SFUND RECORDS CTR
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AMERICAN
POLYSTYRENE
CORPORATION

1225 WEST 196TH STREET TORRANCE CA 90502 TEL: (310) 329-6379 FAX: (310) 329-9191

Date 6/29/07

VIA Certified Mail
7006-0100-0003-1345-0471

Mr. Andrew Taylor
Case Developer, Mail Stop SFD-7-5
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA. 94105

Re: Requested Information pursuant to CERCLA section 104(e)

Attached is the information your office has requested from American Polystyrene Corporation ("APC") in a letter from Ms. Roberta Blank. This information concerns the property presently owned by APC at 1225 W. 196th Street, Torrance. This property was previously owned by Amoco Chemical.

The items in this package are:

1) Our answers to your department's 35 questions
2) Copy of the Original Agreement between APC and Amoco
3) Copy of the Share Expense Agreement between APC and Amoco
4) 4th Quarter 2004 Groundwater Monitoring and Status Report
5) Purposed Testing plan developed by SECOR International for the site at 1225 W. 196th Street.

Note the Testing Plan was submitted to the California Regional Water Control Board for approval in the fall of 2006. In May the plan was transferred to the Department of Toxic Substances Control (DTSC). We will be meeting with DTSC in July 2007. The plan to date has not been approved.

If your Department has any additional questions or need further information please contact either Ms. Carolyn Tan, General Manager or myself, Mr. Carl Benninger, Operational Manager at (310) 329-6379.

Sincerely Yours,

Carl Benninger
Operational Manager

cc: Carolyn Tan

Answers to EPA Version 1

1) Individual Providing the Answers for APC:

Carolyn Tan the General Manager has been with APC since the plant was purchased from Amoco Chemical in May of 1993.
Carl Benninger Operational Manager, has been with APC since May of 1996. Prior to joining APC he has worked in the field of Polymer Production for 15 years at Dow Chemical and 7 years at Tenneco.

APC is a small company both can be reach at the same address and phone number which is:

American Polystyrene Corp.
1225 W. 196th Street
Torrance CA 90502
Phone # 310-328-6379

2) History of American Polystyrene Corp.

The plant company was established in May 1993 with the purchase of the Amoco Chemical Torrance facility in May 1993. During the negotiations to purchase the plant the name SMG Industries were used. This name was changed to American Polystyrene before the completion of the purchase of the plant.

3) Relationship between Amoco And APC:

American Polystyrene Corp. purchased the facility from Amoco Chemical in May 1993. A copy of the contract is attached. In the contract you can see that Amoco Chemical sold the complete plant to APC. Business relationship between Amoco and APC extended as far as supplying raw materials and lasted until May 1999. The Los Angeles RWQCB (Water Board) in late 2003 after ten years of no activities, ordered APC to test ground water wells every quarter. APC complied with this order but did question the purpose and what could be achieved from this testing since the chemicals of concern in the groundwater was never used on the site. The Water Board then requested for a full disclosure from Amoco Chemical and APC of chemical used on the site and process condition. During this review Amoco Chemical revealed that before 1971 a Dry Well was used for the disposal of single pass water used in water bath to cool the plastic strands. The Water Board was concern about the heavy metals which may have been in the city water at that time. The ground water well was removed a long time ago and the actual site of the well is presently not known. The Water Board then order APC and Amoco/BP to develop a plan for a Site Assessment for possible contamination. Amoco Chemical and APC then entered an agreement to share the cost of developing such a plan. That agreement is attached. SECOR was then hired to develop a Site Assessment plan. The plan was submitted to the Water Board over six months ago and is still being review.

4) Relationship between American Chemsolv and APC:

   There has not been nor is there presently any business relationship or leases or renting of land between American Chemsolv and APC

5) Relationship between Mighty Enterprises and APC:

   There has not been nor is there presently any business relationship or leases or renting of land between Mighty Enterprises and APC

6) Relationship between PACCAR, Inc., TTRICO Industries, Inc., B&W Inc., B&W Monarch, B and W Inc., and APC:

   There has not been nor is there presently any business relationship or leases or renting of land between PACCAR, Inc., TTRICO Industries, Inc., B&W Inc., B&W Monarch, B and W Inc., and APC

7) Relationship between Ecology Control Industries. Inc., ECI, Inc., and/or Lawson Enterprises and APC:

   There had been 1 business transaction between Ecology Control Industries. Inc., ECI, Inc., on February 2001 when ECI was contracted by APC to clean one of our tanks. There has not been nor there is presently any business relation or leases or renting of land between Lawson Enterprises and APC.

8) Relationship between Shell Oil Company and APC:

   There is a business relationship between Shell Oil Company, Shell Chemical and APC. We had bought process oil from Shell Oil and raw materials from Shell Chemical.

9) Relationship between Crossfield Product Corp. and APC:

   There has not been nor is there presently any business relationship or leases or renting of land between Crossfield Product Inc. and APC

10) Relationship between Brand Plastics and APC:

    There has not been nor is there presently any business relationship or leases or renting of land between Brand Plastics and APC. In 1964 Amoco Chemical purchased the plant site for Brand Plastics who built and started the plant in 1962.

11) Relationship between SMG Industries and APC:

As stated earlier during negotiations to purchase the plant the name selected for the new company was changed from changed from SMG Industries to American Polystyrene Corp.

12) Relationship between APC and any other operating entities:

There has not been nor is there presently any business relationship or leases or renting of land between APC and any other operating entities.

13) Ownership history of the Plant Site

To our knowledge the plant site boundaries have never changes since the plant was build in 1962. To our knowledge the plant was built and operated by Brand Plastics from 1962 to 1964. Amoco Chemicals then purchase the plant form Brand Plastics in 1964 and operated the plant until it was sold to APC in May of 1993. Purpose and product of the plant has remained the same that being the production of Polystyrene resin.

14) Function of the operations at the site.

To our knowledge and during APC time of ownership the plant has been to product only polystyrene plastic pellets. One intermediate product which is sold once or twice a year. This product is about 40% unreacted Styrene monomer and Polystyrene polymer.

15) Plant Facility Managers

Since the purchase of the facility from Amoco Chemical, Carolyn Tan has been the site manager for APC with the environmental manager being Bob Doerr from 1993-1998 and Carl Benninger from 1998 to present. The only site manager prior to the purchase was Jeff Campbell from Amoco.

16) Boundaries of APC:

The attached map which shows the boundaries of APC. To our knowledge these boundaries have remain the same since the plant was build.

17) Relationship between APC and Paccar or TRICO or B&W concerning Chemical or waste transfer.

APC has never sold, transferred or purchased any chemical or chemical waste from PACCAR or TRICO or B&W. There are not any shared facilities, common sewer line or shared operations.

18) Relationship between APC and Ecology Control Industries or ECI Inc. or Lawson Enterprises concerning Chemical purchases or waste transfer.

APC has never sold, transferred or purchased any chemical or chemical waste from Control Industries or ECI Inc. or Lawson Enterprises. APC does not share any facilities, common sewer line or shared operations with Control Industries or ECI Inc. or Lawson Enterprises.

19) History of Chemicals Used at the site

Since purchasing the plant in 1993 APC use the following chemicals
Styrene Monomer, FDA approved Mineral Oil, Mineral Oil bases process heating oil, Zinc Stearate, Irganox 1076 and bis-stearate wax. With these chemicals APC produces a non hazard polystyrene pellet and a small amount of an intermediate which is 40% unreacted Styrene Monomer and 60% polystyrene

20) Quantities of Chemicals on Site:

Maximum amount of any of the chemicals on site at APC is as follow
Styrene Monomer 75,000 gallon
Mineral Oil based Process heating oil 10,400 gallon (10,000 gal in process 400 gallon in drums)
FDA approved Mineral Oil 6,000 gallon
Zinc Stearate 500 pounds
Irganox 1076 500 pounds
Bis-stearate Was 500 pounds
Intermediate 3,000 gallon

21) Chemical receiving and Storage:

Please look at the enclosed site map. Note all tanks are above ground and are in a Area with dike walls. Styrene Monomer is received by railcars and is pumped into one of two storage tanks
Mineral Oil is received by tanker truck and is stored in a storage tank
Mineral Oil base Process Heating Oil is received in 55 gallon drums and then pumped in to the hot oil system.
Zinc Stearate, Inganox 1076 and Bis-stearate wax is received in bags or paper drums at the dock area and is stored in D warehouse
The intermediate product is storage in a tank then transferred to 55 gallon drums for shipping.

22) Maintenance building

There is a maintenance building on the ground of APC. In the shop there are any degreasing operation, vehicle maintenance or machining done. Amoco Chemical had used the maintenance building. APC has not knowingly used any chemicals containing or consisting of PCE, TCE, DCE, TCA, DCA, vinyl chloride, methylene chloride; methyl ethyl ketone, acetone, or other ketones; benzol, petroleum spirits, xylene, toluene, benzene, ehtylbenzene, chlorobenzene, or napththalene (or any chemical isomers thereof).

23) Solvents

No solvents are used in the operations of the maintenance shop.

24) Waste Streams

At APC there only a few waste streams those waste steams are
Used Vacuum Pump Oil, Used Oil from Air compressor and Process Oil filters which does not contain, as far as we know, any PCE, TCE, DCE, TCA, DCA, vinyl chloride, methylene chloride; methyl ethyl ketone, acetone, or other ketones; benzol, petroleum spirits, xylene, toluene, benze, ethylbenzene, chlorobenzene, or napththalene (or any chemical isomers thereof).

25) Waste Handling and Disposal
All hazards waste are disposed of thru Ashland Environmental. No hazards waste are dispose by APC. The used vacuum and air compressor oil are stored in a caged tote. Once a quarter the totes are emptied via a vacuum truck. The drum containing process heating oil filters is placed on a self contained skid until fill. Once filled the drum is properly closed and move to hazard drum storage area. After ninety days the drum is dispose through Ashland Environmental.

26) Dry Well

There is no dry well nor has there been one on site since APC owned the property. When Amoco Chemical owned the property a drywell was used per the Water Board.

27) Release of Hazardous Substances

Since APC has owned the property there has not been any release of hazardous substances.

28) Permits:

Attached are copies of the AQMD permits issued to APC. The is no waste water from the process thus no NPDES permits
APC's RCRA Identification number is

29) Environmental Sampling

On the site there are six water wells which were installed by Amoco Chemical and tested prior to the sale of the plant in 1993. Since that time the wells were sampled in 2003, 2004 and first quarter of 2005. Attach to this report is a copy of the four quarter 2004 results sent to the Water Board.

30) Identify Contractor and Consultants:

For the groundwater sampling and report preparation;
Winefield and Associates Inc.
Environmental and Safety Consultants
110 Pine Avenue Suite 900
Long Beach CA 90802

For the preparing and writing of the Site Assessment plan:
SECOR International
290 Conejo Ridge
Suite 200
Thousand Oaks, CA 91361

31) Soil excavations and disposal

Since APC has owned the plant there has not been any tank removal, soil excavation or soil disposal.

32) Persons involve is Soil disposal

Since APC has owned the plant there has no soil disposal.

33) Demolition or Improvements in the Process

APC consolidated the process heating and installed new low NOx oil heaters. The four old heaters were completed drained of all process oil. The drained oil was put back into the new system. The old heaters were then cut up and disposed of. All the oil process tank and pumps from A-line were relocated to D-line. A beam was build around the pumps for containment of any spill

A process expansion has been started at the plant. This expansion did not require any demolition or soil excavation.

34) Soil Treatment:

Not applicable since there is no soil removal or treatment made by APC.

35) Topography

The plant site is flat with sloop to the east. Storm water flows from the west to the east and then in to a storm water canal. There has been no change made in this topography sine the plant was purchased by APC.

Questions 36,37,38 and 39 are not applicable to APC since we do not have any relationship with Shell Synthetic Rubber Plant or with McDonnell Douglas Plant.

