any previously issued certificates and certifies that the following policy(ies) have been issued to the Insured for the coverage indicated. This certificate is subject to all of the terms, conditions and limitations set forth in the described policy(ies) and endorsements thereto. It is furnished as a matter of information only and does not change, modify or extend the policy(ies) in any way.

Named Insured . TINE OIL CO. ET AL
Address . 2737 WEST COMMODORE WAY
. SEATTLE 99, WA

79-37-812 Agent | 3110-00-56 Policy Number

Effective 11-4-70

COVERAGE			LIMITS OF LIABILITY	
COVERED	NOT COVERED	AUTO LIABILITY		
X	☐	Owned	Bodily Injury	$ 25,000 each person
X	☐	Hired		$ 100,000 each occurrence
X	☐	Non-Owned	Property Damage	$ 10,000 each occurrence
X	☐	Employer's Non-Ownership		
	☐	Contingent Liability		
		GENERAL LIABILITY		
		M&C - OLT Owners & Contractors	Bodily Injury	$ 25,000 each person
X	☐	Contractual * Elevators		$ 100,000 each occurrence
				$ 100,000 aggregate products
			Property Damage	$ NIL,000 each occurrence
X	☐	Products		$ NIL,000 aggregate products
Single Limit Liability for Coverages checked [X] above				$,000 each occurrence
☐	☒	CARGO		$,000 each vehicle
				$,000 each occurrence
			Less $	deductible

* Includes Goods or Products Warranty, Written Lease of Premises, Easement Agreement, Municipal Ordinance Agreement, Sidetrack Agreement, Elevator or Escalator Maintenance Agreement only, unless accompanied by specific endorsement providing additional Contractual Coverage.

OWNED AUTOMOBILES, IF COVERED

☐ Described below ☒ Description waived

YEAR, MAKE, TYPE OF BODY, LOAD CAPACITY	IDENTIFICATION NUMBER
	LAST 3 DIGITS SHOWN

It is hereby agreed that upon cancellation or termination of this policy or policies from any cause the Company will mail 30 days notice in writing thereof to the other interest shown below

Other Interest . WOOD TREATING CHEMICALS CO.
. 5137 SOUTHWEST AVENUE
. ST. LOUIS, MO 63110
ATTN: MR. R.M. MORRISS, JR.

Countersigned Burt Hobbs
Authorized Representative

TRUCK INSURANCE EXCHANGE
Truck Underwriters Association, Atty. in fact
By W. J. Braddock
President

56-0187 8-70 1101 PRINTED IN U.S.A. ®L

INSURED'S COPY

TOLS009911

BZTO104(e)046744

CERTIFICATE OF INSURANCE

TO:

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

Name and Address of Insured

Time Oil Co., et al
5150 Wilshire Boulevard
Los Angeles, California

COVERAGE	COMPANY AND POLICY #	EXPIRATION DATE	LIMITS OF LIABILITY	
Workmen's Compensation Employers Liability			WC- Statutory EL-	
			Bodily Injury	Property Damage
Comprehensive General Liability		Each Person Each Occurrence Aggregate		
Comprehensive Automobile Liability Insurance		Each Person Each Occurrence		
Broad Form Property Damage Liability and Excess General Bodily Injury and Automobile Bodily Injury and Property Damage	Harbor Insurance Co Policy 109515	7/1/73	$500,000 Combined Single Limit Bodily Injury and Property Damage Liability (including underlying limits of $25,000/100,000 Bodily Injury and $10,000 Automobile Property Damage provided by Farmers Insurance Group)	

Location:

Portland Terminal, 12005 North Burgard Street, Portland, Oregon

Notice of Cancelation—In the event of cancelation or change in the above certified Coverages, it is the intention of the undersigned to give 10 days written notice of cancelation or change to:

Wood Treating Chemicals Co., as shown above.

(See reverse side for additional provisions)

This is to certify Coverage under the above policies.

FRED. S. JAMES & CO.

FRED S. JAMES & CO.
625 South Kingsley Drive, Los Angeles 5, Calif.

By BY

TOLS009912

BZTO104(e)046745

PHYSICAL EXAMINATION

SECTION V. PHYSICAL RECORD

(1) HEIGHT	(2) WEIGHT	(3) TEMP.	(4) RESP.	(5) PULSE	(6) BLOOD PRESSURE
5'7"	NOW 155 USUAL 155	98.0	18	100	130/80

VISION	WITHOUT GLASSES	WITH GLASSES	(8) COLOR PERCEPT.	9. FIELD (VISUAL)
(7) FAR	R 20/25 L 20/25	R L	Normal	
(10.) NEAR	R L	R L	11. PUPILS	

12. DEPTH PERCEPT. | 13. MUSCLE BALANCE

14. HEARING R L | 15. CANALS | 16. DRUMS

17. PURE TONE AUDIOMETER R L

(18.) URINALYSIS—SP. GR. 1.015 REACT. GLU. neg ALB. neg MICRO.

19. SEROLOGY (IF DONE)

20. OTHER LABORATORY TESTS

21. CHEST X-RAY — (IF DONE) Normal

22. OTHER X-RAY — (IF DONE)

INDICATE (✓) IF NORMAL OR ABNORMAL. IF ABNORMAL STATE DETAILS UNDER FINDINGS.

	NORMAL	ABNORMAL		NORMAL	ABNORMAL		NORMAL	ABNORMAL
23. GENERAL APPEARANCE	✓		33. BREASTS	✓		42. JOINTS	✓	
24. DEVELOPMENT	✓		34. CHEST	✓		43. EXTREMITIES	✓	
25. HYGIENE	✓		35. LUNGS	✓		44. VARICOSITIES	✓	
26. SKIN		Acne	36. HEART	✓		45. REFLEXES— ROMBERG	✓	
27. NOSE AND SINUSES	✓		37. ABDOMEN	✓		46. —PATELLAR	✓	
28. TEETH AND GUMS	✓		38. HERNIA	✓		47. —OTHER	✓	
29. TONGUE	✓		39. GENITALIA	✓		48. NEUROLOGICAL, GENERAL	✓	
30. THROAT AND TONSILS	✓		40. ~~RECTUM AND PROSTATE~~	✓		49. PERSONALITY	✓	
31. THYROID AND NECK	✓		41. SPINE			50. EVIDENCE OF ALCOHOLISM OR NARCOTIC ADDICTION		
32 LYMPH GLANDS	✓							

51. FOR JOBS REQUIRING PHYSICAL EXERTION OR STRESS TO LOWER BACK.

	NORMAL	ABNORMAL
ACTIVITY	✓	
POSTURE	✓	
SCOLIOSIS	✓	
FORWARD BENDING	✓	
BACKWARD BENDING	✓	
LEG LENGTH	✓	

	R	L
PELVIC TILT	✓	
LATERAL BENDING	✓	
STRAIGHT LEG RAISING	✓	
FABERE-PATRICK TEST	✓	

REPORT OF X-RAYS OF LUMBAR SPINE

DETAILS OF ABNORMAL AND/OR SIGNIFICANT FINDINGS

SEC.	ITEM NO.	
		Mild acne
		will Rx and tetracycline.

EXAMINING PHYSICIANS REMARKS

PRELIMINARY CLASSIFICATION AND EXPLANATION

AC___ BC___ C___ OTHER___

FINAL CLASSIFICATION

A ✓ D___ | REASON IF OTHER THAN CLASS A

B___

TOLS009913

IF CLASS B OR BC, WORK RESTRICTIONS:

CLASSIFICATION CHANGED TO___ (DATE)___ (DR.'S INITIALS)___

Jan 28 1981

[signature] M.D.

(EXAMINING PHYSICIAN)

BZTO104(e)046746

TIME OIL

NAME	SOC. SEC. NO.	E-NO.	HOME ADDRESS
Ronald Grosmick	559-02-5119		2340 SE 50th #20 Portland, Ore 97226

DEPT. NO.	DATE EMPLOYED	DATE OF BIRTH
	A.M. P.M.	

MALE	FEMALE	MARITAL STATUS	JOB ASSIGNMENT	OCCU. EXAM. CODE
X		Single		

MEDICAL HISTORY TO BE COMPLETED BY APPLICANT (NURSE WILL ASSIST IF NECESSARY)

SECTION I. FAMILY

HAVE EITHER OF YOUR PARENTS, OR BROTHER OR SISTER, EVER HAD ANY OF THE FOLLOWING? (STATE YES OR NO)

1. CANCER _____ 2. DIABETES _____ 3. EPILEPSY _____ 4. HEART TROUBLE _____
5. TUBERCULOSIS _____ 6. HIGH BLOOD PRESSURE _____ 7. NERVOUS BREAKDOWN _____

SECTION II. PERSONAL

1. HAVE YOU EVER BEEN A PATIENT IN A HOSPITAL OR CLINIC? yes IF SO, FOR WHAT? Pneumonia
2. ARE YOU NOW OR HAVE YOU BEEN UNDER M.D.'S CARE IN PAST 2 YRS. IF SO, FOR WHAT REASON? no
3. WHAT OTHER SERIOUS INJURIES OR DISABLING DISEASES HAVE YOU HAD? none
4. WHAT OPERATIONS HAVE YOU HAD OR BEEN ADVISED TO HAVE? none
5. HOW MUCH TIME HAVE YOU LOST IN PAST 2 YEARS BECAUSE OF ILLNESS OR INJURY? none
6. EVER BEEN REFUSED EMPLOYMENT FOR HEALTH REASONS? no
7. EVER WEAR A BACK SUPPORT, BRACE OR TRUSS? no
8. EVER RECEIVE WORKMEN'S COMPENSATION FOR AN INJURY? yes IF SO, FOR WHAT? Pulled Back muscle
9. IN HOW MANY CASES OF ILLNESS OR ACCIDENT HAVE YOU COLLECTED DISABILITY BENEFITS? none
10. EVER BEEN DISQUALIFIED FOR DUTY IN THE ARMED FORCES; OR DISCHARGED THEREFROM, FOR MEDICAL REASONS? no
11. IF DISCHARGED, WHAT WAS NATURE AND PERCENTAGE OF DISABILITY? _____
12. YEAR OF LAST VACCINATION AGAINST SMALLPOX _____ AGAINST TETANUS 74 AGAINST OTHER _____