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AGREEMENT FOR

SALE AND

PURCHASE

OF

ASSETS

by and between

AMOCO CHEMICAL COMPANY

and

AMERICAN POLYSTYRENE CORPORATION

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KAZ

TABLE OF CONTENTS

		Page
ARTICLE I.	SALE AND PURCHASE OF ASSETS	2
Section 1.1	Assets to be Transferred	2
1.1(a)	Real Property	2
1.1(b)	Equipment	3
1.1(c)	Working Capital	3
1.1(d)	Contracts	4
1.1(e)	Licenses and Permits	4
Section 1.2	Excluded Assets	5
1.2(a)	Other Amoco Assets	5
1.2(b)	Unassignable Assets	5
1.2(c)	Trademarks and Trade Names	6
1.2(d)	Accounts Receivables	6
1.2(e)	Cash	6
1.2(f)	Other Assets	6
Section 1.3	Transfer of Title to the Real Property	6
Section 1.4	Transfer of Equipment and Working Capital	8
Section 1.5	Transfer of Contracts, Licenses and Permits	8
ARTICLE II.	EMPLOYEES AND BENEFITS	11
Section 2.1	Employee List	11
Section 2.2	Offers of Employment	11
Section 2.3	Savings Plan	11
Section 2.4	Vacation	12
Section 2.5	Union	12
Section 2.6	Severance	12
Section 2.7	Health Care, Dental, Life Insurance, Long-term Disability	13
Section 2.8	General	13
Section 2.9	Benefit Plan Documentation	14
Section 2.10	WARN Act	14
ARTICLE III.	ANCILLARY TRANSACTIONS	14
Section 3.1	Use of Trademarks	14
Section 3.2	Technology License	15
Section 3.3	Styrene Supply Agreement	15
Section 3.4	Employee Assignment Agreement	15
Section 3.5	Technical Services Agreement	16

KAZ

Page

ARTICLE IV. PURCHASE PRICE AND PAYMENT 16

Section 4.1 Purchase Price 16
Section 4.2 Payment 16
Section 4.3 Working Capital Adjustment 17

ARTICLE V. ALLOCATION OF LIABILITIES 20

Section 5.1 Claims 20
Section 5.2 Liabilities of Amoco 21
Section 5.3 Liabilities of Buyer 21
Section 5.4 Current Liabilities 21
Section 5.5 Environmental Liabilities 21
Section 5.6 Access to Real Property After Closing . 25

ARTICLE VI. REPRESENTATIONS AND WARRANTIES 26

Section 6.1 Amoco's Representations and Warranties 26
Section 6.2 Buyer's Representations and Warranties 29
Section 6.3 Disclaimer of Warranties 31
Section 6.4 Termination of Representations and Warranties 32

ARTICLE VII. COVENANTS 32

Section 7.1 Amoco's Covenants 32
7.1(a) Consents and Approvals 32
7.1(b) Access to Records 33
7.1(c) All Reasonable Efforts 33
7.1(d) Operation of the Business 34
7.1(e) Governmental Approvals 34

Section 7.2 Buyer's Covenants 35
7.2(a) Consents and Approvals 35
7.2(b) Access to Properties and Records . . . 35
7.2(c) Access to Real Property 37
7.2(d) All Reasonable Efforts 37
7.2(e) Governmental Approvals 37
7.2(f) Liens 38

Section 7.3 Mutual Covenants 38
7.3(a) Destruction of the Assets 38
7.3(b) Investigation 38
7.3(c) Ancillary Transactions 39

KAZ

Page

ARTICLE VIII. CONDITIONS TO CLOSING 39

Section 8.1 Conditions Precedent to Obligations of Amoco 39
8.1(a) Accuracy of Representations and Warranties 39
8.1(b) Performance of Agreements 39
8.1(c) Injunctions 40
8.1(d) Transfer Documents 40
8.1(e) Benefit Plans 40
8.1(f) Guaranties 40
8.1(g) Security Interest 41
8.1(h) Legal Matters 41
8.1(i) Other Documents 41

Section 8.2 Conditions Precedents to Obligations of Buyer 42
8.2(a) Accuracy of Representations and Warranties 42
8.2(b) Performance of Agreements 42
8.2(c) Injunctions 42
8.2(d) Transfer Documents 42
8.2(e) Legal Matters 43
8.2(f) Other Documents 43

Section 8.3 Conditions Precedent to Obligations of Buyer and Amoco 43
8.3(a) Orders and Decrees 43
8.3(b) Suits and Proceedings 43

ARTICLE IX. CLOSING 44

Section 9.1 The Closing 44

Section 9.2 Amoco's Obligations 44
9.2(a) Transfer Documents 44
9.2(b) Executed Agreements 44
9.2(c) Board Resolutions 45
9.2(d) Receipts 45
9.2(e) Other Documents 45

Section 9.3 Buyer's Obligations 45
9.3(a) Purchase Price 45
9.3(b) Instruments of Assumption 45
9.3(c) Executed Agreements 45
9.3(d) Board Resolutions 45
9.3(e) Other Documents 46

X.A2

Page

ARTICLE X. INDEMNIFICATION 46

Section 10.1 Indemnification by Amoco 46
Section 10.2 Indemnification by Buyer 47
Section 10.3 Claims 48

ARTICLE XI. CERTAIN CHARGES, TAXES AND EXPENSES 50

Section 11.1 Allocation 50
Section 11.2 Remittance of Charges and Payments . . 50
Section 11.3 Remittance of Real Property Taxes . . . 51
Section 11.4 Other Taxes and Expenses 51
Section 11.5 Payments Between Parties 53

ARTICLE XII. BULK SALES LAW 53

ARTICLE XIII. TERMINATION; TERM; AMENDMENT 53

Section 13.1 Damage to Assets 53
Section 13.2 Term 54
Section 13.3 Amendment 54
Section 13.4 Termination 54

ARTICLE XIV. MISCELLANEOUS 54

Section 14.1 Further Assurance 54
Section 14.2 Brokers 55
Section 14.3 Expenses 55
Section 14.4 Counterparts 56
Section 14.5 Exhibits and Schedules 56
Section 14.6 Waiver 56
Section 14.7 Confidentiality Agreements 57
Section 14.8 Notices 57
Section 14.9 Entire Agreement 58
Section 14.10 Severability 59
Section 14.11 Materiality 59
Section 14.12 Transfer 59
Section 14.13 Publicity 60
Section 14.14 Assignment 60
Section 14.15 Captions 60
Section 14.16 Gender 60
Section 14.17 No Third Party Beneficiaries 61
Section 14.18 Governing Law 61

KAZ

TABLE OF SCHEDULES

		Page
Schedule 1	Real Property Description	3
Schedule 2	Equipment List	3
Schedule 3	Excluded Contracts	4
Schedule 4	Excluded Permits	5
Schedule 5	Real Property Liens	6
Schedule 6	Equipment Liens	8
Schedule 7	List of Employees	11
Schedule 8	Groundwater Baseline for Real Property	22
Schedule 9	Material Agreements	28
Schedule 10	Notices of Violation	28
Schedule 11	Notices of Real Property Exceptions	29
Schedule 12	Exceptions to Ordinary Course	34
Schedule 13	Site Access and License Agreement	37

KAZ

TABLE OF EXHIBITS

		Page
Exhibit A	Special Warranty Deed	6
Exhibit B	Bill of Sale	8
Exhibit C	Assignment and Assumption Agreement	8
Exhibit D	Trademark Consent	14
Exhibit E	Technology License	15
Exhibit F	Styrene Supply Agreement	15
Exhibit G	Employee Assignment Agreement	16
Exhibit H	Technical Services Agreement	16
Exhibit I	Security Agreement	20
Exhibit J	Guaranty	40
Exhibit K	Guaranty	41
Exhibit L	Opinion of Counsel	41
Exhibit M	Amoco Board of Directors Resolutions	45
Exhibit N	Opinion of Counsel	45
Exhibit O	Buyer Board of Directors Resolutions	45

KAZ

AGREEMENT FOR SALE AND
PURCHASE OF ASSETS

This Agreement for Sale and Purchase of Assets is executed this 7th day of April, 1993, by and between AMOCO CHEMICAL COMPANY, a Delaware corporation having its principal office at 200 East Randolph Drive, Chicago, Illinois, hereinafter referred to as "Amoco", and AMERICAN POLYSTYRENE CORPORATION, formerly named SMG INDUSTRIES, INC., a California corporation having its principal office at 3061 Maria Street, Rancho Dominguez, California, hereinafter referred to as "Buyer".

W I T N E S S E T H:

WHEREAS, Amoco owns certain assets in Torrance, California and related rights that are used in the commercial manufacture and sale of polystyrene;

WHEREAS, Amoco desires to sell and transfer to Buyer certain of the foregoing assets and rights upon the terms and conditions set forth in this Agreement;

WHEREAS, Buyer has been given the opportunity to investigate, and has in fact investigated, Amoco's Torrance, California premises, plant, equipment, products, processes, books and records

KAZ

used in the manufacture and sale of polystyrene (including, without limitation, the environmental condition of the premises) to the extent that Buyer has deemed necessary to buy said assets and rights, and has offered to buy them from Amoco; and

WHEREAS, the parties intend to state in this Agreement the definitive terms and conditions under which a sale and a purchase of such Torrance, California assets and rights shall be made.

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter set forth, the parties hereby agree as follows:

ARTICLE I. SALE AND PURCHASE OF ASSETS

1.1 Assets to be Transferred. Subject to, and upon the terms and conditions hereof, and upon the basis of the agreements, representations and warranties contained in this Agreement, Amoco shall sell, transfer, assign, convey, set over, and deliver to Buyer, and Buyer shall purchase, acquire and accept from Amoco at the Closing (as such term is defined in Article IX hereof), Amoco's interest in the assets listed and described below. The assets listed and described in this Section 1.1 are hereinafter collectively referred to as the "Assets".

(a) Real Property. Land, buildings, fixtures and improvements located in Torrance, California, all as described on

KAZ

Schedule 1 attached hereto (hereinafter collectively referred to as the "Real Property").

(b) Equipment. Except as otherwise provided in Section 1.2 below, all fixed assets, machinery and equipment, and spare parts owned by Amoco as of the Closing which are located on the Real Property, including, without limitation, the assets listed in Schedule 2 attached hereto (hereinafter collectively referred to as the "Equipment").

(c) Working Capital. Subject to the security interest in Inventories (as defined below) provided for in the security agreement to be executed and delivered pursuant to Section 4.3(d), "Working Capital" related to the manufacture of polystyrene at the Real Property or the sale of polystyrene manufactured at the Real Property, which shall hereinafter mean (i) all the following inventories of tangible goods (including in-transit inventories), which are used in, and directly and solely relate to, the manufacture of polystyrene at the Real Property or sale of polystyrene manufactured at the Real Property, and are owned by Amoco as of the Closing (hereinafter collectively referred to as the "Inventories"): (A) raw materials, (B) work in process, (C) finished goods, (D) packaging supplies, and (E) materials and supplies; (ii) accounts receivable and notes receivable related to the manufacture of polystyrene at the Real Property or the sale of polystyrene manufactured at the Real Property, except for accounts receivable referred to in Section 1.2(d); (iii) prepaid rent,

KAZ

prepaid property taxes, prepaid supplies, advances and other prepaid expenses and deposits related to the manufacture of polystyrene at the Real Property or sale of polystyrene manufactured at the Real Property; and (iv) all accounts payable and other current liabilities related to the manufacture of polystyrene at the Real Property or the sale of polystyrene manufactured at the Real Property, which shall be deemed to include amounts for all in-transit Inventories equal to their value pursuant to Section 4.3(a), but excluding any accruals for rebates to customers under contracts for sale of polystyrene, which customers are supplied with polystyrene manufactured at the Real Property. Should any such rebates become due after Closing, Amoco shall pay the portion of such rebates which relates to polystyrene sold by Amoco prior to the Closing, directly to Buyer.

(d) Contracts. Subject to the provisions of Sections 1.2 and 1.5, all of Amoco's rights in, and obligations under, the executory contracts, agreements, leases, licenses, commitments, sales orders, purchase orders, and secrecy agreements, whether oral or written, to which Amoco is a party as of the Closing, and which directly and solely relate to the manufacture of polystyrene at the Real Property or sale of polystyrene manufactured at the Real Property (hereinafter collectively referred to as the "Contracts"), except for those listed on Schedule 3 attached hereto.

(e) Licenses and Permits. Subject to the provisions of Section 1.5, all of Amoco's rights in, and obligations under, the

KAZ

government licenses, permits, certificates and approvals which are issued to Amoco and are used in, and directly and solely relate to, the manufacture of polystyrene at the Real Property or sale of polystyrene manufactured at the Real Property, as of the Closing (hereinafter collectively referred to as the "Permits"), except for those Permits identified on Schedule 4 attached hereto.

1.2 Excluded Assets. The following rights, properties and assets (hereinafter collectively referred to as the "Excluded Assets") are not included in the Assets:

(a) Other Amoco Assets. Except as otherwise expressly provided herein: (i) all rights, properties and assets owned by Amoco which are not located at the Real Property, regardless of whether such assets are used in the manufacture or sale of polystyrene; (ii) all rights, properties and assets owned by Amoco, wherever located, which are not used in, or do not directly and solely relate to, the manufacture of polystyrene at the Real Property or the sale of polystyrene manufactured at the Real Property; and (iii) the mainframe computer modem used at the Real Property.

(b) Unassignable Assets. All assets, properties, rights and information of Amoco that are not freely assignable by Amoco to Buyer, or that Amoco and Buyer may prior to Closing agree in writing to exclude from the sale.

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(c) Trademarks and Trade Names. Subject to Section 3.1 below, all rights Amoco may have in the Amoco name and the Amoco Torch and Oval trademark and all trademarks and trade names owned by Amoco and the goodwill associated with such trademarks and trade names.

(d) Accounts Receivable. All accounts receivable (hereinafter collectively referred to as the "Accounts Receivable") relating to sales by Amoco, prior to the Closing Date, of polystyrene manufactured at the Real Property.