SECTION III. FOR WOMEN ONLY

1. MENSES REGULAR? _____ 2. DURATION? _____ 3. AVERAGE TIME DISABLED PER MONTH _____
4. ANY DISEASE OR TUMOR OF BREAST OR UTERUS? _____
5. ARE YOU NOW PREGNANT? _____ 6. 1ST DAY OF LAST MENSTRUAL PERIOD? _____

SECTION IV. HAVE YOU EVER HAD, OR HAVE YOU NOW (CHECK YES OR NO)

	YES	NO		YES	NO		YES	NO
1. FREQUENT HEADACHES		✓	17. SINUS TROUBLE		✓	32. HAY FEVER		✓
2. DIZZINESS OR FAINTING		✓	18. NIGHT SWEATS		✓	33. ASTHMA		✓
3. CONVULSIONS OR FITS		✓	19. PLEURISY		✓	34. ECZEMA		✓
4. PARALYSIS (INCL. POLIO)		✓	20. PNEUMONIA		✓	35. HIVES		✓
5. PERSISTENT FATIGUE		✓	21. INDIGESTION		✓	36. SERUM REACTION		✓
6. NIGHTMARES		✓	22. ABDOMINAL PAIN		✓	37. OTHER ALLERGIES		✓
7. NERVOUS BREAKDOWN		✓	23. NAUSEA OR VOMITING		✓	38. DIABETES		✓
8. CHEST PAINS		✓	24. BOWEL TROUBLE OR ANY CHANGE OF BOWEL HABITS		✓	39. GOITER		✓
9. DIFFICULTY IN BREATHING		✓			✓	40. OTHER GLAND DISORDERS		✓
10. SWELLING OF ANKLES		✓	25. HEMORRHOIDS		✓	41. TUMOR OR GROWTH		✓
11. RHEUMATIC FEVER		✓	26. DIFFICULTY IN URINATION		✓	42. RUPTURE		✓
12. HEART TROUBLE		✓	27. SKIN RASH		✓	43. USED NARCOTICS HABITUALLY		✓
13. PERSISTENT COUGH		✓	28. BOILS		✓	44. EAR TROUBLE		✓
14. FREQ. COLDS OR SORE THROAT		✓	29. BACKACHE		✓	45.		
15. HOARSENESS		✓	30. JOINT PAINS		✓	46.		
16. BLOOD SPITTING		✓	31. FOOT TROUBLE		✓	47.		

I, THE UNDERSIGNED, APPLYING FOR EMPLOYMENT, DO HEREBY CERTIFY THAT THE ANSWERS TO THE ABOVE QUESTIONS ARE TRUE, AND UNDERSTAND THAT A FALSE STATEMENT WILL BE CONSIDERED SUFFICIENT CAUSE FOR DISMISSAL. I GIVE PERMISSION FOR THIS MEDICAL EXAMINATION.

SIGNED _____ DATE _____

EXAMINING PHYSICIAN'S NOTES

SEC.	ITEM	
		Pneumonia 1974, 11 1/62, 14 Pneumonia

TOLS009914

PRE-PLACEMENT MEDICAL EXAMINATION

BZTO104(e)046747

NAME	SOC. SEC. NO.	E-NO.	HOME ADDRESS
Timothy Wedding	535-60-5497		Rte 1 Box 5410 Yacolt Wash 98675

DEPT. NO.	DATE EMPLOYED		DATE OF BIRTH
	1-3-90	7:00 A.M. P.M.	10-26-61

MALE	FEMALE	MARITAL STATUS	JOB ASSIGNMENT	OCCU. EXAM. CODE
X		Married		

MEDICAL HISTORY TO BE COMPLETED BY APPLICANT (NURSE WILL ASSIST IF NECESSARY)

SECTION I. FAMILY

HAVE EITHER OF YOUR PARENTS, OR BROTHER OR SISTER, EVER HAD ANY OF THE FOLLOWING? (STATE YES OR NO)

1. CANCER No
2. DIABETES No
3. EPILEPSY No
4. HEART TROUBLE No
5. TUBERCULOSIS No
6. HIGH BLOOD PRESSURE yes
7. NERVOUS BREAKDOWN No

SECTION II. PERSONAL

1. HAVE YOU EVER BEEN A PATIENT IN A HOSPITAL OR CLINIC? yes IF SO, FOR WHAT? Tonsils
2. ARE YOU NOW OR HAVE YOU BEEN UNDER M.D.'S CARE IN PAST 2 YRS. IF SO, FOR WHAT REASON? Bad Stomach and Knees
3. WHAT OTHER SERIOUS INJURIES OR DISABLING DISEASES HAVE YOU HAD? None
4. WHAT OPERATIONS HAVE YOU HAD OR BEEN ADVISED TO HAVE? None
5. HOW MUCH TIME HAVE YOU LOST IN PAST 2 YEARS BECAUSE OF ILLNESS OR INJURY? 1 Week
6. EVER BEEN REFUSED EMPLOYMENT FOR HEALTH REASONS? No
7. EVER WEAR A BACK SUPPORT, BRACE OR TRUSS? No
8. EVER RECEIVE WORKMEN'S COMPENSATION FOR AN INJURY? No IF SO, FOR WHAT?
9. IN HOW MANY CASES OF ILLNESS OR ACCIDENT HAVE YOU COLLECTED DISABILITY BENEFITS? None
10. EVER BEEN DISQUALIFIED FOR DUTY IN THE ARMED FORCES, OR DISCHARGED THEREFROM, FOR MEDICAL REASONS? No
11. IF DISCHARGED, WHAT WAS NATURE AND PERCENTAGE OF DISABILITY?
12. YEAR OF LAST VACCINATION AGAINST SMALLPOX AGAINST TETANUS AGAINST OTHER

SECTION III. FOR WOMEN ONLY

1. MENSES REGULAR? 2. DURATION? 3. AVERAGE TIME DISABLED PER MONTH
4. ANY DISEASE OR TUMOR OF BREAST OR UTERUS?
5. ARE YOU NOW PREGNANT? 6. 1ST DAY OF LAST MENSTRUAL PERIOD?

SECTION IV. HAVE YOU EVER HAD, OR HAVE YOU NOW (CHECK YES OR NO)

	YES	NO
1. FREQUENT HEADACHES		X
2. DIZZINESS OR FAINTING		X
3. CONVULSIONS OR FITS		X
4. PARALYSIS (INCL. POLIO)		X
5. PERSISTENT FATIGUE		X
6. NIGHTMARES		X
7. NERVOUS BREAKDOWN		X
8. CHEST PAINS		X
9. DIFFICULTY IN BREATHING		X
10. SWELLING OF ANKLES		X
11. RHEUMATIC FEVER		X
12. HEART TROUBLE		X
13. PERSISTENT COUGH	X	
14. FREQ. COLDS OR SORE THROAT		X
15. HOARSENESS		X
16. BLOOD SPITTING		X
17. SINUS TROUBLE		X
18. NIGHT SWEATS		X
19. PLEURISY		X
20. PNEUMONIA		X
21. INDIGESTION	X	
22. ABDOMINAL PAIN		X
23. NAUSEA OR VOMITING		X
24. BOWEL TROUBLE OR ANY CHANGE OF BOWEL HABITS		X
25. HEMORRHOIDS		X
26. DIFFICULTY IN URINATION		X
27. SKIN RASH		X
28. BOILS	X	
29. BACKACHE	X	
30. JOINT PAINS	X	
31. FOOT TROUBLE		X
32. HAY FEVER		X
33. ASTHMA		X
34. ECZEMA		X
35. HIVES		X
36. SERUM REACTION		X
37. OTHER ALLERGIES		X
38. DIABETES		X
39. GOITER		X
40. OTHER GLAND DISORDERS		X
41. TUMOR OR GROWTH		X
42. RUPTURE		X
43. USED NARCOTICS HABITUALLY		X
44. EAR TROUBLE		X
45.		
46.		
47.		

I, THE UNDERSIGNED, APPLYING FOR EMPLOYMENT, DO HEREBY CERTIFY THAT THE ANSWERS TO THE ABOVE QUESTIONS ARE TRUE, AND UNDERSTAND THAT A FALSE STATEMENT WILL BE CONSIDERED SUFFICIENT CAUSE FOR DISMISSAL. I GIVE PERMISSION FOR THIS MEDICAL EXAMINATION.

SIGNED Timothy Donald Wedding DATE 1-29-91

EXAMINING PHYSICIAN'S NOTES

SEC.	ITEM	

PRE-PLACEMENT MEDICAL EXAMINATION

TOLS009915

TIME OIL Co

PHYSICAL EXAMINATION

SECTION V. PHYSICAL RECORD 875

1. HEIGHT	2. WEIGHT	3. TEMP	4. RESP.	5. PULSE	6. BLOOD PRESSURE
5'10	NOW 173# USUAL	99° ~~[illegible]~~	20	~~100~~	124/74

VISION	WITHOUT GLASSES	WITH GLASSES	8. COLOR PERCEPT.	9. FIELD (VISUAL)
7. FAR	R 20/20 L 20/20	R L	Normal	
10. NEAR	R J1 L J1	R L	11. PUPILS N	

12. DEPTH PERCEPT. N — 13. MUSCLE BALANCE N

14. HEARING R N L N — 15. CANALS N — 16. DRUMS N

17. PURE TONE AUDIOMETER R L

18. URINALYSIS—SP. GR. QUANTITY NOT SUFF. REACT. 6 pH GLU. N ALB. N MICRO. neg

19. SEROLOGY (IF DONE)

20. OTHER LABORATORY TESTS

21. CHEST X-RAY — (IF DONE) Normal PA - chest

22. OTHER X-RAY — (IF DONE)

INDICATE (✓) IF NORMAL OR ABNORMAL. IF ABNORMAL STATE DETAILS UNDER FINDINGS.

	NORMAL	ABNORMAL		NORMAL	ABNORMAL		NORMAL	ABNORMAL
23. GENERAL APPEARANCE	✓		33. BREASTS	✓		42. JOINTS	✓	
24. DEVELOPMENT	✓		34. CHEST	✓		43. EXTREMITIES	✓	
25. HYGIENE	✓		35. LUNGS	✓		44. VARICOSITIES	✓	
26. SKIN	✓		36. HEART	✓		45. REFLEXES— ROMBERG	✓	
27. NOSE AND SINUSES	✓		37. ABDOMEN	✓		46. —PATELLAR	✓	
28. TEETH AND GUMS	✓		38. HERNIA	✓		47. —OTHER	✓	
29. TONGUE	✓		39. GENITALIA	✓		48. NEUROLOGICAL, GENERAL	✓	
30. THROAT AND TONSILS out	✓		40. RECTUM AND PROSTATE	✓		49. PERSONALITY	✓	
31. THYROID AND NECK	✓		41. SPINE	✓		50. EVIDENCE OF ALCOHOLISM OR NARCOTIC ADDICTION	✓	
32 LYMPH GLANDS	✓							

51. FOR JOBS REQUIRING PHYSICAL EXERTION OR STRESS TO LOWER BACK.

	NORMAL	ABNORMAL
ACTIVITY		
POSTURE		
SCOLIOSIS		
FORWARD BENDING		
BACKWARD BENDING		
LEG LENGTH		

	R	L
PELVIC TILT		
LATERAL BENDING		
STRAIGHT LEG RAISING		
FABERE-PATRICK TEST		

REPORT OF X-RAYS OF LUMBAR SPINE

DETAILS OF ABNORMAL AND/OR SIGNIFICANT FINDINGS

SEC.	ITEM NO.	
		Vital Capacity FEV1 4.63
		N 4.57
		Pt FVC 5.33
		N 5.58

EXAMINING PHYSICIANS REMARKS

PRELIMINARY CLASSIFICATION AND EXPLANATION

AC X BC ___ C ___ OTHER ___

FINAL CLASSIFICATION

A X D ___ REASON IF OTHER THAN CLASS A

B ___

IF CLASS B OR BC, WORK RESTRICTIONS:

TOLS009916

CLASSIFICATION CHANGED TO ___ (DATE) ___ (DR.'S INITIALS) ___

1-28 1981

[signature] M.D.
(EXAMINING PHYSICIAN)

BZTO104(e)046749

DR. CLARENCE T. YAND
1120 N.W. 20TH AVE. SUITE 1111
PORTLAND, OREGON 97209
TELEPHONE 227-0426

March 11, 1981

Time Ois Co.
P.O. Box 03117
Portland, Oregon 97203

Re: Mr. Neil Gallagher

To Whom It May Concern:

Mr. Gallagher has had a complete physical examination supplemented by a chest x-ray and electrocardiographic studies on January 30, 1981.

I am happy to report that his general physical condition is excellant. He has a few relatively minor problems which are receiving attention.

His EKG is within the limits of normal for his age and revealed no significant abnormalities.

His chest x-ray indicated some increased fibrosis in the parenchymal tissue of the lungs bilaterally in both lower lobes. There is not an indication of an active process in the lungs. The heart silhouette is normal. There were no other significant findings noted.

I hope you will find this report informative and useful.

Sincerely,

Clarence T. Yand, M.D.

CTY:bt

TOLS009917

I certify that I have been adequately informed and understand the known health hazards associated with "Penta Chlorophenol", including short term and long term health effects and the symptons of over exposure.

I also agree to wear company provided apparel at all times when handling any materials containing Pentachlorophenol. Apparel (impermeable to Pentachlorophenol) includes; gloves, footwear, face mask with respirator, trousers and jackets.

DATE		SIGNATURE
1-26-81	Neil Gallahger	Neil Gallahger
1-27-81	Tim Wedding	Tim Wedding
1-27-81	Ron Grosmick	Ron Grosmick
1-27-81	Mike DeLashmit	Mike DeLashmit
2-12-81	Robert Page	Robert J Page

BZTO104(e)046751

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 July 20, 1981

Made for Portland, Oregon Chemist C. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.00	1.416	Penta	15.54	.4805	.10571	
2.54	.339	125 mp Paraffin	7.5	.4259	.010818	
50.77	6.917	KB-3	7.34	.1836	.093214	
12.69	1.775	Oxobottoms	7.15	.2465	.031281	
12.00	1.840	Mineral Spirits	6.52	.2147	.025764	
100.0	12.287		8.139		.266787	

DILUTION ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gallon
Raw Material	2.1714	2.1714
Blend	.0410	.0410
Drumming	-----	.0683
Container	-----	.3782
Overhead	.1880	.1880
	2.4004	2.8469

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 comple dissolved.
4. Sample and mail to St. Louis

1000 gallons batch

#'s		Gallons
1774	Penta	-------
205	Wax	-------
4095	KB-3	565
1023	Oxo	144
968	mineral spirits	150
8065		1000 gallons

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safety ..... Lab Group ..... Other .....

61

TOLS009919

BZTO104(e)046752

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 July 20, 1981

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	.4805	.194603	
59.5	8.106	KB-3	7.34	.1836	.109242	
100.0	10.712		9.335		.303845	

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 send to St. Louis

1000 gal. Batch

	#	Gal
Penta	3750	241
KB-3	5502	75(
	9252	100(

Cost per Gallon

	Bulk	55 gallon
RMC	2.8364	2.8364
Blend	.0410	.0410
Drumming	------	.0683
Container	-----	.3782
Overhead	.1880	.1880
	3.0654	3.5119

TOLS009920

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Lab. ..... Office Mgr. .....
Purch. ..... Sales ..... Lab. (Anal.) ..... Other .....

BZTO104(e)046753

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 July 20, 1981

Made for Portland, Oregon (~~Time~~ at St Louis ~~Oil Co.~~) Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
40.5	2.606	Penta	15.54	.4933 ~~.4805~~	.199781 ~~.194103~~	
59.5	8.106	KB-3	7.34	.148 ~~.1856~~	.08806 ~~.109242~~	
100.0	10.712		9.335		.287847 ~~.303845~~	

DILUTION: DILUTE 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 send to St. Louis

1000 gal. Batch

	#	Gall
Penta	3750	241
KB-3	5502	759
	9252	1000

Cost per Gallon

	Bulk	55 gallon
RMC	2.8364	~~2.8364~~ 2.687
Blend	.0410	~~.0410~~
Drumming	-- ---	~~.0613~~ .378
Container	-----	.3782 .0662
Overhead	.1880	~~.1880~~ .4303
	3.0654	~~3.5119~~ 3.562

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Lab. ..... Office Mgr. .....
Purch. ..... Sales ..... Lab. Mgr. ..... Other

TOLS009921

BZTO104(e)046754

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 July. 20, 1981

Made for Portland, Oregon Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
30.0	4.196	Heavy Oxo Bottoms	7.15	.2465	.07395	
70.0	9.537	KB-3	7.34	.1836	.12855	
100.0	13.733		7.282		.20247	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Packed in 55 gal. tight head drums (395 #/dr.) 20 drum minimum order requireme

Costs: Per lb.	Bulk	55 gal. drum
RM	.20247	.20247
Container	-----	.04987
Blend	.00190	.00190
Drumming	------	.00945
Overhead	.00930	.00930
	.21367	.27299

1100 gal. batch lbs.	Gal.
2383	333
5560	767
7943	1100

TOLS009922

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DISTRIBUTION: [illegible] Svc. [illegible] Mgr. [illegible] Office Mgr. [illegible] Other

BZTO104(e)046755

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 July 20, 1981

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	.4805	.024986	
.60	.080	128-130 mp Paraffin	7.5	.4259	.002555	
12.00	1.635	KB-3	7.34	.1836	.022032	
3.00	.420	Oxo Bottoms	7.15	.2465	.007395	
79.20	12.147	Mineral Spirits	6.52	.2147	.170042	
100.0	14.617		6.841		.22701	

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

Cost (Per Gallon)

	Bulk	55 gallon
RM	.1553	.1553
Blend	.0137	.0137
Drumming	------	.0683
Container	------	.3782
Overhead	.0671	.0671
	1.6338	2.0803

1000 gallon batch

#'s	Gallons
(375) 352	------Penta
41	------Wax
813	113- 1/2 KB-3
204	29 Oxo
5360	829 Mineral Spirits

TOLS009923

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DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Office Mgr. .....
Purch. ..... Other .....

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product WOLMAN PRESTAIN Cedar Brown Lab. Book No. _____ Date Sept. 20, 1981

Made for Concentrate 1-4 St. Louis, MO Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
15.32	1.0493	Burnt Umber (W-3247)	14.6	.75	.114900	
5.09	0.3327	Yellow Oxide (1810)	15.3	.75	.038175	
2.65	0.1716	Potassium Ferrocyanide	15.44	1.465	.038823	
55.17	6.2693	Arolon 820-W-49	8.8	.694	.382880	
21.77	2.6134	Water	8.33			
100.0	10.4363		9.58		.574778	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Costs (Per Gallon/Quarts)

	55 gal.	5 gallon	1 gallon	1 Quart
RM	5.5064	5.5064	5.5064	1.3766
Cont.	.5239	.5937	1.5716	.7003
Labor	.0990	.1459	.4647	.2535
Overhead	.6435	.9484	3.0206	1.6478
	6.7728	7.1944	10.5633	3.9782
		5 gal. Lined O.H. Pails Packed 18 x 5 per pallet.	1 gal. unlined F. Style 4 x 1 gal. per case	1 quart unlined F Style 12 x 1 quart per case.

BLENDING PROCEDURE

1. Add water
2. Add potassium ferrocyanide and mix until dissolved.
3. Add Arolon and continue mixing
4. Add burnt umber and yellow oxide
5. Mix until uniform and package while mixing.