(e) Cash. Funds on hand, funds in bank accounts (including lock boxes), securities, receivables from Amoco intercompany accounts, reserves, funds, and similar cash and cash equivalent assets, wherever located and regardless of whether used in, or directly and solely relating to, the manufacture of polystyrene at the Real Property or sale of polystyrene manufactured at the Real Property.

(f) Other Assets. All rights, properties and assets of Amoco not directly and solely related to the manufacture of polystyrene at the Real Property or the sale of polystyrene manufactured at the Real Property and not covered by Section 1.1 above, and all insurance policies and all rights thereunder.

1.3 Transfer of Title to the Real Property.

(a) At the Closing, Amoco shall convey to Buyer subject to the liens and encumbrances listed in Schedule 5 attached hereto, Amoco's interest in the Real Property, by a special warranty deed in the form attached as Exhibit A hereto, which will include the covenants, restrictions, and reservations set forth in Section

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1.3(b) below. Seller shall provide a survey reasonably required by a title company to issue an owner's title policy, and pay the costs therefor. Buyer shall pay all title insurance costs (including the costs of Amoco's preliminary title report provided by Chicago Title & Trust Company) in connection with the conveyance of the Real Property, as well as all costs of recording the deed and any other taxes or fees imposed by any state or local jurisdiction on the sale, conveyance, transfer or assignment of the Real Property.

(b) The conveyance of the Real Property is subject to: (i) all easements, covenants, conditions, assignments, restrictions, and reservations of record; (ii) all building, zoning, and other applicable ordinances and regulations of any municipal, county, state or federal authority having jurisdiction on the property; (iii) the lien for real property taxes for the year in which conveyance occurs; and (iv) all encroachments, overlaps, and other matters which would be disclosed by an accurate current survey; (v) minor title defects or liens consisting of minor survey exceptions and other unrecorded easements or rights of way or other restrictions as to the use of the Real Property provided the same does not render title unmarketable; (vi) the rights of parties in possession not disclosed by public record; (vii) such facts as would be revealed by an inspection of the Real Property; and (viii) the general or standard printed exceptions and exclusions usually contained in commitments for title insurance (items (i) through (viii) above collectively referred to hereinafter as "Permitted Exceptions").

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1.4 Transfer of Equipment and Working Capital. At the Closing, Amoco shall convey to Buyer, subject to the liens and encumbrances listed in Schedule 6 attached hereto and subject to the security interest in Inventories provided for in the security agreement to be executed and delivered pursuant to Section 4.3(d), Amoco's interest in the Equipment and the Working Capital by means of a bill of sale in the form attached as Exhibit B hereto.

1.5 Transfer of Contracts, Licenses and Permits.

(a) At the Closing, Amoco shall transfer to Buyer, and Buyer shall accept the rights and obligations of Amoco under, all Contracts and Permits to be transferred in accordance with Section 1.1. This shall be accomplished by Amoco and Buyer each executing and delivering to the other at the Closing an assignment and assumption agreement whereby Amoco assigns and Buyer assumes and agrees to perform all such Contracts and Permits, with said assignment and assumption agreement to be substantially in the form attached hereto as Exhibit C. Buyer shall perform such Contracts and Permits in accordance with the terms thereof and indemnify and hold Amoco harmless, pursuant to Section 10.2 below, from and against any Claim (as such term is defined in Section 5.1) made against Amoco relating to such Contracts and Permits except for Claims for which Amoco is responsible under Section 5.2.

(b) To the extent that any such Contract or Permit, or any other property interest or right included as an Asset to be transferred, is not capable of being assigned, transferred or

K.97

subleased without the consent or waiver of the issuer thereof, or the other party thereto, or any third person (including a government or governmental unit), or if such assignment, transfer or sublease or attempted assignment, transfer or sublease would constitute a breach thereof or a violation of any law, decree, order, regulation or other governmental edict or is otherwise not practicable, this Agreement shall not constitute an assignment, transfer or sublease thereof, or an attempted assignment, transfer or sublease thereof.

(c) Amoco is not obligated to transfer to Buyer any of its rights and obligations in and to any of the Contracts or Permits referred to in Section 1.5(b) without Amoco and Buyer first having obtained all necessary consents and waivers. Amoco shall use reasonable efforts for a six (6) month period from the date hereof, and Buyer shall cooperate with Amoco, to obtain the consents and waivers and to resolve the impracticalities of assignment referred to in Section 1.5(b) hereof and to obtain any other consents and waivers necessary for Amoco to convey to Buyer any of such Contracts or Permits as soon as practicable; provided, however, that Amoco shall not be obligated to pay any consideration therefor to the party from whom the consent or waiver is requested.

(d) To the extent that the consents and waivers referred to in Section 1.5(b) hereof are not obtained by Amoco, or until the impracticalities of transfer referred to therein are resolved, Amoco shall, during the six (6) month period commencing with the

K92

Closing or such longer period as Amoco may desire (but, as to any particular Contract or Permit, not longer than the term thereof), use its reasonable efforts, with costs of Amoco related thereto to be promptly reimbursed by Buyer, to (1) provide to Buyer at its request the benefits of any Contract or Permit, all as referred to in Section 1.5(b) hereof, but only to the extent necessary for Buyer's ownership and use of the Assets as owned and used prior to Closing, and (2) cooperate in any reasonable and lawful arrangement designed to provide such benefits to Buyer. After Amoco has fulfilled its obligations set forth in Section 1.5(c) above, Amoco shall have no further obligations hereunder with respect to assignment of such Contracts or Permits and the failure to obtain any necessary consent or waiver with respect thereto shall not be a breach of this Agreement. In no event shall Amoco's obligations under Section 1.5 include any obligation to commence or prosecute litigation against any third party. Buyer agrees to reimburse Amoco promptly for its reasonable costs and expenses incurred in connection with this Section 1.5(d).

(e) To the extent that Buyer is provided the benefits pursuant to Section 1.5 hereof of any Contract or Permit, Buyer shall perform, for the benefit of the issuer thereof or the other party or parties thereto, the obligations of Amoco thereunder or in connection therewith, but only to the extent that (1) such action by Buyer would not result in any default thereunder or in connection therewith, and (2) such obligation would have been assumed by Buyer pursuant to Section 1.1(d) or Section 1.1(e) but

KAZ

for the nonassignability or nontransferability thereof, and if Buyer shall fail to perform to the extent required herein, Amoco shall cease to be obligated under Section 1.5 hereof in respect of the instrument which is the subject of such failure to perform unless and until such situation is remedied, and Buyer shall indemnify and hold Amoco harmless from and against all losses, costs, and damages incurred by Amoco as a result of Buyer's said failure to perform.

ARTICLE II. EMPLOYEES AND BENEFITS

2.1 Employee List. Schedule 7 attached hereto is a list of certain employees of Amoco, who are directly engaged in the manufacture of polystyrene at the Real Property. All employees listed on Schedule 7 are hereinafter referred to as the "Employees".

2.2 Offers of Employment. Buyer shall make offers of full-time regular employment as of the Closing to all active Employees at salaries substantially equivalent to those provided by Amoco as of Closing. For purposes of this Agreement, active Employees shall be all Employees other than those Employees who, as of the Closing, have been on disability leave for more than the immediately preceding two (2) years.

2.3 Savings Plan. Buyer shall establish a new Section 401(k) plan (the "New Savings Plan") and all Employees shall be eligible

KAZ

to participate in the New Savings Plan as of Closing. The New Savings Plan shall provide that Buyer shall match Employee contributions to the New Savings Plan, with a minimum annual matching contribution by Buyer of the lesser of four percent (4%) of an Employee's salary or the Employee's actual contribution during such year.

2.4 Vacation. Buyer shall provide vacation benefits to the Employees that are similar to those provided by Amoco as of Closing. Employees with longer service shall be entitled to a greater amount of vacation, with each Employee entitled to a minimum of two weeks vacation per calendar year.

2.5 Union. Buyer acknowledges that certain of the Employees are represented for purposes of collective bargaining by the International Chemical Workers Union Local No. 1 (hereinafter referred to as the "Union"). Buyer agrees that by undertaking the purchase of the Assets and the hiring of the Employees, it also agrees that it will recognize the Union as of Closing for purposes of collective bargaining for those Employees represented by the Union as of Closing.

2.6 Severance. Buyer shall establish, prior to Closing, a severance program with respect to any Employee whose employment with Buyer is terminated by Buyer within one (1) year after Closing, except for terminations for just cause, that is substantially similar to Amoco's severance program as of Closing (a

KAZ

terminated Employee shall at minimum receive severance equal to two weeks of the Employee's most recent salary, for each year of service).

2.7 Health Care, Dental, Life Insurance, Long-term Disability. Buyer shall establish, prior to Closing, medical/health care, dental, life insurance and long-term disability plans for the Employees, which plans shall be substantially similar to those provided by Amoco as of Closing. All Employees (and in the case of medical/health care and dental, also dependents of Employees) shall be eligible to participate in such plans as of Closing.

2.8 General. Buyer shall recognize Employees' prior service with Amoco and its affiliates for all purposes, including, without limitation, eligibility, vesting, and benefit determination and accrual, in connection with employee benefits, plans and programs such as vacation, severance, medical/health care, dental, life insurance and long-term disability. Buyer will offer immediate enrollment, without consideration of any pre-existing conditions, in its medical/health care, dental, life insurance and disability benefit plans. Further, to the extent any of the Employees incurs expenses in 1993 under Buyer's medical/health care and dental plans that he or she would not have incurred if he or she had remained covered by the medical/health care and dental plans of Amoco and its affiliates, related to deductibles and stop-loss limits, Buyer

KAZ

shall reimburse Employees for all such expenses, and Amoco will reimburse Buyer for fifty percent (50%) of all such expenses.

2.9 Benefit Plan Documentation. Prior to Closing, Buyer shall provide to Seller documentation reasonably satisfactory to Seller showing that Buyer will have in effect as of Closing the benefit plans and programs set forth in Sections 2.3, 2.4, 2.6, 2.7 and 2.8.

2.10 WARN Act. Amoco and the Buyer do not anticipate that there will be any employment losses at the manufacturing facility located on the Real Property as a direct consequence of this Agreement that might trigger obligations under the Worker Adjustment and Retraining Notification (WARN) Act, 29 U.S.C. 2102, et seq. Nevertheless, to the extent that any WARN Act obligations might arise at such facility, it is agreed that Amoco shall be responsible for any WARN Act obligations arising prior to the Closing, and Buyer shall be responsible for any WARN Act obligations arising after the Closing.

ARTICLE III. ANCILLARY TRANSACTIONS

3.1 Use of Trademarks.

At the Closing, Amoco will deliver to Buyer a consent from Amoco Oil Company, in the form attached hereto as Exhibit D, for Buyer to use the "AMOCO" name and the "AMOCO Torch and Oval" design for a period not to exceed ninety (90) days after the

KAZ

Closing, and for the sole purpose of exhausting those Inventories acquired by Buyer hereunder which bear such name and/or design; the above notwithstanding, during such ninety (90) day period, Buyer agrees to take all practical steps to expeditiously remove or permanently conceal from view the "AMOCO" name and the "AMOCO Torch and Oval" design from all Assets transferred hereunder.

3.2 Technology License. At the Closing, Amoco shall deliver a license agreement executed by Amoco Corporation, which Buyer shall also execute at the Closing, which will grant to Buyer a nonexclusive, royalty-free license under technical information and patent rights owned by Amoco Corporation, solely for use in manufacturing polystyrene at the Real Property; said license agreement to be substantially in the form attached hereto as Exhibit E.

3.3 Styrene Supply Agreement. At the Closing, Amoco and Buyer shall each execute and deliver to the other an agreement pursuant to which Buyer shall purchase styrene from Amoco, with said agreement to be substantially in the form attached hereto as Exhibit F.

3.4 Employee Assignment Agreement. At the Closing, Amoco and Buyer shall each execute and deliver to the other an agreement covering the assignment by Amoco to Buyer, for a period not to exceed fourteen (14) calendar days, of a certain person whose services are requested by Buyer to assist in the transition to

KAZ

Buyer's operation of the Assets, with said agreement to be substantially in the form attached hereto as Exhibit G.

3.5 Technical Services Agreement. At the Closing, Amoco and Buyer shall each execute and deliver to the other an agreement pursuant to which Amoco shall provide certain technical services to Buyer, for a period not to exceed three (3) months, with said agreement to be substantially in the form attached hereto as Exhibit H.

ARTICLE IV. PURCHASE PRICE AND PAYMENT

4.1 Purchase Price. In consideration of the transfer of the Assets as of the Closing and the other undertakings of Amoco hereunder, Buyer shall pay Amoco one million, three hundred and fifty thousand dollars ($1,350,000.00), plus the Working Capital Value at Closing as determined to exist in accordance with the procedures provided for in Section 4.3 hereof, if such value is positive, or minus such value if it is negative (such resulting total amount referred to herein as the "Purchase Price").