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DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009924

BZTO104(e)046757

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	.4805	.024986	
0.75	.100	Paraffin Wax	7.5	.4259	.003194	
15.00	2.098	Oxo Bottoms	7.15	.2465	.036975	
0.50	.063	Nalco 6SJ 743 (6RJ 947)	7.9	1.2244	.006122	
78.55	12.048	Mineral Spirits (Quick Dry)	6.52	.2148	.1687254	
100.0	14.644		6.829		.240002	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gal.
RMC	1.639	1.639
Blend	.0137	.0137
Drumming	------	.0683
Cont.	------	.3782
Overhead	.0671	.0671
	1.7198	2.1663

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 .....

61

TOLS009925

BZTO104(e)046758

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~~) at St Louis Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.20	.335	Penta	15.54	.4933 ~~.4805~~	.025652 ~~.024986~~	
0.75	.100	Paraffin Wax	7.5	.4259	.003194	
15.00	2.098	Oxo Bottoms	7.15	.2144 ~~.2465~~	.03216 ~~.036975~~	
0.50	.063	Nalco 6SJ 743 (6RJ 947)	7.9	.997 ~~1.2244~~	.004485 ~~.006122~~	
78.55	12.273 ~~12.048~~	Mineral Spirits (Quick Dry)	6.4 ~~6.52~~	.208 ~~.2148~~	.1687254	
100.0	14.869 ~~14.644~~		6.725 ~~6.829~~		.220875 ~~.240002~~	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gal.
RMC	1.539 ~~1.659~~	1.639
Blend Labor	~~.0137~~	.0137
~~Drumming~~	~~.0128~~	.0683
Cont.	~~.3538~~	.3782
Overhead	~~.0671~~	.0671
	~~1.7198~~	2.1663
	1.6357	

1. Charge Blender with oxo bottoms Nalco and 1/3 of the mineral spiri
2. Heat to 170°F and agitate while adding wax and penta
3. Continue mixing until dissolved but heat and add remaining minera 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 Spi

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009926

BZTO104(e)046759

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	.4805	.108113	
3.25	.433	125 mp Paraffin Wax	7.5	.4259	.013842	
64.95	9.122	Oxo Bottoms	7.15	.2465	.160102	
4.00	.545	KB-3	7.34	.1836	.007344	
2.00	.253	Nalco 6SJ 743	7.9	1.2244	.024488	
3.30	.506	Mineral Spirits (Quick Dry)	6.52	.2148	.007088	
100.0	12.307		8.13		.320977	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gallon
RMC	2.610	2.610
Blend	.0410	.0410
Drumming		.0683
Container		.3782
Overhead	.1880	.1880
	2.839	3.2855

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 Sp. cs

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009927

BZTO104(e)046760

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 ~~St Louis~~ Chemist G. B. Mills

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.50	1.448	Penta	15.54	~~.4933~~ ~~.4805~~	~~.110993~~ ~~.108113~~	
3.25	.433	125 mp Paraffin Wax	7.5	.4259	.013842	
64.95	9.122	Oxo Bottoms	7.15	~~.2144~~ ~~.2465~~	~~.139253~~ ~~.160102~~	
4.00	.545	KB-3	7.34	~~.148~~ ~~.1856~~	~~.00592~~ ~~.007544~~	
2.00	.253	Nalco 6SJ 743	7.9	~~.897~~ ~~1.2244~~	~~.01794~~ ~~.024488~~	
3.30	~~.515~~ ~~.506~~	Mineral Spirits (Quick Dry)	~~6.4~~ ~~6.52~~	~~.209~~ ~~.2148~~	~~.006864~~ ~~.007088~~	
100.0	~~12.397~~ ~~12.507~~		~~8.07~~ ~~8.13~~		~~.294812~~ ~~.320977~~	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gallon
RMC	~~2.379~~ ~~2.610~~	2.610
Blend	.029 ~~.0410~~	.0410
Drumming		.0683
Container		.3782
Overhead	~~.189~~ ~~.1880~~	.1880
	2.597 ~~2.839~~	3.2855

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 Bottom
325	45	KB-3
162.6	20.5	Nalco
268	41	Mineral Sp

~~.93~~

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009928

BZTO104(e)046761

TIME OIL

INVENTORY COST

		GAL	$/GAL	$ INV. (1)	INT. 1½%/mo (2)	ROI 25/12 = 2% (3)	TOTAL (4)	YTD
1981								
	J	17060	1.38	23543	353.	471	824.	
	F	10828		14943	224	299	523	
	M	17308		23885	358	478	836	
	A	28326		39090	586	782	1368	
	M	27401		37813	567	756	1323	4874
	J	6712		9263	139	185	324	
	J	26400		36432	546	729	1275	
	A	26132		36062	541	721	1262	
	S	26132		36062	541	721	1262	
	O	26366		36385	546	728	1274	
	N	15672		21627	324	433	757	
	D	13890		19168	288	383	671	
TOTAL				[redacted]				
1982	J	13740	1.38	18961	284	379	663	
	F	2218		3061	46	61	107	
	M	19219		26522	398	530	928	
	A	13433		18538	278	371	649	
	M	7613		10506	158	210	368	
	J							
TOTAL				[redacted]				

1981 WOODTOX PREPRINE 82374 GAL

$\frac{82374}{5} \times \frac{4}{5} = 65899$

$\frac{11699}{82374} = \$.142/GAL$ FOR INT & ROI

TOLS009929

63

ADS-238

BZTO104(e)046762

RATE COMPARISON

		TIME OIL											
OLD CONTRACT													

TOLS009930

ADS-238

BZTO104(e)046763

October 5, 1981

Time Oil Company
P. O. Box 03117
12005 N. Burgard St.
Portland, OR 97203

Attention: Mr. Neil Wallis

Dear Neil:

On behalf of myself and Koppers Company, Inc., I would like to thank you for meeting with me in Seattle on Monday, September 28, 1981 and then showing me your blending facility in Portland on Wednesday, September 30, 1981. I was able to obtain an appreciation for your situation and I look foward to hearing from you regarding a new agreement for 1982.

Again, my sincere thanks for making my visit to Seattle and Portland 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

TOLS009931

BZTO104(e)046764

NEW AVG. MIX COST ≈ $.2183

/5111/DS451110020

KOPPERS COMPANY INC.
FOREST PRODUCTS-EXCLUDING ARCH BLDG PROD.DANZLER & HONOLULU
SPECIALTY WOOD CHEMICALS
SALES BY PRODUCT REPORT
DECEMBER, 1981

19

01/18/82 PAGE NO 5

LOCATION 743 PORTLAND WTC FORM

PRESERATIVE / PRODUCT			CURRENT MONTH QUANTITY	SALES AMT	PROFIT	% P	CURRENT YEAR TO DATE QUANTITY	SALES AMT	PROFIT	% P	
R.R. OIL USED IN TRM											new mix cost
FREIGHT ADJUSTMENTS			0	0	0	.0	0	62	62	100.0	
R.R. OIL USED IN TRM TOTALS				0	0	.0		62	62	100.0	
WOOD TREATING CHEM											
WOODTOX 140-T RTU	BULK	GA	0	0	0	.0	1222	2492	634	25.4	
WOODTOX 140-T RTU	55 GAL DR	GA	0	0	0	.0	6050	14703	2223	15.1	
LST CO-SOLVENT 11 PTLD STOCK	401 LB DR	LB	0	0	0	.0	~~9480~~ 1320	3792	1600	42.2	
WOODTOX PRE-PRIME-T RTU	BULK	GA 1.4	0	6-	6-	100.0	82374	176079	39451	22.4	-20750
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GA	0	0	0	.0	7205	19026	3724	19.6	
WOODTOX PRE-PRIME-T CONC	55 GAL DR	GA	0	0	0	.0	1210	6037	2102	34.8	
WOODTOX 140-T CONC	BULK	GA	6159	17368	2584	14.9	38097	105569	16854	16.0	-5627
WOODTOX 140-T CONC	55 GAL DR	GA	0	0	0	.0	4235	12391	965	7.9	
WR 340 CONC	408 LB DR	LB	0	0	0	.0	~~39576~~ 97x55 5335	14147	3266	23.1	
TIMBERTOX 40 CONC W/O DRS	55 GAL DR	GL	0	0	0	.0	505	1912	382	20.0	
TIMBERTOX 40 CONC	BULK	GA	0	0	0	.0	500	1875	[illegible]	[illegible]	
TIMBERTOX 40 CONC	55 GAL DR	GA	110	514	128	24.9	13310	57252	11281	19.7	-2829
PETROSET 11 PTLD STOCK	460 LB DR	LB	0	0	0	.0	~~8220~~ 983	12878	3826	[illegible]	
WK-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	220	546	135	24.7	
WOOD TREATING CHEM TOTALS				17876	2706	15.1	163148 ~~169803~~	428699	87445	20.4	
PENTA CRYSTALS					1461	8.1%	13596 gal/mo avg	428699			-29206
PENTA-R PTLD STOCK	50 LB BAG	LB	0	0	0	.0	~~6800~~	4075	952	23.4	
PENTA CRYSTALS TOTALS				0	0	.0		4075	952	23.4	
PORTLAND WTC FORM TOTALS				17876	2706	15.1		432836	88459	20.4	
FINAL TOTALS				507461	93912	18.5		4444629	1889272	20.0	

DEC. OVER ABS: $11025 TO ST LOUIS = $.0649/gal to ST. LOUIS

new mix cost will reduce profit by 35617

$\frac{11025}{163148 \text{ gal}}$ = $.0676/GAL

PROFIT INC OVER ABS 432836 99484 22.98%

61

TOLS009932

BZTO104(e)046765

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	.4805	.194603	
59.5	8.106	KB-3	7.34	.1842	.109599	
100.0	10.712		9.335		.304202	

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 send to St. Louis

1000 gal. Batch

	#	Gallon
Penta	3781	243
KB-3	5554	757
	9335	1000

Cost per Gallon

	Bulk	55 gallon
RMC	2.8397	2.8397
Blend	.0410	.0410
Drumming	------	.0683
Container	-----	.4028
Overhead	.1880	.1880
	3.0687	3.5398

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009933

BZTO104(e)046766

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	.4805	.194603	
59.5	8.106	KB-3	7.34	.1842	.109599	
100.0	10.712		9.335		.304202	

(FUEL OIL ≈ 1:10) (1:9.3 ACT)

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 send to St. Louis

1000 gal. Batch

	#	Gallon
Penta	3781	243
KB-3	5554	757
	9335	1000

Cost per Gallon

	Bulk	55 gallon
RMC	2.8397	2.8397
Blend	.0410	.0410
Drumming	------	.0683
Container	-----	.4028
Overhead	.1880	.1880
	3.0687	3.5398

2.8397 - RMC
.1476 - BLENDING
.1332 - DRUMMING
.4028 - DRUM
.1642 - OVERHEAD
.0649 - ST. LOUIS
$ 3.7524

K Co SELLING = $ ~~5.10~~ $4.34
COMP. = $?