4.2 Payment. At the Closing, Buyer shall deposit one million, three hundred and fifty thousand dollars ($1,350,000.00) in immediately available funds, by bank wire transfer to an account designated by Amoco for such purpose.

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4.3 Working Capital Adjustment.

(a) Within forty-five (45) days after the Closing, Amoco shall provide Buyer with a statement of Working Capital Value at Closing, certified by an officer of Amoco, in accordance with this paragraph. Working Capital (as defined in Section 1.1(c)) as of Closing shall be valued in accordance with the following procedures. The quantity of Inventories (other than in-transit inventories) shall be determined by one complete physical count of such Inventories located on the Real Property to be conducted by Amoco, and observed by Buyer at Buyer's option and expense, in the two (2) day period before Closing. For Inventories in tanks and silos, the physical count will be done by gauging. For Inventories in transit or in rail cars, the physical count will be done by reference to the corresponding weigh bills.

The aggregate value of the quantity of Inventories determined by such physical count plus the value of any in-transit Inventories as of the Closing, shall be determined as follows: (i) raw materials (except for styrene) shall be valued at the price in the most recent invoice received by Amoco for the raw material (at the Real Property) in question; (ii) styrene at the Real Property shall be valued at the low net transaction price as published in the most recent issue, prior to Closing, of the CMAI Monomers Market Report, plus the actual per pound freight incurred by Amoco for styrene shipments to the Real Property in the last full calendar month prior to Closing multiplied by the number of pounds of styrene at the Real Property determined by the physical count; (iii) styrene

KAZ

in transit shall be valued at the price applicable for the first month under the styrene supply agreement executed and delivered pursuant to Section 3.3, plus the actual per pound freight incurred by Amoco for styrene shipments to the Real Property in the last full calendar month prior to Closing multiplied by the number of pounds of styrene in transit; (iv) packaging supplies and materials and supplies Inventories shall be valued at the actual invoiced costs for said Inventories; and (v) work in process and finished goods Inventories shall be valued at Amoco's fully absorbed cost for such, as follows: (1) the direct variable and fixed manufacturing costs as reflected on Amoco's operating statements for the Torrance plant for the last three (3) full calendar months prior to Closing shall be averaged; (2) such average shall be divided by the average monthly production of finished goods at the Real Property during the same three (3) month period, yielding a cents per pound amount; and (3) the resulting cents per pound amount shall be multiplied by the quantities of work-in-process and finished goods Inventories.

Accounts and notes receivable (except for Accounts Receivable referred to in Section 1.2(d)), prepaid expenses, accounts payable and other current liabilities (including amounts for in-transit Inventories), shall be valued at book value (which in the case of in-transit styrene shall be the value pursuant to Section 4.3(a)(iii)).

KAZ

of contest must be given within three (3) months after Closing or the Working Capital Value at Closing shall be deemed to be conclusive and binding on the parties.

(d) In consideration of the undertakings of Amoco hereunder, Buyer shall execute and deliver to Amoco, at least five (5) business days prior to the Closing, an agreement pursuant to which Buyer shall grant to Amoco a security interest in the Inventories and in all other raw materials, work in process, finished goods, packaging supplies, materials and supplies, and accounts receivables, in which Buyer acquires any interest, whether before or after Closing, in order to secure any payment required by Buyer under Section 4.3(b), with said agreement to be substantially in the form attached hereto as Exhibit I.

ARTICLE V. ALLOCATION OF LIABILITIES

5.1 Claims. For purposes of Article V and Article X of this Agreement, the term "Claims" shall mean any and all costs, fees, expenses, claims, damages (including punitive damages), demands, suits, losses, deficiencies, assessments, administrative orders, fines, penalties, causes of action, proceedings, lawsuits, litigation, judgments (including pre- and post-judgment interest), settlement payments, liabilities, obligations, costs of investigation, costs of litigation (including reasonable attorneys' and consultants' fees and expenses) and other ancillary items of

any kind or description (regardless of by whom asserted and regardless of whether based in whole or in part on strict liability, willful or intentional misconduct, ordinary or gross negligence, or otherwise).

5.2 Liabilities of Amoco. Except as otherwise provided in Sections 5.4 and 5.5 below, and subject to points 1), 2) and 3) set forth in Section 10.1, Amoco shall be responsible for Claims that arise out of (i) Amoco's ownership or use of the Assets prior to the Closing, or (ii) polystyrene sold by Amoco prior to the Closing.

5.3 Liabilities of Buyer. Except as otherwise provided in Section 5.5 below, Buyer shall be responsible for Claims that arise out of (i) Buyer's ownership or use of the Assets after the Closing, or (ii) polystyrene sold by Buyer after the Closing.

5.4 Current Liabilities. Buyer shall assume and be responsible for all accounts payable and other current liabilities related to the manufacture of polystyrene at the Real Property or the sale of polystyrene manufactured at the Real Property (including without limitation amounts for all in-transit Inventories equal to their value pursuant to Section 4.3(a)).

5.5 Environmental Liabilities.

(a) As used herein, "Environmental Legislation" shall mean any of the following: the Clean Air Act, 42 U.S.C. 7401 et

KA7

seq; the Clean Water Act, 33 U.S.C. 1251 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.; the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601 et seq.; the Toxic Substances Control Act, 15 U.S.C. 2601 et seq.; the Occupational Safety and Health Act, 29 U.S.C. 651 et seq.; the Safe Drinking Water Act, 42 U.S.C. 300f et seq.; and any other similar federal, state or local environmental laws, ordinances, rules or regulations.

(b) The Groundwater Baseline for Real Property, attached hereto as Schedule 8, shall be deemed to be conclusive evidence, as between Amoco and Buyer, of the presence of substances, contaminants or other materials in the groundwater of the Real Property as of Closing. Specifically, the Baseline Levels of substances, contaminants or other materials either set forth in the table on page 3 of Schedule 8 or resulting pursuant to paragraph E on page 4 of Schedule 8, whichever applies (such Baseline Levels hereinafter referred to as the "Groundwater Baseline"), as between Amoco and Buyer, shall be deemed a conclusive statement of which substances, contaminants or other materials are present in the groundwater of the Real Property as of Closing, and the level at which they are present as of Closing. For purposes of the Groundwater Baseline, if the level of any substance, contaminant or other material is indicated as: (i) not detected, or (ii) below the method detection limit; then such substance, contaminant or other material shall be deemed not to be present in the groundwater of the Real Property as of Closing. Further, if a substance,

KAZ

contaminant or other material was not tested for or if a substance, contaminant or other material is otherwise not contained in the Groundwater Baseline, then such substance, contaminant, or other material shall be deemed not to be present in the groundwater of the Real Property as of Closing. If sampling or testing after Closing outside of Schedule 8 indicates the presence of substances, contaminants or other materials in the groundwater of the Real Property, (i) which are not contained in the Groundwater Baseline, or (ii) at levels in excess of the Groundwater Baseline, it shall be conclusively presumed, as between Amoco and Buyer, in the case of (i), that such substances, contaminants or other materials came into the groundwater of the Real Property after Closing, and in the case of (ii), that such substances, contaminants or other materials came into the groundwater of the Real Property after Closing to the extent of such excess.

(c) With respect to data contained in Schedule 8 as of Closing and excluding any additional data resulting from further groundwater sampling permitted under paragraph E of Schedule 8, Amoco warrants that (i) it used a reputable contractor, experienced in groundwater sampling, to carry out the groundwater sampling; (ii) to the best of its knowledge, groundwater samples obtained from the wells referred to in Schedule 8 were properly collected, consistent with the methods described in Attachment C of Schedule 8; (iii) analyses of the samples were performed at a qualified analytical laboratory; and (iv) the groundwater data was analyzed as described in paragraph D and Attachment B of Schedule 8.

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(d) Subject to points 1), 2) and 3) set forth in Section 10.1 below, as between Buyer and Amoco only, Amoco agrees to accept responsibility and liability for, and pursuant to Section 10.1 below, to indemnify Buyer, and its directors, officers and employees, from and against, any and all Claims, whether known or unknown, to the extent the presence of any substances, contaminants or other materials in the groundwater of the Real Property as of Closing as determined by the Groundwater Baseline and Section 5.5(b) above, is sufficient to establish liability under any Environmental Legislation as it exists on the Closing Date.

(e) Buyer has had the opportunity to inspect the Real Property and the other Assets to be transferred hereunder. Buyer agrees to accept all responsibility and liability for, and, pursuant to Section 10.2 below, to indemnify Amoco and its affiliates, and their respective directors, officers and employees, from and against, any and all Claims (regardless of whether based in whole or in part on strict liability, willful or intentional misconduct, or the sole or concurrent negligence, ordinary or gross, of Amoco or its affiliates, or their respective directors, officers or employees), whether known or unknown, arising from or relating to any release, discharge, disposal or emission of, or exposure to, or migration or movement of, hazardous waste, hazardous substances, pollutants, contaminants, materials, products or by-products, into, onto, on, under or from the Real Property (surface, subsurface and groundwater), to the extent Amoco is not responsible for such Claims under Section 5.5(d); provided,

KAZ

however, if Amoco would have been responsible for (and would have indemnified Buyer from and against) a Claim under Section 5.5(d) but for the fact that Section 5.5(d) is subject to points 1), 2) and 3) set forth in Section 10.1, then Buyer shall not be responsible for (and shall not indemnify Amoco from and against) such a Claim under this Section 5.5(e).

5.6 Access to Real Property after Closing.

(a) For a period of three (3) years after Closing, Buyer shall give Amoco (including its agents and representatives) access to the Real Property, a maximum of two times each year, to, at Amoco's sole option, perform environmental sampling and testing, provided that at least thirty (30) days prior to the date on which any such sampling and testing is proposed to be conducted Amoco shall submit to Buyer for Buyer's approval a detailed description of any proposed sampling and testing to be conducted. Buyer shall respond to such proposed sampling and testing within twenty (20) days of Amoco's submission, and shall not unreasonably withhold approval of such proposed sampling and testing. The results of such sampling and testing shall not become part of Schedule 8 and shall in no event alter either party's responsibility under Section 5.5. If such sampling and testing indicate the presence of substances, contaminants or other materials at levels exceeding the Groundwater Baseline or the presence of substances, contaminants or other materials not present as of Closing, and if the cause of such increased levels or such new substances, contaminants or other materials is Buyer or Buyer's operations or related thereto, then upon notice of such from Amoco, Buyer shall immediately undertake

KAZ

whatever actions are reasonably necessary to return the Real Property to its condition as of Closing. In addition, if the cause of such increased levels or such new substances, contaminants or other materials is Buyer or Buyer's operations or related thereto, then Buyer shall immediately cease the activities giving rise to such increased levels or such new substances, contaminants or other materials. Buyer agrees that money damages would not be an adequate remedy for any breach by Buyer of its obligations under this Section 5.6 and that Seller shall be entitled to obtain, in addition to other available rights or remedies at law or in equity, specific performance or injunctive relief as a remedy for any breach by Buyer of its obligations under this Section 5.6.

(b) Amoco shall share with Buyer the results of its sampling and testing under Section 5.6(a). Buyer shall share with Amoco the results of any environmental sampling or testing that it performs relative to the Real Property, whether during or after the three (3) year period referred to in Section 5.6(a).

ARTICLE VI. REPRESENTATIONS AND WARRANTIES

6.1 Amoco's Representations and Warranties. Amoco represents, warrants and covenants to and with Buyer, and it shall be a condition of the obligations of Buyer hereunder, that:

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(a) Amoco is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, and is qualified and in good standing as a foreign corporation in the State of California.

(b) Amoco has and will at Closing have full corporate power and authority to make and perform this Agreement.

(c) The execution, delivery and performance of this Agreement have been duly authorized by all requisite corporate action.

(d) This Agreement constitutes a valid and legally binding obligation of Amoco enforceable in accordance with its terms except as the enforcement thereof may be limited by applicable bankruptcy, insolvency, rearrangement, reorganization or similar debtor relief legislation affecting the rights of creditors generally from time to time in effect and except that specific performance is an equitable remedy and is discretionary.

(e) Neither the execution nor delivery of this Agreement, nor the completion of the sale hereunder will, nor with the lapse of time or the giving of any notice would, result in any breach or default of any liabilities or obligations of Amoco in a way that will restrict or adversely affect in any material respect the ability of Buyer to use the Assets as they are now being used.

K.97

(f) Amoco has good and marketable title to the Assets described in Sections 1.1(b) and 1.1(c) free and clear of any mortgages, liens, and encumbrances other than for current taxes not yet due and payable and except for those encumbrances, rights or interests described in Schedule 6 attached hereto.

(g) Except for "material" agreements listed on any other Schedule to this Agreement, Schedule 9 attached hereto lists, as of the day before Closing, all contracts, agreements, leases, commitments, sales orders, and purchase orders which Buyer is to assume hereunder and which are "material", as hereinafter defined. For purposes of this Section 6.1(g), the term "material" as applied to contracts, agreements, leases, commitments, sales orders, and purchase orders of any kind shall mean those which involve future expenditures or receipts having a remaining value, as of Closing, in excess of Twenty Thousand Dollars ($20,000) and a remaining duration, as of Closing, of twelve (12) months or more; all payments required to be made by Amoco thereunder prior to closing and all other obligations of Amoco to be performed thereunder prior to Closing by the terms thereof will have been made or fulfilled by Closing, unless contested in good faith, and Amoco is not in material breach of any of the provisions thereof.

(h) To the best of Amoco's knowledge after due inquiry, except as set forth in Schedule 10 hereto, as of Closing, Amoco is not in receipt of any written notice that Amoco presently violates in any material respect any applicable local, state or federal

K-72

laws, orders, rules or regulations where the violation identified in such notice: (i) relates to the Assets or to Amoco's ownership or use thereof; and (ii) has not been corrected.

(i) To the best of Amoco's knowledge after due inquiry, except as set forth in Schedule 11 hereto, as of Closing, Amoco is not in receipt of any written notice of any pending or threatened condemnations, planned public improvements, annexation, special assessments, zoning or subdivision changes which would materially and adversely affect the use of the Real Property as used by Amoco prior to the Closing.

6.2 Buyer's Representations and Warranties. Buyer represents, warrants and covenants to and with Amoco, and it shall be a condition of the obligations of Amoco hereunder, that:

(a) Buyer is a corporation duly organized, validly existing and in good standing under the laws of the State of California, and is duly qualified in each jurisdiction in which the nature of its business requires qualification.

(b) Buyer has and will at Closing have full corporate power and authority to make and perform this Agreement.

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(c) The execution, delivery and performance of this Agreement have been duly authorized by all requisite corporate action.

(d) This Agreement constitutes a valid and legally binding obligation of Buyer enforceable in accordance with its terms except as the enforcement thereof may be limited by applicable bankruptcy, insolvency, rearrangement, reorganization or similar debtor relief legislation affecting the rights of creditors generally from time to time in effect and except that specific performance is an equitable remedy and is discretionary.

(e) The execution and delivery of this Agreement and the completion of the transactions of purchase of the Assets hereunder will not, and the lapse of time or the giving of any notice would not, result in any breach or default of any liabilities or obligations of Buyer in a way which will restrict or adversely affect the ability of Buyer to fulfill its obligations hereunder.

(f) The execution and delivery of this Agreement and the completion of the transactions contemplated hereunder will not result in the violation of any applicable laws (including any federal securities laws) by Buyer or, to the best of Buyer's knowledge by any affiliate of Buyer.

(g) Other than any security interest given to Amoco, Buyer has not made or created any security interest in or other

K-17

lien or encumbrance on, any of the Inventories or any other raw materials, work in process, finished goods, packaging supplies, materials or supplies, or accounts receivable, in which Buyer may acquire any interest, whether before or after Closing.

(h) The representations and warranties to be given by SMP Inc. in paragraphs 4-12 of the guaranty to be executed and delivered pursuant to Section 8.1(f), and the representations and warranties to be given by Chemtex Print U.S.A., Inc. in paragraphs 4-12 of the guaranty to be executed and delivered pursuant to Section 8.1(f), will be true and correct in all material respects when made and at and as of the Closing with the same force and effect as though made at and as of the Closing.

6.3 Disclaimer of Warranties. Buyer acknowledges and affirms that prior to the Closing it will have made its own independent investigation, analysis, and evaluation of the Assets, the liabilities and obligations to be assumed by Buyer hereunder, and the operations, business and prospects relating to the Assets and such liabilities and obligations. Except for the express warranties contained in Section 6.1 above, all Assets transferred hereunder are sold AS IS, WHERE IS. AMOCO MAKES NO WARRANTY AND SPECIFICALLY MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND NONE SHALL BE IMPLIED. ALL WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED.

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6.4 Termination of Representations and Warranties.

(a) Amoco shall have no liability or obligation to Buyer for breach of Amoco's representations or warranties under this Article VI or under Section 5.5(c) except with respect to any breach Buyer discovers and as to which it has provided written notice to Amoco, with said notice providing a complete description of the breach, within twelve (12) months after Closing (except in the case of Section 5.5(c), thirty six (36) months after Closing), and subject to points 2) and 3) set forth in Section 10.1.

(b) Except in the case of Section 6.2(h), Buyer shall have no liability or obligation to Amoco for breach of Buyer's representations or warranties under this Article VI except with respect to any breach Amoco discovers and as to which it has provided written notice to Buyer, with said notice providing a complete description of the breach, within twelve (12) months after Closing.

ARTICLE VII. COVENANTS

7.1 Amoco's Covenants. Amoco covenants and agrees as follows:

(a) Consents and Approvals. Amoco shall take all necessary corporate and other action required of it to carry out

KAZ

the transactions contemplated in this Agreement, and subject to the provisions of Section 1.5 above, use its reasonable efforts to obtain all authorizations, consents, approvals, and amendments of agreements required hereunder.

(b) Access to Records. For a period of five (5) years after the Closing, or until Amoco destroys such records in accordance with its normal schedules for the retention of documents, whichever comes first, Amoco will furnish to Buyer or its authorized representatives, upon the reasonable request of Buyer and with Buyer to bear its and its representatives' costs and expenses, copies of written financial and operating information relating to the Assets, contained in Amoco's books and records and not transferred to Buyer, to the extent that such information is required by Buyer or its authorized representatives for financial reporting, tax or similar purposes, or for purposes of conducting litigation or administrative proceedings with third parties or government agencies and would not violate the terms of any agreement to which Amoco is bound or any applicable law or regulation.

(c) All Reasonable Efforts. Amoco will use its reasonable efforts to obtain the satisfaction of the conditions to Closing set forth in Sections 8.2 and 8.3 of this Agreement.

(d) Operation of the Business. Except to the extent expressly permitted by this Agreement or otherwise consented to by an instrument in writing signed by Buyer, or as listed on Schedule 12 attached hereto, Amoco shall:

(1) From the date of this Agreement through Closing, not make any material change in its current use of the Assets which is outside the ordinary course of business;

(2) From the date of this Agreement until the Closing, not dispose, or commit to dispose of, or make quotations to sell any of the Assets to be transferred hereunder except in the ordinary course of business; and

(3) From the date of this Agreement until the Closing, not acquire or agree to acquire any goods, materials, or services in connection with Amoco's use of the Assets, except in the usual or ordinary course of business, where the amount involved in connection with any single transaction, involving an acquisition or proposed acquisition of goods, materials, or services which are to be transferred or assigned to Buyer hereunder, is in excess of One Hundred Thousand Dollars ($100,000) in each instance, except with the consent of Buyer, such consent not to be unreasonably withheld or delayed.

(e) Governmental Approvals. Amoco shall (1) in a timely, accurate and complete manner make such filings with and

K.92

prepare such applications to any governmental agency whose approval or consent is required for the consummation by Amoco of the transactions contemplated by this Agreement, and (2) provide to Buyer such information as Buyer may reasonably require to make such filings and prepare such applications as may be required for the consummation by Buyer of the transactions contemplated by this Agreement.

7.2 Buyer's Covenants. Buyer covenants and agrees as follows:

(a) Consents and Approvals. Buyer shall take all necessary corporate and other action required of it to carry out the transactions contemplated in this Agreement and, subject to the provisions of Section 1.5 above, use its reasonable efforts to obtain all consents, approvals, permits, licenses and amendments of agreements required hereunder.

(b) Access to Properties and Records. From and after the Closing, Buyer will afford to Amoco and its authorized representatives, with Amoco to bear its and its representatives' costs and expenses, reasonable access during normal business hours to designated officers and employees and the properties, books and records relating to the Assets transferred to Buyer, and Buyer will furnish to Amoco such additional information, and will cooperate with Amoco in such other respects, as Amoco may reasonably request, to the extent that such access and cooperation are required by

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Amoco or its authorized representatives for financial reporting, tax or similar purposes, or for purposes of conducting litigation or administrative proceedings with third parties or government agencies and would not violate the terms of any agreement to which Buyer is bound or any applicable law or regulation. Buyer will also afford to Amoco and its certified accountants and their authorized representatives such reasonable access during normal business hours to designated officers and employees and the properties, books and records of Buyer relating to the Assets transferred to Buyer, as may be necessary or appropriate for Amoco to prepare documents to satisfy its financial and tax reporting requirements. Buyer will keep and maintain all books and records transferred to Buyer hereunder for a period of five (5) years from the Closing Date or longer as may be required by statute. At the end of such five (5) year period, Amoco may notify Buyer that such period has expired and that Amoco is exercising its option to reacquire such documents under the following circumstances: in the event Buyer wishes to destroy such records anytime thereafter, it shall first give ninety (90) days prior written notice to Amoco. Amoco shall then have the right at its option, upon prior written notice given to Buyer within said ninety (90) day period, to take possession of said records or portions thereof within one hundred eighty (180) days after the date of Amoco's notice to Buyer of Amoco's election to take possession hereunder. In the event Amoco does not notify Buyer that Amoco is exercising its option to reacquire documents hereunder, Buyer may destroy such records without further obligation hereunder.

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(c) Access to Real Property. From and after the Closing, Buyer agrees to be bound to the same extent as Amoco prior to Closing by the Site Access and License Agreement by and between Amoco and the Del Amo Participating Parties, attached hereto as Schedule 13. Further, in addition to the rights of access under Section 5.6(a), Buyer agrees to give Amoco reasonable access to the Real Property if Amoco requires such in connection with the Del Amo Superfund proceeding, or if Amoco has reasonable grounds to believe that the environmental condition of the Real Property is being worsened, whether during or after the three (3) year period referred to in Section 5.6(a).

(d) All Reasonable Efforts. Buyer will use its reasonable efforts to obtain the satisfaction of the conditions to Closing set forth in Sections 8.1 and 8.3.

(e) Governmental Approvals. Buyer shall (1) in a timely, accurate and complete manner make such filings with and prepare such applications to any governmental agency whose approval or consent is required for the consummation by Buyer of the transactions contemplated by this Agreement, and (2) provide to Amoco such information as Amoco may reasonably require to make such filings and prepare such applications as may be required for the consummation by Amoco of the transactions contemplated by this Agreement.

(f) Liens. Buyer shall not make or create any security interest in or any other lien or encumbrance on, any of the Inventories or any other raw materials, work in process, finished goods, packaging supplies, materials or supplies, or accounts receivable, in which Buyer acquires any interest, whether before or after Closing, until after any payment required under Section 4.3(b) is made.

7.3 Mutual Covenants. Amoco and Buyer covenant and agree that:

(a) Destruction of the Assets. Subject to the provisions of Section 13.1, in the event any of the Assets are destroyed or damaged prior to the Closing by any cause whatsoever, Amoco may elect to repair or replace the affected Assets or, if Amoco does not elect to so repair or replace, the Purchase Price shall be reduced by an amount equal to seventy percent (70%) of the financial book value of the Assets so destroyed or damaged. Both legal and equitable title to the Assets, and risk of loss to the Assets, shall remain with Amoco until the Closing.

(b) Investigation. The parties shall immediately notify each other, in writing, of any information obtained by either of them which indicates, constitutes or reasonably may constitute a violation or breach of any representation, warranty or covenant made herein by the other party. This covenant shall remain in

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effect for so long as such representations, warranties and covenants remain in effect.

(c) Ancillary Transactions. At the Closing, Amoco and Buyer shall enter into certain other agreements identified in Article III hereof.

ARTICLE VIII. CONDITIONS TO CLOSING

8.1 Conditions Precedent to Obligations of Amoco. The obligations of Amoco under this Agreement to close the transactions contemplated hereunder are subject to the satisfaction on or prior to the Closing of the following conditions, any one or more of which may be waived in writing, in whole or in part, by Amoco.

(a) Accuracy of Representations and Warranties. The representations and warranties of Buyer in Article VI hereof shall have been true and correct in all material respects when made and at and as of the Closing with the same force and effect as though made at and as of the Closing.

(b) Performance of Agreements. Buyer shall have performed all obligations and complied in all material respects with all covenants and conditions contained in this Agreement which Buyer must perform or comply with at or prior to the Closing.

(c) Injunctions. No injunction or any similar legal order prohibiting or restraining consummation of the transactions herein contemplated shall be issued or in effect.

(d) Transfer Documents. There shall have been executed and delivered by Buyer to Amoco the assignment and assumption agreement referred to in Section 1.5.

(e) Benefit Plans. Buyer shall have in effect the benefit plans and programs set forth in Sections 2.3, 2.4, 2.6, 2.7 and 2.8 hereof.