Δ + .2126

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

63

TOLS009934

BZTO104(e)046767

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	.4805	.024986	
.60	.080	128-130 mp Paraffin	7.5	.4259	.002555	
12.00	1.635	KB-3	7.34	.1842	.022104	
3.00	.413	Oxo Bottoms	7.25	.266	.00798	
79.20	12.317	Mineral Spirits	6.43	.217	.171864	
100.0	14.78		6.766		.229489	

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

Cost (Per Gallon)

	Bulk	55 gallon
RM	1.5527	1.5527
Blend	.0137	.0137
Drumming	------	.0683
Container	------	.4028
Overhead	.0671	.0671
	1.6335	2.1046

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. ..... Sale File ..... Lab Group ..... Other .....

63

TOLS009935

BZTO104(e)046768

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	.4805	.024986	
0.75	.100	Paraffin Wax	7.5	.4259	.003194	
15.00	2.069	Oxo Bottoms	7.25	.266	.0399	
0.50	.063	Nalco 6SJ 743 (6RJ 947)	7.9	1.2244	.006122	
78.55	12.216	Mineral Spirits (Quick Dry)	6.43	.217	.170454	
100.0	14.783		6.765		.244656	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gal.
RMC	1.655	1.655
Blend	.0137	.0137
Drumming	------	.0683
Cont.	------	.4028
Overhead	.0671	.0671
	1.7358	2.2069

1. Charge Blender with oxo bottoms Nalco and 1/3 of the mineral spirit
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 Spi

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009936

BZTO104(e)046769

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	.4805	.024986	
0.75	.100	Paraffin Wax	7.5	.4259	.003194	
15.00	2.069	Oxo Bottoms	7.25	.266	.0399	
0.50	.063	Nalco 6SJ 743 (6RJ 947)	7.9	1.2244	.006122	
78.55	12.216	Mineral Spirits (Quick Dry)	6.43	.217	.170454	
		low end point mineral spirit 360°F or better (lower)				
100.0	14.783		6.765		.244656	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

		Bulk	55 gal.
RMC		1.655	1.655
Blend	.1036	.0137	.0137
Drumming		------	.0683
Cont.		------	.4028
Overhead	.1642	.0671	.0671
		1.7358	2.2069

ST LOUIS .0649

1.9877

Δ T .2519

K Co 2.20

COMP. 2.10 selling

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 Spir

Rail Car 8-10 A GAL of Conc

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

63

TOLS009937

BZTO104(e)046770

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	.4805	.10571	
2.54	.339	125 mp Paraffin	7.5	.4259	.010818	
50.77	6.917	KB-3	7.34	.1842	.093518	
12.69	1.750	Oxobottoms	7.25	.266	.033755	
12.00	1.866	Mineral Spirits	6.43	.217	.02604.	
100.0	12.288		8.138		.269841	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

	Bulk	55 gallon
Raw Material	2.1959	2,1959
Blend	.0410	.0410
Drumming	-----	.0683
Container	-----	.4028
Overhead	.1880	.1880
	2.4249	2.896

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 complet 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

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009938

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	.4805	.10571	
2.54	.339	125 mp Paraffin	7.5	.4259	.010818	
50.77	6.917	KB-3	7.34	.1842	.093518	
12.69	1.750	Oxobottoms	7.25	.266	.033755	
12.00	1.866	Mineral Spirits	6.43	.217	.02604	
100.0	12.288		8.138		.269841	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS: Cost (Per Gallon)

		Bulk	55 gallon
Raw Material		2.1959	2.1959
Blend	.1476	.0410	.0410
Drumming		-----	.0683
Container		-----	.4028
Overhead	.1642	.1880	.1880
	2.5077	2.4249	2.896

ST. LOUIS + .0649
2.5726

Δ + .1477

K. Co. SELLING = $ 2.92
COMP. = $ NONE

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 complet 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 .....

63

TOLS009939

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	.4259	.024106	
94.34	12.853	Eastman K -3	7.34	.1842	.173774	
100.0	13.608		7.349		.197880	

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.

Package 408 lbs. net per 55 gal. drum

	Cost (Per lb.) 55 gal. drum
RMC	.197880
Blend	.005578
Dr. Labor	.009293
Container	.054299
Overhead	.025880
	.29293

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Data File ..... Lab Group ..... Other .....

63

TOLS009940

BZTO104(e)046773

3 cc: J. PALMER
K. COGAN
P. GOYDAN

1001

OPPGH 2086
TIME OIL SEA-&-*DON MARION
OPPERS CO.

N RESPONSE TO OUR PHONECON OF 3/10/82, THE FOLLOWING ARE OUR
ROPOSED RATES FOR BLENDING WOOD TREATING CHEMICALS. THESE RATES
RE BASED ON A NEW 3 YEAR CONTRACT.

. FACILITY RENT A. EXISTING WAREHOUSE AND TANKS $1144.00/MO.
B. IMPROVEMENTS $1180.00/MO.

. HANDLING CHARGES
A. BLENDING & SHIPPING LST $.1036/GALLON
B. BLENDING & SHIPPING CONCENTRATE $.1476/GALLON
C. FILLING 55 GALLON DRUMS $.1332/GALLON

. MINIMUM MONTHLY PROCESSING FEE $800.00/MO.

E WILL CONTINUE TO HANDLE YOUR PRODUCT IN PORTLAND PENDING
GREEMENT ON NEW RATES. LOOKING FORWARD TO MEETING WITH YOUR
EPRESENTATIVE.

EGARDS,

OBERT D. ABENDROTH
IME OIL CO.

A OR END PLS

ND OF TRANSMISSION

61

TOLS009941

BZTO104(e)046774

3 cc: J. PALMER
K. COGAN
P. GOYDAN

1001

KOPPGH 2086
-*TIME OIL SEA-*&-*DON MARION
KOPPERS CO.

IN RESPONSE TO OUR PHONECON OF 3/10/82, THE FOLLOWING ARE OUR PROPOSED RATES FOR BLENDING WOOD TREATING CHEMICALS. THESE RATES ARE BASED ON A NEW 3 YEAR CONTRACT.

1. FACILITY RENT A. EXISTING WAREHOUSE AND TANKS $1144.00/MO. 615.00
B. IMPROVEMENTS $1180.00/MO. -0-

2. HANDLING CHARGES
A. BLENDING & SHIPPING LST $.1036/GALLON .0134
B. BLENDING & SHIPPING CONCENTRATE $.1476/GALLON .0402
C. FILLING 55 GALLON DRUMS $.1332/GALLON .0167

3. MINIMUM MONTHLY PROCESSING FEE $800.00/MO. -0-

WE WILL CONTINUE TO HANDLE YOUR PRODUCT IN PORTLAND PENDING AGREEMENT ON NEW RATES. LOCKING FORWARD TO MEETING WITH YOUR REPRESENTATIVE.

REGARDS,

ROBERT D. ABENDROTH
TIME OIL CO.

GA OR END PLS

END OF TRANSMISSION

61

Communications via TRT Worldwide Communications via TRT

TIME OIL CO.
2737 W. COMMODORE WAY, SEATTLE 98199

P. O. BOX 24447
TERMINAL ANNEX
SEATTLE, WASHINGTON
206-285-2400

ROBERT D. ASENDROTH
OPERATIONS MANAGER

TOLS009943

BZTO104(e)046776

NEIL WALLIS

TIME OIL CO.
P.O. Box 03117
12005 N. Burgard St.
Portland, Oregon 97203 Phone: (503) 286-1611

TOLS009944

BZTO104(e)046777

T.F. McGinnis - X-2626

Time Oil Co

Time:

Warehouse Space
1 - 35,000 gal - Tank
3 - 20,000 gal - Tanks
1 - 13,000 gal - Tank
1 - 7,000 gal - Tank
1 - 1,400 gal - Heating Tank
1 - 5 Hp - Motor
2½ x 3" - Gilbarco positive suction pump

WTC:

3 - 5,000 gallon - Tanks
1 - 6,000 gallon - Tank
1 - 3,000 gallon - Tank

61 1

TOLS009945

BZTO104(e)046778

TIME OIL
MAY 1982

	#	GAL KIU BULK	GAL KIU 55		GAL CONC BULK	GAL CONC 55							
WOODTOX PREPRIME	-0-	9331	490		-0-	110							
WOODTOX 140-T	-0-	-0-	-0-		-0-	-0-							
WR-340	408	-0-	-0-		-0-	-0-							
TIMBERTOX 40	-0-	-0-	-0-		-0-	2970							
WK 60	-0-	-0-	-0-		-0-	-0-							

TOLS009946

63

ADS-238

BZTO104(e)046779

TIME OIL
MAY YTD 1982

	RTU		CONC	
	55	BULK	55	BULK
WOODTOX PREPRIME (	2640	39957	386	–
WOODTOX 140T				13561
WR-340			12648# (1581) gal	→
TIMBER TOX 40 ✓ *(1)			3795	
WK-60			1100	