(f) Guaranties. There shall have been delivered to Amoco by Buyer, a guaranty executed by SMP Inc., whereby SMP Inc. shall guarantee to Amoco Buyer's obligations hereunder, provided, however, that such guaranty, with respect to Buyer's obligations under Section 5.5(e), (i) shall only apply to the extent that a release, discharge, disposal or emission of, or exposure to, hazardous waste, hazardous substances, pollutants, contaminants, materials, products or by-products, is caused by Buyer or occurs in connection with Buyer's operations or business, (ii) shall be limited to a maximum amount of one million dollars ($1,000,000.00), and (iii) shall remain in force and effect only for five (5) years after the Closing Date; such guaranty to be in the form attached hereto as Exhibit J. There shall also have been delivered to Amoco by Buyer, a guaranty executed by Chemtex Print U.S.A., Inc. ("Chemtex"), whereby Chemtex shall guarantee to Amoco Buyer's

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obligations under Section 4.3 and under the security agreement executed and delivered pursuant to Section 4.3(d), such guaranty to be in the form attached hereto as Exhibit K. Simultaneous with delivery of the executed SMP Inc. guaranty, Buyer shall deliver to Amoco an executed opinion of counsel in the form attached hereto as Exhibit L. Simultaneous with delivery of the executed Chemtex guaranty, Buyer shall deliver to Amoco a certification by the corporate secretary of Chemtex, in a form acceptable to Amoco, that the signator of the guaranty was at the time of signature an officer of Chemtex and was duly authorized to sign the guaranty on behalf of Chemtex.

(g) Security Interest. There shall have been executed and delivered by Buyer to Amoco, at least five (5) business days before the Closing, the security agreement referred to in Section 4.3(d), and the financing statement referred to in such security agreement.

(h) Legal Matters. All actions, proceedings, instruments and documents required of Buyer to carry out this Agreement and to close the transactions contemplated hereby and all other related legal matters shall be reasonably satisfactory to counsel for Amoco.

(i) Other Documents. There shall have been executed and delivered by Buyer to Amoco such other documents and instruments of assumption as are contemplated under this Agreement to be delivered by Buyer to Amoco at the Closing.

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8.2 Conditions Precedent to Obligations of Buyer. The obligations of Buyer under this Agreement to close the transactions contemplated hereby are subject to the satisfaction on or prior to the Closing of the following conditions, any one or more of which may be waived in writing, in whole or in part, by Buyer:

(a) Accuracy of Representations and Warranties. The representations and warranties of Amoco in Article VI hereof shall have been true and correct in all material respects when made and, except as permitted to be supplemented or amended between the date of signing and Closing, at and as of the Closing with the same force and effect as though made on and at and as of the Closing.

(b) Performance of Agreements. Amoco shall have performed all obligations and complied in all material respects with all covenants and conditions contained in this Agreement which Amoco must perform or comply with at or prior to the Closing.

(c) Injunctions. No injunction or any similar legal order prohibiting or restraining consummation of the transactions herein contemplated shall be issued or in effect.

(d) Transfer Documents. There shall have been executed and delivered by Amoco to Buyer the special warranty deed referred to in Section 1.3, the bill of sale referred to in Section 1.4, and the assignment and assumption agreement referred to in Section 1.5 (hereinafter collectively referred to as the "Transfer Documents").

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(e) Legal Matters. All actions, proceedings, instruments and documents required of Amoco to carry out this Agreement and to close the transactions contemplated hereby and all other related legal matters shall be reasonably satisfactory to counsel for Buyer.

(f) Other Documents. There shall have been executed and delivered by Amoco to Buyer such other documents as are contemplated under this Agreement to be delivered by Amoco to Buyer at the Closing.

8.3 Conditions Precedent to Obligations of Buyer and Amoco. The obligations of Amoco and Buyer under this Agreement to close the transactions contemplated hereby are, at each such party's option, subject to the following conditions:

(a) Orders and Decrees. There shall not be in force any order or decree, or any governmental complaint praying for an order or decree, restraining or enjoining the Closing of this Agreement or the transactions contemplated hereby and there shall not exist any such order or decree whether or not stayed pending appeal.

(b) Suits and Proceedings. No governmental department, agency, commission or other governmental entity shall have instituted any suit, proceeding or investigation against Amoco or Buyer to restrain, enjoin, prohibit, invalidate or otherwise prevent to a material degree the transactions contemplated by this

KA7

Agreement, or to obtain substantial damages from Amoco or Buyer in connection with this Agreement or the transactions contemplated hereby.

ARTICLE IX. CLOSING

9.1 The Closing. Subject to Section 13.4, the closing (the "Closing") of the transactions contemplated hereby shall take place at such place and at such time on such date as to which Amoco and Buyer may mutually agree (such date being referred to herein as the "Closing Date"), and shall be deemed effective as of 11:59 p.m. on the Closing Date.

9.2 Amoco's Obligations. At the Closing, Amoco shall deliver to Buyer the following, at the expense of Amoco:

(a) Transfer Documents. To the extent not delivered previously under Section 8.2(d), the Transfer Documents, together with any other conveyancing documents which may be necessary to transfer to Buyer Amoco's interest in the Assets.

(b) Executed Agreements. Executed agreements in accordance with Article III and all other ancillary agreements contemplated under the other provisions of this Agreement.

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(c) Board Resolutions. A certified copy of the resolutions of Amoco's Board of Directors, in the form of Exhibit M attached hereto, and an opinion of counsel, in the form of Exhibit N attached hereto.

(d) Receipts. Appropriate receipts for the part of the Purchase Price to be paid at Closing.

(e) Other Documents. All other documents and papers as may be required by Section 8.2 hereof as conditions to Closing.

9.3 Buyer's Obligations. At the Closing, Buyer shall deliver to Amoco, at the expense of Buyer:

(a) Purchase Price. The amount required to be paid at the Closing as provided in Section 4.2 hereof.

(b) Instruments of Assumption. To the extent not previously delivered under Section 8.1(d), the assignment and assumption agreement referred to in Section 1.5.

(c) Executed Agreements. Executed agreements in accordance with Article III and all other ancillary agreements contemplated under the other provisions of this Agreement.

(d) Board Resolutions. A certified copy of the resolutions of Buyer's Board of Directors in the form of Exhibit O, attached hereto.

K-97

(e) Other Documents. All other documents and papers required by Section 8.1 hereof as conditions to Closing.

ARTICLE X. INDEMNIFICATION

10.1 Indemnification by Amoco. From and after the Closing, but subject to the conditions and limitations set forth in this Agreement, Amoco shall indemnify and save Buyer and its affiliates, and their respective directors, officers and employees, harmless from and against any and all Claims asserted against, incurred or required to be paid by Buyer or its affiliates or the directors, officers or employees of any of them, which are asserted in connection with or arise out of any or all of: (a) the inaccuracy or untruth, in any material respect, of any representation or warranty made by Amoco in Article VI or in Section 5.5(c); (b) any breach of any covenant or obligation of Amoco contained herein; and (c) any Claim allocated to Amoco under Article V; provided, however, that: 1) such Claims must be made within twenty four (24) months from the Closing Date, except that Claims asserted in connection with or arising out of any Claim allocated to Amoco under Section 5.5(d), or asserted in connection with or arising out of the inaccuracy or untruth of any warranty made by Amoco in Section 5.5(c), must be made within thirty six (36) months from the Closing Date, and Claims asserted in connection with or arising out of the inaccuracy or untruth of any representation or warranty made

K-92

by Amoco in Article VI must be made within twelve (12) months from the Closing Date; 2) Buyer shall not be entitled to recover from Amoco under any circumstances, and Amoco shall have no liability for, an amount greater than twenty five percent (25%) of the Purchase Price in respect of all such Claims, including Claims asserted in connection with or arising out of any or all of (a), (b) and (c) above; and 3) Buyer shall not assert against Amoco any such Claim involving less than twenty-five thousand dollars ($25,000) in claimed or anticipated costs until the total cost or anticipated cost of such non-asserted Claims exceeds or is anticipated to exceed fifty thousand dollars ($50,000) in the aggregate.

10.2 Indemnification by Buyer. From and after the Closing, but subject to the conditions and limitations set forth in this Agreement (including Section 6.4(b)), Buyer shall indemnify and save Amoco and its affiliates, and their respective directors, officers and employees harmless from and against any and all Claims asserted against, incurred or required to be paid by Amoco or its affiliates, or the directors, officers or employees of any of them (regardless of when asserted and regardless of whether a Claim is based in whole or in part on strict liability, willful or intentional misconduct, or the sole or concurrent negligence, ordinary or gross, of Amoco or its affiliates, or their respective directors, officers or employees), which are asserted in connection with or arise out of any or all of: (a) the inaccuracy or untruth, in any material respect, of any representation or warranty made by

KAZ

Buyer in Article VI hereof; (b) any breach of any covenant or obligation of Buyer contained herein; (c) any Claim allocated to Buyer under Article V; and (d) any item transferred to Buyer in accordance with Sections 1.1(d), 1.1(e), and 1.5. It is understood and agreed that Buyer's obligations as set forth above in this Section 10.2 shall survive Closing and shall be a continuing obligation.

10.3 Claims.

(a) In the event Amoco or Buyer (the "Claimant") desires to make a claim against the other (the "Indemnitor") under Section 10.1 or 10.2, the Claimant shall, within thirty (30) days of service of process upon Claimant or within nine (9) months of other notice or discovery by Claimant of any Claim, whichever is first, subject, however, in the case of a Claim under Section 10.1 to any time limit under Section 10.1, notify the Indemnitor in writing of such Claim and the facts, to the extent such facts are known by Claimant, upon which such Claim is based; provided, however, once Indemnitor has been notified of a Claim, Claimant shall be under no further obligation to notify Indemnitor of amended claims or causes of action or Claims for costs of defense arising in connection with such Claims or amended Claims.

(b) Indemnitor shall, at Indemnitor's sole expense, compromise or defend, through counsel of Indemnitor's own choosing, each Claim asserted against Claimant by a third party (collectively "Third Party Claims") which is subject, in its entirety, to

indemnification by Indemnitor pursuant to this Article X. Indemnitor shall notify Claimant in writing of Indemnitor's acceptance or rejection of Claimant's demand for indemnification hereunder no later than twenty-one (21) days after Indemnitor's receipt of Claimant's notice pursuant to Section 10.3(a) above. Claimant shall cooperate with Indemnitor and Indemnitor's counsel in the compromising of or defending against any such Third Party Claim; provided, however, no compromise of any Claim which affects the ongoing business of the Claimant shall be made without the written consent of Claimant, such consent not to be unreasonably withheld. Should Indemnitor reject Claimant's demand for indemnification, Indemnitor shall state the reasons for such rejection in its notice to Claimant and Claimant shall have the right, at Claimant's expense, to compromise or defend, through counsel of Claimant's own choosing, such Third Party Claim without prejudice to any rights Claimant may have under this Agreement or otherwise in the event indemnification has wrongfully been denied by Indemnitor. Any payment (the "Indemnification Payment") made under this Section 10.3(b) shall: (i) reflect any savings of Claimant resulting by way of deductions, credits or other tax benefits attributable to the payment (or accrual) of the cost or expense to which the Indemnification Payment relates, and (ii) include the amount necessary to hold the Claimant harmless on an after-tax basis from the amount of any United States Federal, state or local income (or the equivalent thereof) taxes required to be paid by Claimant as the result of the Indemnification Payment.

K-97

(c) Indemnitor and Claimant shall use their best efforts to cooperate, without prejudice to any rights they may have against each other, in the compromise or defense of any Third Party Claim which is not entirely subject to indemnification by a single Indemnitor hereunder.

ARTICLE XI. CERTAIN CHARGES, TAXES AND EXPENSES

11.1 Allocation. Utility Charges, Real Property Taxes, and Personal Property Taxes including, without limitation, accruals or prepayments thereof (all as individually defined below), shall be allocated directly between Amoco and Buyer as provided in this Article XI.

11.2 Remittance of Charges and Payments. The following charges and payments shall be borne and paid entirely by Amoco to the collecting authorities if due and payable on or before the Closing Date, and shall be borne and paid entirely by Buyer to the collecting authorities if due and payable after the Closing Date:

(a) water, sewer, electricity, gas and other utility charges, if any, applicable to the Assets ("Utility Charges"); and

(b) ad valorem property taxes and payments in lieu thereof imposed on the Assets other than the Real Property ("Personal Property Taxes").

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11.3 Remittance of Real Property Taxes. The following taxes and assessments (the "Real Property Taxes") shall be borne and paid entirely by Amoco to the collecting authorities if due and payable prior to or on the Closing Date, and shall be borne and paid entirely by Buyer to the collecting authorities if due and payable after the Closing Date:

(a) ad valorem taxes and payments in lieu thereof imposed upon the Real Property;

(b) general assessments imposed with respect to the Real Property which are made for specific benefits thereto and spread against all real property and improvements thereon in a legally constituted taxing unit in the proportion that the assessed value of each parcel of real property subject to such general assessment bears to the total assessed value of real property with said taxing unit; and

(c) special assessments upon the Real Property whether payable in full or by installments pursuant to an option duly exercised by Amoco prior to the Closing Date.

11.4 Other Taxes and Expenses.

(a) Except as provided in Sections 11.2 and 11.3, any tax, fee, duty, or other like charge (other than tax on or measured by net income, or tax on the general privilege to conduct business

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activities in a state), imposed or levied by federal, state, local, or Indian authority upon the manufacture, storage, sale, transportation, or delivery of the Assets in this Agreement, or upon the privilege of performing any of these activities, which Amoco is required to pay or collect, shall be paid by Buyer to Amoco.

(b) In the event Amoco receives an assessment, proposed or otherwise, for any such tax, fee, duty or other like charge, including penalties and interest, if any, Amoco shall give timely notice to Buyer of the assessment and Buyer shall have the opportunity, at its own expense, to contest the assessment. Amoco agrees to cooperate with Buyer in the event Buyer chooses to oppose the assessment whether such assessment is imposed upon Amoco or Buyer.

(c) Except as otherwise expressly provided in this Agreement, each party shall bear and pay its own expenses and taxes incurred in connection with the transactions referred to in this Agreement. With respect to those items which are claimed to be exempt from sales or use tax by the Buyer on any basis, Buyer shall deliver to Amoco at or prior to Closing appropriate certificates establishing the basis for the exemption. Each party will cooperate to the extent practicable in minimizing all taxes and fees levied by reason of the sale and conveyance of the Assets.

(d) Buyer shall be responsible for any state or local excise, sales or use tax or fee imposed on any motor vehicles

KAZ

transferred hereunder, and shall pay any such tax or fee directly to the proper authority.

11.5 Payments Between Parties. In the event either party ("Payor") pays an amount for which the other party ("Payee") is obligated under this Article XI, the Payor shall present to the Payee evidence of payment, and the Payee shall within fifteen (15) days from the date of such presentation pay such amount to the Payor. In the event either party ("Recipient") receives payments or refunds to which the other party ("Beneficiary") is entitled in whole or in part under this Agreement, the Recipient shall within fifteen (15) days from the date of such receipt pay such amount to the Beneficiary. All payments to be made under this Article XI shall be made by check or wire transfer in immediately available funds.

ARTICLE XII. BULK SALES LAW

Buyer hereby waives compliance by Amoco with any bulk sales law which may be applicable.

ARTICLE XIII. TERMINATION; TERM; AMENDMENT

13.1 Damage to Assets. This Agreement may be terminated prior to the Closing by Buyer if the Assets are damaged between the date hereof and Closing to the extent more than five hundred thousand dollars ($500,000.00) of repairs would be required to

KAZ

place the Assets in the same condition they were in as of the signing of this Agreement. Buyer's exercise of this right of termination shall be by written notice to Amoco.

13.2 Term. Except as otherwise provided herein, this Agreement and the terms and conditions hereunder survive the Closing, continue forever, and never terminate.

13.3 Amendment. At any time prior to the Closing Date, this Agreement may be amended or modified in any respect by the proper officers of the parties by an agreement in writing executed in the same manner as this Agreement.

13.4 Termination. Either party may terminate this Agreement, upon ten (10) days prior written notice to the other party, at any time after April 30, 1993, in the event the Closing has not taken place as of such date through no fault of the terminating party.

ARTICLE XIV. MISCELLANEOUS

14.1 Further Assurance.

(a) After the Closing, Amoco shall from time to time, at Buyer's request and without further cost or expense to Buyer, prepare, execute and deliver to Buyer such other instruments of conveyance and transfer (including without limitation, additional assignments suitable for recording) and take such other action as

KAZ

Buyer may reasonably request so as more effectively to sell, transfer, assign and deliver and vest in Buyer title to and possession of the Assets as provided in this Agreement, and to implement the covenants hereunder that are to be performed by Amoco after the Closing.

(b) After the Closing, Buyer shall from time to time, at Amoco's request and without further cost or expense to Amoco, prepare, execute and deliver to Amoco such other instruments of assumption and security and take such other action as Amoco may reasonably request so as more effectively to assume the contracts, agreements, leases and commitments assumed by Buyer hereunder and to implement the covenants hereunder that are to be performed by Buyer after the Closing.

14.2 Brokers. Each of the parties hereto represents and warrants to the other that no broker or finder has acted on its behalf in connection with the transactions contemplated by this Agreement. Each of the parties agrees to indemnify, defend and hold the other party harmless from and against any claim or demand for any commission, compensation or other payment by any other broker, finder or similar agent claiming to have been or that was in fact employed by or on behalf of the first party.

14.3 Expenses. Whether the transactions contemplated hereby are consummated, each party shall pay its own respective expenses (including, without limitation, the fees, disbursements and

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expenses of its attorneys, accountants, investment advisors and other consultants) in connection with the negotiation, preparation and execution of this Agreement and the transactions contemplated hereby, except as otherwise provided in this Agreement.

14.4 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

14.5 Exhibits and Schedules. All Exhibits and Schedules annexed hereto and the documents and agreements to be delivered and the acts to be performed at or subsequent to the Closing ("Items") are incorporated herein and expressly made a part of this Agreement as fully as though completely set forth herein, and all references to this Agreement herein or in any of such Items shall be deemed to refer to and include all of said Items. To the extent there is a conflict between the provisions of this Agreement and the provisions of any Exhibit annexed hereto, the provisions of the Exhibit shall prevail; to the extent there is a conflict between the provisions of this Agreement and the provision of any Schedule annexed hereto, the provisions of the Agreement shall prevail.

14.6 Waiver. The failure of any party at any time or times to enforce or require performance of any provision hereof, or to exercise a right, shall in no way operate as a waiver or affect the right of such party at a later time to enforce the same or to

KAZ

exercise such right. No waiver by any party of any condition or the breach of any term, covenant, representation or warranty contained in this Agreement, whether by conduct or otherwise, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such condition or breach, or a waiver of any other condition or of any breach of any other term, covenant, representation or warranty contained in this Agreement. Any waiver of an obligation, agreement or condition contained herein shall be valid and effective only if in writing and signed by the party to whom such compliance is owed.

14.7 Confidentiality Agreements. The letter agreement entered into between Amoco and Chemtex Inc. dated July 1, 1992 relating to disclosure of Amoco information pertaining to the Assets (the "Confidentiality Agreement") shall terminate as of Closing.

14.8 Notices.

(a) Notices under this Agreement shall be given in writing and delivered:

If to Amoco to: Amoco Chemical Company
Attn.: Vice President and General Manager, Olefins and Polymers
200 East Randolph Drive
Chicago, Illinois 60601
Facsimile No.: (312) 856-7026

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If to Buyer to: American Polystyrene Corporation
Attn.: President
3061 Maria Street
Rancho Dominguez, California 90221
Facsimile No.: (310) 631-1673

or to such other address or individual as may be designated by such party.

(b) Notices shall be deemed to have been given:

(1) On the next succeeding business day if the notice has been delivered by hand or sent by facsimile; or

(2) On the next succeeding business day following receipt of a notice sent by registered or certified U.S. mail, return receipt requested, as evidenced by the return receipt card properly endorsed by the receiving party.

14.9 Entire Agreement. This Agreement, including the Schedules and Exhibits hereto, and the Confidentiality Agreement constitute the entire Agreement between the parties hereto pertaining to the subject matter hereof and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written, of the parties, and there are no warranties, representations or other agreements between the parties in connection with the subject matter hereof except as specifically set forth herein or in documents delivered pursuant hereto. No supplement, modification, waiver or termination of this Agreement

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shall be binding unless executed in writing by the party to be bound thereby.

14.10 Severability. If any provision of this Agreement shall hereafter be held to be invalid or unenforceable for any reason, that provision shall be reformed to the maximum extent permitted to come as close as possible in its effects to the invalid or unenforceable provision, failing which, it shall be ineffective to the extent of such invalidity or unenforceability only, with the balance of the provision and the balance of the Agreement continuing in full force and effect. Such occurrence shall not have the effect of rendering the provision in question invalid in any other jurisdiction or in any other case or circumstances, or of rendering invalid any other provisions contained herein to the extent that such other provisions are not themselves actually in conflict with any applicable law.

14.11 Materiality. Except where expressly defined herein, wherever used in this Agreement, terms such as "material" and "materially" shall be interpreted in terms of aggregate potential effect of the matter or issue with respect to which such words are used on or with respect to the Assets taken as a whole.

14.12 Transfer. Amoco and Buyer shall cooperate and take such action as may be reasonably requested by the other to effect an orderly transfer of the Assets with a minimum of disruption to the parties and their employees.

14.13 Publicity. Any public announcements with respect hereto or the transactions contemplated hereby shall be made at such time and in such manner as Amoco and the Buyer shall mutually agree; provided, however, that nothing herein shall prevent any party from making such public announcements as such party may consider necessary to satisfy such party's legal or contractual obligations but in such event the party intending to make such disclosure shall advise the other party in advance of such disclosure and provide such other party with a copy of the text of the information to be disclosed.

14.14 Assignment. Neither party to this Agreement shall assign this Agreement, directly or indirectly, or any part thereof without the prior written consent of the other party. This Agreement shall be binding upon and enure to the benefit of the parties hereto and their respective successors and permitted assigns.

14.15 Captions. The captions in this Agreement are for convenience only and shall not be considered a part of or affect the construction or interpretation of any provision of this Agreement.

14.16 Gender. Whenever appropriate herein, the singular number shall include the plural, the plural shall include the singular, and the use of any gender shall include all genders.

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14.17 No Third Party Beneficiaries. Nothing in this Agreement shall entitle any person other than Amoco or Buyer and their respective successors and assigns permitted hereby to any claim, cause of action, remedy or right of any kind.

14.18 Governing Law. This Agreement and the legal relations between the parties shall be governed by and construed in accordance with the law of the State of Illinois, excluding any choice of law rules which may direct the application of the laws of any other jurisdiction, except if an ancillary or other agreement contemplated under this Agreement specifies the law of another state, in which case the law of the other state shall govern such agreement. Amoco and Buyer agree that any and all disputes arising out of or in connection with this Agreement shall be submitted to either the state courts or the federal courts located in the State of California. In any suit, action or proceeding arising out of, connected with or related to this Agreement, Amoco and Buyer irrevocably waive any right to and agree not to request or demand, to the fullest extent permitted by law, trial by jury.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed.

AMOCO CHEMICAL COMPANY

By: R. M. Lamer

Title: Supervisor, Project Evaluations

AMERICAN POLYSTYRENE CORPORATION

By: Dominic Tan

Title: President

KAZ

TABLE OF SCHEDULES

Schedule 1	Real Property Description
Schedule 2	Equipment List
Schedule 3	Excluded Contracts
Schedule 4	Excluded Permits
Schedule 5	Real Property Liens
Schedule 6	Equipment Liens
Schedule 7	List of Employees
Schedule 8	Groundwater Baseline for Real Property
Schedule 9	Material Agreements
Schedule 10	Notices of Violation
Schedule 11	Notices of Real Property Exceptions
Schedule 12	Exceptions to Ordinary Course
Schedule 13	Site Access and License Agreement

KAZ

SCHEDULE 1

PARCEL 1:

The easterly 258 feet of the westerly 467 feet of the south 3 acres of Lot 5 of Tract No. 4671, in the county of Los Angeles, state of California, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

PARCEL 2:

The northerly 12-1/2 feet of the easterly 258 feet of the westerly 467 feet of Lot 6 of Tract No. 4671, in the county of Los Angeles, state of California, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

RESERVING therefrom an easement for ingress and egress and for location and placement of underground utilities and/or sewer lines over that portion of Parcel 2, hereinabove described, included within the lines of Parcel 3 hereinafter described.

PARCEL 3:

A nonexclusive easement for ingress and egress for the location and placement of underground utilities and/or sewer lines over the northerly 25 feet of the westerly 467 feet of Lot 6 of Tract No. 4671, in the county of Los Angeles, state of California, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county, as created by that certain agreement dated April 17, 1962 and recorded concurrently herewith.