Change Timber tox 40 to

61

TOLS009947

ADS-238

BZTO104(e)046780

- [illegible] 5/26/82

This was in response to a customer problem - we do not sell this item

only to one customer will shift to woodtox 5 conc

Both use some Mineral Spirits

YTD 1981

	RTU BULK	RTU 55		CONC BULK	CONC 55			WOOD TOX PREPRIME				
WOODTOX 140	~~1222~~	~~6050~~		38097	4235		J					
				[illegible]	$4.40		F			Mineral Spirits	40,000 gal	
LST CO SOLVENT 7.34		1320	OXY BTM & KB3				M					
		.38/#					A					
WOODTOX PREPRIME 8.14	82374	7205		-	1210		M					
1:4 vol	2.20	3.60					J					
WR 340					5335		J					
					.39/#		A					
TIMBERTOX 40 7.33	~~[illegible]~~	~~[illegible]~~		$.500	13815		S					
					$5.30		O					
PETROSET 456/548					983		N					
							D					
WK 60 SOLVENT (KB-3)		220										
7.34		2.48/GAL										
TOTAL GAL.	84096	28610		38097	11763							
SUB TOTAL			112706			49860						
GRAND TOTAL							162566					
1982												
FEE	.1036	.1036		.1476	.1476							
		.1332			.1332							
TOTAL	.1036	.2368		.1476	.2808							
AVG FACILITY FEE	.1715	.1715		.1715	.1715							
	~~[illegible]~~	.4083		.3191	.4523							
1 Mon	.2417	.3083		[illegible]	.3303							
1981	.0134	.0134		.0402	.0402							
FEE		.0671			.0671							
	.0134	.0805		.0402	.1073							
AVG FACILITY FEE	.0454	.0454		.0454	.0454							
	.0588	.1253		.0856	.1527							

only to one customer cash deal only

resale we put petroset [illegible]

resale

1981 FEE $\frac{615 \times 12}{162566} = \$.0454/GAL$

1982 FEE $\frac{(1144+1180)12}{162566} = \$.1715/GAL$

[illegible] ST. LOUIS SUPPLIED

61

TOLS009948

BZTO104(e)046781

KOPPERS COMPANY INC.
FOREST PRODUCTS-EXCLUDING ARCH BLDG PROD,DANZLER & HONOLULU
SPECIALTY WOOD CHEMICALS
SALES BY PRODUCT REPORT

LOCATION 743 PORTLAND WTC FORM

PRESERATIVE / PRODUCT			CURRENT MONTH QUANTITY	CURRENT MONTH SALES AMT	CURRENT MONTH PROFIT	CURRENT MONTH % P	CURRENT YEAR TO DATE QUANTITY	CURRENT YEAR TO DATE SALES AMT	CURRENT YEAR TO DATE PROFIT	CURRENT YEAR TO DATE % P
WOOD TREATING CHEM										
WOODTOX PRE-PRIME-T RTU	BULK	GA	9331	20528	4331	21.1	39957	87733	18561	21.2
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GA	440	2252	1281	56.9	2640	5704	2957	34.1
WOODTOX PRE-PRIME-T CONC	55 GAL DR	GA	110	567	186	32.8	385	1983	696	35.2
WOODTOX 140-T CONC	BULK	GA	0	0	0	.0	13561	35674	5975	15.4
WR 840 CONC	40B LB DR	LB	409	163	43	26.4	12648	4937	1280	25.9
TIMBERTOX 40 CONC	55 GAL DR	GA	2970	12969	2456	18.9	3795	15960	8534	20.8
WK-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	1100	2728	672	24.6
WOOD TREATING CHEM TOTALS				36479	8297	22.7		161719	33587	20.8
PORTLAND WTC FORM TOTALS				36479	8297	22.7		161719	33587	20.8
FINAL TOTALS				771307	130371	16.9		2840746	501501	17.7

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TOLS009949

BZTO104(e)046782

WOODTREATING CHEMICALS
DEPT. KOPPERS COMPANY

FINISHED GOODS SUMMARY - PORTLAND, OREGON

FOR MONTH ending 5-20-82

500

	CONTAINER SIZE	INV. UNIT	BEGINNING INVENTORY	RECEIVED	USED	ENDING INVENTORY	PHYSICAL INVENTORY	+ −
WOODTOX 140 RTU	BULK	GLS.	795	0	0	795	795	0
WOODTOX 140 RTU	55 GAL	GLS.	0	0	0	0	0	—
WOODTOX PREPRIME RTU	BULK	GLS.	8389	7309	10215	5483	5618	+135
WOODTOX PREPRIME RTU	55 GAL	GLS.	275	715	990	0	0	—
WOODTOX 140 CONC.	BULK	GLS.	1547	0	0	1547	1547	—
WOODTOX 140 CONC.	55 GAL	GLS.	220	0	0	220	220	—
WR 340 CONCENTRATE	55 GAL	GLS.	444	0	110	334	334	—
TIMBERTOX 40 CONC.	BULK	GLS.	2181	1000	2970	211	132	-79
TIMBERTOX 40 CONC.	55 GAL	GLS.	0	2970	2970	0	0	—
WOODTOX PREPRIME CONC.	55 GAL.	GLS.	0	0	0	0	0	—
WOODTOX PREPRIME CONC.	BULK	GLS.	704	0	110	594	602	+8

TOLS009950

BZTO104(e)046783

WOOD TREATING CHEMICALS
DEPT. KOPPERS COMPANY

RAW MATERIAL SUPPLY - PORTLAND, OREGON

FOR MONTH Ending 5-20-82

NAME	CONTAINER SIZE	INV. UNIT	BEGINNING INVENTORY	RECEIVED	USED	ENDING INVENTORY	PHYSICAL INVENTORY	+ —
MINERAL SPIRITS - 325	BULK	GLS.	13538	0	5820	7718	7780	+62
PARAFFIN WAX	11# SLAB	LBS.	10857	0	357	10500	10505	+5
PENTA	50# BAG	BAGS	190	0	126	64	64½	+½
PENTA	BULK	LBS.	—				—	
NALCO	55 GAL	GLS.	136	0	30	106	110	+4
OXO BOTTOMS	BULK	GLS.	9540	0	980	8560	8564	+4
SOLVENT KB-3	BULK	GLS.	11216	0	757	10459	10484	+25
WR60			0				0	—
		FINISHED PRODUCTS SUMMARY						
ANSTRIK SAGEBRUSH GREEN	55 GAL	DRUMS	5	0	0	5	5	—
PETROSET	55 GAL	DRUMS	—					
COLORSEAL	55 GAL	DRUMS	—					
WOLMAN PRESTAIN	5 GAL.	PLS	2	—	—	2	2	—
CO-SOLVENT	55 GAL	GLS.	25	—	—	25	25	—
ISO ALCOHOL	55 GAL	GLS.	8	—	—	8	8	—
PHOSPHORIC ACID	LBS.	LBS.	129	—	—	129	129	—

TOLS009951

BZTO104(e)046784

WOOD TREATING CHEI LS
KOPPERS CO., INC.

CONTAINER SUMMARY - PORTLAND, OREGON

FOR MONTH ending 5-20-82

NAME	CONTAINER SIZE	INV. UNIT	BEGINNING INVENTORY	RECEIVED	USED	ENDING INVENTORY	PHYSICAL INVENTORY	+ −
EW T. H.	55 GAL	EA	153				72	
ECONDITIONED T. H.	55 GAL	EA						
EW T. H.	30 GAL	EA						
ECONDITIONED T. H.	30 GAL	EA	10				10	
EW T. H.	5 GAL	EA						
EW O. H.	5 GAL	EA						
EW F. STYLE	6X1 GAL	CASE						

BZTO104(e)046785

TOLS009952

[redacted]10020

KOPPERS COMPANY INC., FOREST PRODUCT GRP.
SPECIALTY WOOD CHEMICALS
SALES BY PRODUCT REPORT [redacted]

LOCATION 743 PORTLAND WTC FORM

			CURRENT MONTH QUANTITY	CURRENT MONTH SALES AMT	CURRENT MONTH PROFIT	CURRENT MONTH % P	CURRENT YEAR TO DATE QUANTITY	CURRENT YEAR TO DATE SALES AMT	CURRENT YEAR TO DATE PROFIT	CURRENT YEAR TO DATE % P
WOOD TREATING CHEM										
WOODTOX PRE-PRIME-T RTU	BULK	GA	0	12-	12-	100.0	39957	87721	18549	21.1
WOODTOX PRE-PRIME-T RTU	55 GAL DR	GA	0	0	0	.0	2640	8704	2967	34.1
WOODTOX PRE-PRIME-T CONC	55 GAL DR	GA	275	1320	366	27.7	660	3303	1064	32.2
~~WOODTOX 140-T CONC~~	BULK	GA	0	0	0	.0	13561	38674	5975	15.4
~~WR 340 CONC~~	408 LB DR	LB	0	0	0	.0	12648	4937	1280	25.9
~~TIMBERTOX 40 CONC~~	55 GAL DR	GA	0	0	0	.0	3795	16960	3534	20.8
PETROSET 11 PTLD STOCK	460 LB DR	LB	1365	2143	561	26.2	1365	2143	561	26.2
WK-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	1100	2728	672	24.6
WOOD TREATING CHEM	TOTALS			3451	915	26.5		165170	34602	20.9
PORTLAND WTC FORM	TOTALS			3451	915	26.5		165170	34602	20.9

→ Resale item

→ KB3 Dur

WOOD TOX 5 – 1.5 has not been shipped to customer due to their slow burn.

WOOD TOX 140 CONC TO USE UP RAW MAT'L

6.0/MW

LOCATION 743 PORTLAND WTC FORM

PAGE NO. 9

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TOLS009953

BZTO104(e)046786

35 476[illegible] 76110020

KOPPERS COMPANY INC.
FOREST PRODUCTS-EXCLUDING ARCH BLDG PROD,DANZLER & HONOLULU
SPECIALTY WOOD CHEMICALS
SALES BY PRODUCT REPORT
MAY, 1982

08/08/82 PAGE NO 8

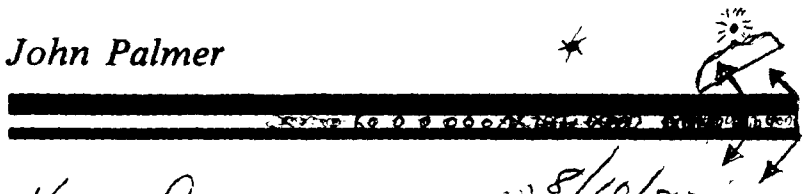
LOCATION 743 PORTLAND WTC FORM

PRESERATIVE / PRODUCT			CURRENT MONTH QUANTITY	SALES AMT	PROFIT	% P	CUT QUANTITY	TO DATE SALES AMT	PROFIT	% P
WOOD TREATING CHEM										
#OOOTOX PRE-PRIME-T RTU	BULK	GA	9331	20528	4331	21.1	39957	7733	[illegible]	21.2
#OOOTOX PRE-PRIME-T RTU	55 GAL DR	GA	440	2252	1281	56.9	2640	5704	[illegible]	34.1
#OOOTOX PRE-PRIME-T CONC	55 GAL DR	GA	110	567	186	32.9	385	1983	[illegible]	35.2
#OOOTOX 140-T CONC	BULK	GA	0	0	0	.0	13561	[illegible]	[illegible]	15.4
#R 340 CONC	408 LB DR	LB	403	163	43	26.4	12648	1937	[illegible]	25.9
TIMBERTOX 40 CONC	55 GAL DR	GA	2970	12969	2456	18.9	3795	15960	[illegible]	20.8
#K-60 SOLVENT PTLD	55 GAL DR	GL	0	0	0	.0	1100	2728	[illegible]	24.6
WOOD TREATING CHEM TOTALS				36479	8297	22.7		161719	[illegible]	20.8
PORTLAND WTC FORM TOTALS				36479	8297	22.7		161719	[illegible]	20.8
FINAL TOTALS				771307	130371	16.9		2830745	[illegible]	17.7

61

TOLS009954

John Palmer



Ken Cogan AUG 1 2 1992 8/10/92
K-1001

Here are the new S+L
costs for products on
the West Coast.

If you have any questions
call me

John D. Palmer
61

TOLS009955

BZTO104(e)046788

8/10/82

WOOD TOX S
PRODUCED IN ST. LOUIS
SHIPPED TO TIME OIL

#	GAL	MATL	#/GAL	COST UNIT	EXT
		PENTA			
		PENTA		.96	

RAWMATL	#2.22
LABOR	.031
OVHD	.062
	#2.313

fob ST LOUIS IN TANK CAR

61

TOLS009956

BZTO104(e)046789

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Timbertox 40 Conc. Lab. Book No. _____ Date 8-10 198-

Made for West Coast Portland in St Louis Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
40.5	2,606	Penta	15.54	.46	.1863	
59.5	7.976	KB-3	7.46	.143	~~.085085~~ 8.7465	
100.0	10.582		9.45		~~.271385~~ .273765	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Cost per gal

	Bulk	55 gal
R. MC.	2.589	2.589
Cont		.33
Labor	.027	.07
OH	.054	.14
	~~2.668~~ 2.669	~~3.105~~ 3.127

61

DISTRIBUTION: Sales Dept. . . . . Tech. Svc. . . . . Plant Mgr. . . . . Plant . . . . . Office Mgr. . . . . Purch. . . . . Sale File . . . . . Lab Group . . . . . Other . . . . .

TOLS009957

BZTO104(e)046790

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Wd+x 140 Conc T Lab. Book No. _____ Date 8-10 1982

Made for West Coast in St L. Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.00	1.416	Penta	15.54	.46	.1012	
2.54	.339	Wax	7.5	.4721	.011991	
50.77	6.806	KB-3	7.46	.147	.074632	
12.64	1.750	OXO Bottoms	7.25	.2378	.030177	
12.00	1.860	Reg. Mineral Spirits	6.45	.188	.02256	
100.00	12.271		8.22		.240560	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

cost per gal	Bulk	55
RMC	1.977	1.977
Cont	—	.33
L	.03	.07
OH	.06	.14
	2.067	2.417

61

DISTRIBUTION: Sales Dept. . . . . Tech. Svc. . . . . Plant Mgr. . . . . Plant . . . . . Office Mgr. . . . . Purch. . . . . Safe File . . . . . Lab Group . . . . . Other . . . . .

TOLS009958

BZTO104(e)046791

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product Wdtx PP Conc T Lab. Book No. _____ Date 8-10 1982

Made for West Coast in St Louis Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
22.50	1.448	Penta	15.54	.46	.1035	
3.25	.433	Wax	7.5	.4721	.015343	
64.95	8.954	Oxo Bottoms	7.25	.2378	.154451	
4.00	~~.536~~	KB-3	7.46	.147	.00588	
2.00	.253	NALCO ~~2034~~ 2378	7.9	1.121	.02242	
3.30	.516	Min. Spirits LEP	6.4	.195	.006435	
100.0	12.145		8.234		.308029	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

cost per gal.

	Bulk	55
RMC	2.536	2.536
Cont	———	.33
L.	.030	.07
OH	.06	.14
	2.626	3.076

61

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009959

BZTO104(e)046792

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product WR 340 Lab. Book No. _____ Date 8-10 1982

Made for W. Coast. in St Louis Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
5.66	.755	Wax	7.5	.4721	.026721	
94.34	12.646	KB-3	7.46	.147	.138680	
100.0	13.4011		7.462		.16540	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Costs per lb.

		Bulk	55
	RMC	.1654	.1654
	Cont	—	.045
	L.	.004	.008
	OH	.008	.016
		.1774	.2344

61

DISTRIBUTION: Sales Dept. . . . . Tech. Svc. . . . . Plant Mgr. . . . . Plant . . . . . Office Mgr. . . . . Purch. . . . . Safe File . . . . . Lab Group . . . . . Other . . . . .

TOLS009960

BZTO104(e)046793

WOOD TREATING CHEMICALS DEPT.

KOPPERS COMPANY, INC.
5137 SOUTHWEST AVENUE, ST. LOUIS, MISSOURI 63110

CONFIDENTIAL FORMULA RECORD

Product LST Cosolvent II Lab. Book No. _____ Date 8-10 1982

Made for West Coast in St. Louis Chemist _____

POUNDS	GALLONS	MATERIAL	POUNDS PER GAL.	COST PER UNIT	EXTENSION	%
30.0	4.138	OXO Bottoms	7.25	.2378	.07134	
70.0	9.383	KB-3	7.46	.147	.1029	
100.0	13.521		7.40		.17424	

DILUTION: ONE TO _____ DILUENT _____ LBS. PER GAL. _____

REMARKS:

Costs per lb.

	Bulk	55
RMC	.1742	.1742
Cost	—	.045
L	.004	.008
OH	.008	.016
	.1862	.2432

01

DISTRIBUTION: Sales Dept. ..... Tech. Svc. ..... Plant Mgr. ..... Plant ..... Office Mgr. .....
Purch. ..... Safe File ..... Lab Group ..... Other .....

TOLS009961

BZTO104(e)046794

8/10/82

NEIL WALLACE

[redacted]

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TOLS009962

BZTO104(e)046795

TIME OIL

TOLS009963

BZTO104(e)046796

TIME OIL

OLD CONTRACT

FACILITY RENTAL	$650/MO
CONCENTRATE BLENDING	$.0402/GAL
READY TO USE BLENDING	$.0134/GAL
DRUMMING	$.0671/GAL

PROPOSED CONTRACT

FACILITY RENTAL (EXISTING)	$1144/MO.
FACILITY RENTAL (IMPROVEMENTS)	1180/MO.
TOTAL	$2324/MO.

BLENDING READY TO USE	$.1036/GAL
BLENDING CONCENTRATES	$.1476/GAL
FILLING 55 GAL DRUMS	$.1332/GAL

PROPOSED CONTRACT (WITHOUT HANDLING PENTA)

TOLS009964

8/10/8

BZTO104(e)046797

= NORRIS PAINT =

MIXING RTU FROM CONC $.11/GAL
DRUMMING FEE (TO BE DETERMINED)
TIME OIL TANK CLEANING $ 10,000 EST.

* THEY MAY WANT SOME CAPITAL MONEY FOR PIPING

= UNION CHEMICAL =

FACILITY CAPITAL $ 50,000
TIME OIL TANK CLEANING 10,000

BLENDING FEE . $.06/GAL. OF CONC.
THEY WILL HOLD SOLVENT INVENTORY.

TOLS009965

63

8/10/82

BZTO104(e)046798

#1 WOODTOX PREPRIME

Raw Matl	$2.28
Labor	.03
OVHD	.06
	$2.37 /gal

FRT (.094 x 8.138)	.77
	$3.14

Mineral Spirits (4 x $1.38)	5.52
	$8.66 / 5 GAL

$1.732/GAL

Drumming Fee(?)	.10 /GAL
TOTAL	1.832
Selling Price	2.20

16.73% MARGIN

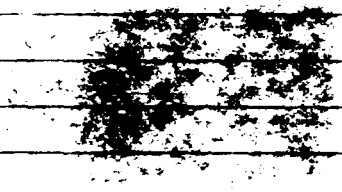
51.89

TOLS009966

BZTO104(e)046799

Wood Tox S - 140

8.305 #/GAL x $9.40/100# = $.7807/Gal



TOLS009967

BZTO104(e)046800

1	41400	828
2	31050	621
3	20700	414
4	10350	206
		2069
		~~[illegible]~~ 30,000

= ~~.0544~~ .0690

63

TOLS009968

BZTO104(e)046801

FREIGHT ON BULK PENTA PRODUCTS DEVELOPED BY H. STRUESSEL TO NORTHERN WEST COAST IS $ 9.40/CWT (60,000 # MINIMUM)

WOODTOX PREPRIME :

8.138 #/GAL X .0940/# = $.7650/GAL

TOLS009969

BZTO104(e)046802

TANK CLEANOUT $10 000
FACILITY COST $50,000
60,000 = $20,000/year over 3 yrs

$10,000
$2500
35000 = $11,670/yr

BASICALLY TWO PROD

		1981	1982 BASED FIRST 5
[17,74] TIMBERTOX	40 (DRUMS)	13815	9108
[23,400] WOOD TOX	PREPRIME	82374	95897
25 × [41,114]		96189	105005

USING 1981

ADDED COST 20,000/year 11670/year

$/GAL .2079 .1213

25000/3 = 8333
.0866

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TOLS009970

BZTO104(e)046803

PRODUCTION COST 6/3/82

	WOODTOX PREPRIME RTU BULK	WOODTOX PREPRIME RTU 55 GAL	WOODTOX S 140 BULK	WOODTOX S 140 DRUM	TIMBER TOX 40 DRUM	WK 340	WK 60 / 1.83
DENSITY #/GAL	8.138		8.305		9.33		
RAW MATL	~~2.28~~		2.27	2.27	~~2.66~~ 2.565	.14.65	1.07
LABOR	.03		.03	.05	.0662	.008	.05
OVHD	.06		.06	.10	.134	.024	.10
DRUM				.33	.33	.049	.33
SUB TOTAL	~~2.37~~		2.36	2.75	~~3.18~~ 3.1902	.2275 / #	1.55
FRT	.77		.78	.72	.72		.72
	3.14	1.808	3.14	3.47	3.90		2.27
UNION CHEMICAL MIX FEE	.06	.08					
DRUM		.2991					
1:4 DILUTION @ $1.46	5.84		1:5				
5 GAL PRICE	9.04						
1.76 UNIT COST	1.808	2.1871					
.12 DEP. & Cleanups	.21 | .12				.21 | .12		
FINAL COST	2.02 | 1.93				4.11 | 4.02		
SELLING PRICE	2.20	3.60	3.10	4.40	5.30	.39	2.48
					6.10 (4.33 DIST)		
17.9% O/O MARGIN	8.2 | 12.3	39.3	3.25 WOODTOX S	4.05 WOODTOX S	22.5 | 24.2		

TOLS009971

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ADS-238

BZTO104(e)046804

ST. LOUIS / TIME OIL

PRODUCTION COST 8/10/82

	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
	GAL		GAL	#	GAL		GAL	GAL
DENSITY #/GAL	8.138		9.33	7.26	7.30		8.305	8.305
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
SUB TOTAL	2.3562		3.1920	.2195	1.55			
FRT TO WEST COAST	.77		.72	.0992	.72		.77	.72
TOTAL	3.1262		3.9120	.3187	2.27			
FACILITY RENT								
SELLING PRICE	2.20	3.60	5.10/4.33	.39	2.48		3.25 *	

TOLS009972

63

ADS-238

DISTRIBUTER L. 15%. * FOB ST LOUIS

BZTO104(e)046805

ST. LOUIS / UNION
PRODUCTION COST 8/10/82

		WOOD TOX PREPRIME CONC	WOOD TOX PREPRIME RTU DRUM	TIMBER TOX 40 DRUM	WR 340 DRUM	WK 60 DRUM		WOOD TOX 5	WOOD TOX 5 DRUMS				
		GAL		GAL	#	GAL		GAL	GAL				
DENSITY #/GAL		8.138		9.33	7.26	7.30		8.305	8.305				
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				
SUB TOTAL		2.3562		3.1920	.2195	1.55							
FRT TO WEST COAST		.77		.72	.0992	.72		.77	.72				
TOTAL		3.1262		3.9120	.3187	2.27							
SELLING PRICE		2.20	3.60	5.10/433	.39	2.48		3.25 #					

DISTRIBUTER LP - 15%. # FOB ST LOUIS

ADS-238

TOLS009973

63

BZTO104(e)046806

ST. LOUIS

PRODUCTION COST 8/10/82

		WOOD TOX PREPRIME CONC	WOOD TOX PREPRIME RTU DRUM	TIMBER TOX 40 DRUM	WR 340 DRUM	WK 60 DRUM		WOOD TOX 5	WOOD TOX 5 DRUMS				
		GAL		GAL	#	GAL		GAL	GAL				
DENSITY #/GAL		8.138		9.33	7.26	7.30		8.305	8.305				
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				
SUB TOTAL		2.3562		3.1920	.2195	1.55							
FRT TO WEST COAST		.77		.72	.0992	.72		.77	.72				
TOTAL		3.1262		3.9120	.3187	2.27							
SELLING PRICE		2.20	3.60	5.10/433	.39	2.48		3.25 *					

TOLS009974

ADS-238

DISTRIBUTER L 15%.

* FOB STLOUIS

BZTO104(e)046807

June 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. LOUIS CONC.		TIME SLOW DAYS		TIME NEW PROPOSAL E.I.P.L.		TIME MCCLARY	
mix fee RTU	.1036	.1036	.1036	.07	.11	.01		.0137		.052		.0763	
mix fee conc.						.08						.0228	
Freight Reformation *#													
Freight Rental @ 650	.0523			.09				.0523		.0658		.0409	
@ 2,324		.1900											
@ 1148			.0935										
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.F. margin	.3891	.25	.3475	26	~~.36~~	33		.48		.3010		.28	
S.F. % Profit ($1.20/GAL)	17.7	11.0	15.8	11.8	~~16.0~~	150		22.0		13.7		12.7	
TIED: TRUCKING					~~1.15~~	(1,000)							
CAPITAL INVESTMENT						($)							
RCE CALC						$11,143 **							

1
0

** Total of Mix $ Calculation for Depreciation

* MINERAL SPIRITS @ 1.46/GAL & LOSS 1:4 RR TRUCKING .77/GAL

** 5YR DEPRECIATION $60,000 ÷ 140,000 GALS/YR including drums.

*** IF WE DON'T CARRY MN SPIRIT INVENTORY, RECEIVE 40% RCE, WE CARRY $7,856 RUP MIN SPIRIT INVESTMENT WHICH IS WORTH $11,143.

TOLS009975

BZTO104(e)046808

Man hours per gallon.

months surveyed - Jan. 81 - Aug. 81

		ONE MAN	MAN HRS / 1000 GAL
I. concentrate	56045 gals.	- 140 hrs.	2.50
II LST	101472 gals	- 153 hrs.	1.50
III gals. drummed	44990 gals.	- 135 hrs.	3.00
IV Rail cars rec'	70000 gals	- 21 hrs.	.30
V Trk & Trl. rec'	68000 gals.	- 8.5 hrs.	.13

LABOR RATE: $17.06/HR INC. WAGE RATE & BENEFITS. 1982.

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per gal. rate based on one man

	one man	two man	
Cond. =	.09434	.1498	Diff/ .05546
BST =	.07237	.1058	" / .03343
DRUMMING =	.06653	.1331	/ .06657

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TOLS009977

BZTO104(e)046810

$.05 gal + 980/mo = $11760 April Cost from time [illegible] on [illegible] [illegible] mixing

Say 82000 gal wood tar [illegible] RTU

facility fee [illegible] 1934 + .05 handling = .1934 avg total

rent on [illegible] $150 (drums
[illegible] $.3[illegible] [illegible] $290 58,000 gal)
$240/mo for manpower
($5000 investment)

$139

Closure Cost by [illegible] 5/[illegible] per abandonment

Ball Park Est for tank cleanout $5000 $[illegible] + disposal

61

TOLS009978

BZTO104(e)046811

60 DAY TEMP. RATE.

Blending & Shipping KST ~~.1478~~ .1058

Conc. .1498

Drums .1332

Facility $650.

TOLS009979

BZTO104(e)046812

WOODTOX 'S' Substitution for WOODTOX 140T, CONG. BULK

105,569 1981 Sal
24.6% Portland 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 SPRITS 146	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

TOLS009980

BZTO104(e)046813

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 ($)												24682	
@ .25/GAL				20,500									28495
@ .389/GAL		31,906											
@ .31/GAL						21,320							
@ .35/GAL								27060					
@ .36/GAL										29520			
WR 340 Conc.												2354	
@ .1206		4,772		4567									4567
@ .1154													
@ .0604						2,390							
Timbertox 40 Conc												7047	
@ .752		10,009											
@ .6145				8,179									8179
@ .533						7094							
Woodtox 140T													
@ .7020		26,744											
@ .5643				21,498									
@						13,334						13333	25160
Profit ($)		$73,432		$54,744		$44138		$49878				47416	66401
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	12740	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 (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 Inv		$50,750		$52,814		$65,229		52328				64393	51530
Capital Investment/Year Stores		0		0		0		12,000		3000		0	5000
Total Investment		$50,750		$52,814		$65,229		$64328				64393	56530

$60,000

ADS-238 ROI

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BZTO104(e)046814

WR-240 CONCENTRATE, DRUMS (ONLY SOLD DRUMS)

14,147 - 1981 SALES
3.3 % 1981 Sales Ratio
39,576,665 - 1981

	TIME BLEND Proposed	TIME BLEND Current	STOCKS BLEND DELIVERED	NORRIS PAINT	NEW TIME PROPOSAL 8/17/82	MC CLEAN ST. LOUIS PLANT *
RAW MATLS	.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	.3176
LABEL LINE	.0114	.0072	= .0124 *		.0091	
DRUM HANDLING					.0038 *	.0050
TOT. COST	.2746	.2694	.3296		.3305	.3226
$ / Gallon @ 1.29	.1154	.1206	.0664		.0597	.0674
% profit	29.6%	30.9%	15.5%		15.3%	17.3

* ASSUME TIME WANTS .09/GAL ÷ 7.26 LBS/GALS = .012/LB.

* 1.50/DRUM HANDLING = .0273/GAL

BZTO104(e)046815

TOLS009982

Timbertox 40 Conc. (Drums)

* 57,252 1981 Sales
13.4% of 1981 Sales

13,310 Gals (1981)

	Time Proposed	Time Current Temporary	St. Louis Blend Deliv. Port.	Union Chem	New Time Proposal	MC Cleary St. Louis Blend
Raw mat'ls	2.8397	2.8397	2.587	2.587	2.587	
Containers	.4028	.4028	.330	.330	.330	
Labor, blend	.1498	.1498	.070	.070	.070	
Labor, drum	.1332	.1332				
			2.987	2.987	2.987	
Freight (per 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 units of Products.

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TOLS009983

BZTO104(e)046816