PARCEL 4:

The easterly 160.30 feet of the southerly 3 acres of lot 5 of Tract No. 4671, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

PARCEL 5:

An easement for roadway, ingress and egress purposes over the northerly 25 feet of the westerly 25 feet of the easterly 160.30 feet of lot 6 of Tract No. 4671, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

KAZ

SCHEDULE 2: EQUIPMENT LIST

KAZ

AMOCO CHEMICAL COMPANY - TO[illegible]NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		LAND (ADJACENT PURCHASED), 3.0 ACRES	O 11/66	001 1000	LAND, 3.0 ACRES	250	51921011	69,000.00
		LAND (ORIGINAL PURCHASE), 1-1/2 ACRES	O 7/63	001 1000	LAND, 1-1/2 ACRES	250	51921010	27,793.49
		LAND CLEAN AND FILL	O 2/67	001 3000	LAND CLEAN AND FILL	-	51921012	1,142.60
		LAND OPTION ON 3.0 ACRES	O 8/69	001 3000	LAND OPTION	-	51921013	1,000.00
		SPILL CONTAINMENT	O 2/91	019 1099	FEED TANK FOUNDATIONS	250	55924940	146,717.39
		FENCING, RR SIDING	O 12/91	025 2010	FENCE, METAL W/ SLATS	-	56019104	7,178.00
		FENCING AND GATE, CHAIN LINK	O 11/69	025 2010	FENCING, CHAIN LINK	-	51921014	260.98
		FENCING	O 12/75	025 2050	FENCING	-	52143987	2,260.00
--5800		AUTO GATE, PLANT ENTRANCE	O 12/90	025 3010	AUTO GATE	250	55907404	1,207.00
--5800		AUTO GATE INSTALL	O 12/90	025 3010	AUTO GATE INSTALL	-	55907405	5,250.00
5700		BLOCK RETAINING WALL	O 8/76	025 6040	BLOCK RETAINING WALL	-	52332258	1,746.90
		WALL AND PAVING	O 12/75	025 6040	WALL AND PAVING	-	52143988	6,036.00
		ASPHALT PAVING, YARD & ROADWAY	O 7/71	034 7010	PAVING	-	51921015	6,933.77
		ASPHALT PAVING	O 12/91	034 7010	SPEED BUMPS	250	56021795	2,417.77
5700		PAVE YARD & DRAIN IMPROV	O 9/82	034 8000	YARD PAVE & DRAIN IMPROV	-	53065487	1,801.81
		PUBLIC SEWER CONNECTION	O 7/71	043 1000	PUBLIC SEWER TIE-IN	-	51921016	4,591.89
		CONCRETE SLAB AND CURB	O 2/67	043 1099	SLAB AND CURB	-	51946970	2,645.00
		COUNTY SEWER CONNECTION	O 11/69	043 1099	CO. SEWER CONN.	-	51946971	420.00
		GRADING AND PAVING	O 10/66	049 0172	GRADE AND PAVE	-	51921018	3,580.00
		IMPROVEMENTS (NOT SUPPORTED)	O 7/63	049 0172	LAND IMPROVEMENTS	-	51921017	3,470.72
		PAVING AND GRADING	O 7/75	049 0172	GRADE AND PAVE	-	52049368	1,871.00
		SUMP IMPROVEMENTS	O 11/69	049 0172	SUMP WORK	-	51921019	637.00
		NORTH SIDE CONCRETE BLOCK WALL	O 7/71	049 0177	NORTH WALL	-	51921020	1,409.48
		WESTSIDE BLOCK WALL	O 8/71	049 0177	WEST BLOCK WALL	-	51921021	1,825.00
		FILL AND GRADE PARKING SPACES	O 4/66	049 0180	PREP PARKING SPACES	-	51921024	150.00
		FILL AND GRADING	O 10/63	049 0180	FILL AND GRADING	-	51921023	283.00
		SITE PREPARATION	O 12/91	049 0181	SOIL INVESTIGATION	-	56019105	2,475.20

K-72

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		SOIL INVESTIGATION	O 12/91	049 0181	SOIL INVESTIGATION	-	56019105	2,475.20
		OUTSIDE LIGHTING	X 11/69	049 0185	OUTSIDE LIGHTING	-	51921025	872.92
		FIRE WALL, NORTHSIDE	O 7/71	049 1077	NORTH FIREWALL	-	51921022	3,469.58
--5800		COMPRESSOR SHED	O 6/83	053 5149	COMPRESSOR SHED	250	53161151	3,276.24
--5800		FIRE DAMAGE	O 12/90	053 5149	FIRE DAMAGE (10/90)	-	55907399	43,000.00
		SUMP PUMP COVER	O 9/88	053 9845	SUMP PUMP COVER	-	55581512	725.33
		LUNCH ROOM REMODEL	O 7/89	054 7669	LUNCH ROOM REMODEL	-	55684943	7,414.30
		BUILDING, MAINTENANCE	O 7/71	054 7740	MAINT BUILDING	250	51921116	15,091.09
		BUILDING, MAINTENANCE ADD	O 7/75	054 7740	MAINT BUILDING ADD	250	52049369	19,342.62
		BUILDING, MOTOR CONTROL ROOM	O 12/91	055 5099	CONCRETE BLOCK MCC	238	56019088	20,161.94
		MCC PARTS	O 6/92	055 5099	MISCELLANEOUS MCC PARTS	-	-	526.37
		MCC PARTS	O 6/92	055 5099	MCC THERMOMETER	-	-	304.00
		MCC ENGINEERING SERVICES	O 6/92	055 5099	ENGINEERING SERVICES	-	-	1,365.00
		BUILDING, FRONT OFFICE REMODEL	O 12/91	060 6219	FRONT OFFICE REMODELING	250	56019103	9,340.15
		BUILDING, BREAKROOM	O 12/91	060 6219	BREAKROOM REMODELING	-	56019102	13,852.28
--1500		NEW ELECT SYS, MCC & DISTRIBUTION	O 12/90	060 6219	1990 ELECT UPGRADE	238	55907389	116,604.57
		BUILDING, PLANT	O 7/62	060 6240	PLANT BUILDING	250	51921129	65,779.24
		HEATER SHED	O 2/67	060 6245	HEATER SHED	250	51921130	829.18
		AWNINGS, ALUMINUM	O 9/65	060 6249	AWNINGS, AL	-	51921026	211.76
		CONTROL ROOM	O 12/77	060 6249	CONTROL ROOM	250	52518190	5,997.01
		LUNCH AND LOCKER FACILITIES	O 7/71	060 6249	LUNCH & LOCKER AREA	250	51921029	8,526.96
		OFFICE RELOCATE & ENLARGE	O 7/71	060 6249	OFFICE ENLARGE	250	51921028	20,177.14
		SPRINKLER HEADS	O 12/64	060 6249	SPRINKLER HEADS	-	51921131	180.00
5800		SPRINKLERS FOR STORAGE ROOM	O 2/81	060 6249	SPRINKLERS, STG ROOM	-	52904386	1,185.00
		WAREHOUSE LIGHTING	O 12/72	060 6249	LIGHTING, WAREHOUSE	-	51921132	1,920.00
		WAREHOUSE DOORS	O 7/71	060 6249	WAREHOUSE DOORS	250	51946972	1,150.48
		BUILDING, LAB & RECORDS	O 12/75	061 1525	LAB & RECORDS BUILDING	250	52143989	26,900.94

K92

AMOCO CHEMICAL COMPANY - TOR. NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
5800		NEW ROOF	O 7/89	062 5029	NEW ROOF	-	55684940	19,000.00
		DAP TECH, MICRO FLEX PC1000 DATA COMPUTER, HAND HELD	X	162	MICRO FLEX	LAB	-	
		ELECTRIC STIRRER	X	162	CORNING	LAB	-	-
		GUM TAPE MACHINE	X	162	GUM TAPE MACHINE	LAB	-	500.00
		PORTABLE SEIVE SHAKER	X	162	COMBUSTION ENGINEERING	LAB	-	-
		PYROCON TEMP PROBE	X	162	TEMPERATURE PROBE	LAB	-	
		SOLIDS METER	X	162	NALCOMETER #512M5	LAB	-	-
		SPECTROPHOTOMETER	X	162	BAUSCH & LOMB SPECTRONIC 20	LAB	-	1,900.00
		SPECTROPHOTOMETER	X	162	MILTON ROY COMPANY SPECTRONIC 21	LAB	-	1,900.00
M-989		ANALYTICAL BALANCE, OHAUS 1210	X 11/66	162 0070	BALANCE	LAB	51921133	220.00
E-108		WATER BATH, A-LINE	X 11/69	162 0140	WATER BATH, A-LINE	253	51921135	655.20
E-308		WATER BATH, 20'Lx3'Wx9"D, SS	O 12/68	162 0140	WATER BATH C LINE	259	51921134	2,636.84
E-408		WATER BATH	O 7/69	162 0140	WATER BATH, D LINE	263	52355143	2,157.10
		E-108 MODIFICATION	O 12/80	162 0149	E-108 MODIFICATION	253	52884918	500.00
M-900		WATER BATH	? 11/80	162 0190	LAB BATH	???	52865691	331.26
M-954		COLORIMETER, HUNTER, LABSCAN 5100, S/N 12830 W/MONITOR	O 6/88	162 0510	COLORIMETER, HUNTER LAB S/N 12830	LAB	55534019	18,827.30
M-920		FUME HOOD, Labconco FUME HOOD, Labconco	O 7/89 O 7/89	162 2990 162 2990	LAB FUME HOOD FUME HOOD	LAB LAB	55684942 W/ABOVE	4,459.05
M-953		BUTTON PRESS, CARVER, S/N 23100-176	X 11/70	162 4540	LAB BUTTON PRESS	LAB	52116089	760.00
M-991		MELT FLOW TESTER, Tinius-Olsen, w/AutoTimer, UE-86	O 11/72	162 6190	FLOW MELT TESTER	LAB	52116091	2,461.44
		MELT FLOW TESTER, Tinius-Olsen, w/AutoTimer, UE-4-78	O 11/72	162 6190	FLOW MELT TESTER	BLO	-	2,461.44
M-996		STIFFNESS TESTER	X 9/65	162 6190	STIFFNESS TESTER	LAB	52116088	815.00
M-997		DIGITAL THERMOMETER, ELECTRO-THERM, MODEL HT-680	O 12/86	162 6240	DIGITAL THERMOMETER	LAB	55246585	331.47
P-1304		LIMIT SWITCH	O 12/91	176 0080	P-1304, P-1308 PRESSURE RELIEF	276	56026453	358.00
5200		CAPACITORS, ELECTRICAL	O 4/80	176 0090	CAPACITORS, ELECT	MCC	52751444	8,900.00
		CAPACITORS	O 12/91	176 2000	NEW MCC	244	56019037	68,532.19
G-1501		EMERGENCY GENERATOR w/Diesel Engine	O 3/74	176 3010	EMERGENCY GENERATOR W/ENGINE	250	52116094	14,734.40

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EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		G-1501 INSTALLATION	O 3/74	176 3101	INSTALL GENERATOR	-	51921144	6,599.75
		G-1501 ELECTRICAL TRANSFER SWITCH	O 3/74	176 3109	EMERG GEN XFR SWITCH	250	51921145	1,508.00
		TIMER, GRALAB, MODEL 167	X	176 6450	TIMER	LAB	-	460.00
M-994		TIMER, GRALAB, MODEL 167, S/N 816478Y	X	176 6450	TIMER	LAB	-	460.00
M-990		TIMER, GRALAB, MODEL 167, S/N 816055	O 11/69	176 6450	TIMER	LAB	51921146	458.20
M-981		LIGHT BOX, Macbeth # 80108	O 5/69	176 9140	LAB LIGHT BOX	LAB	52116147	307.77
??M-982		LIGHT BOX, Macbeth # 81164	O 6/70	176 9140	LAB LIGHT BOX	CR	52116146	358.41
		AREA OUTSIDE LIGHTING, ADDITIONAL	O 4/72	176 9410	AREA LIGHTING, ADDITIONAL	-	51921173	1,825.99
		AREA OUTSIDE LIGHTING INSTALLATION	O 7/71	176 9410	AREA LIGHTING INSTALL	-	51921158	936.00
		AREA OUTSIDE LIGHTING	O 7/71	176 9410	AREA LIGHTING	-	51921157	2,451.93
		B-1404 & 1405 ELECT	O 8/71	176 9410	BLEND SYS ELECT	-	51921155	332.48
		B-1404 & 1405 ELECT	Y 7/71	176 9410	BLEND SYS ELECT	-	51921154	578.76
		B-1404 & 1405 ELECT	O 1/72	176 9410	BLEND SYS ELECT	-	51921165	693.45
		C-1503 ELECTRICAL	O 10/72	176 9410	VACUUM SYS ELECTRIC		51921174	482.14
--1500		C-1505 ELECTRICAL	O 11/76	176 9410	C-1505 ELECTRICAL	-	52436918	999.23
		D-1103 ELECTRICAL	O 11/72	176 9410	ELECT for D-1103		51921175	227.57
		ELECTRICAL	O 12/91	176 9410	CODE CORRECTIONS	-	56021790	17,227.60
		ELECTRICAL STARTERS	O 12/91	176 9410	MOTOR CONTROL CENTER	-	56021797	3,325.60
		EMERGENCY LIGHTING, BATTERY LIGHTS	O 11/72	176 9410	EMERG LIGHTS	-	51921166	1,129.06
		EMERGENCY LIGHTING, INSTALLATION	O 11/72	176 9410	EMERG LIGHTS INSTALL	-	51921167	557.64
		F-1420 FITTINGS, ELECT	Y 5/73	176 9410	F-1420 ROTARY VALVE, ELECT	-	51921177	326.08
		G-1501 ELECTRICAL	O 3/74	176 9410	ELECT HOOK UP OF GEN		51921178	3,026.67
		G-310 ELECTRICAL	O 5/72	176 9410	G-310 ELECT	259	51921164	257.50
		H-1102 ELECTRICAL	O 4/72	176 9410	H-1102 HTR ELECT		52265578	559.15
--1500		PLANT AIR ELECTRIC	O 1/72	176 9410	ELECT, PLANT AIR	-	51921172	1,140.41
		R-102 ELECTRICAL	O 8/80	176 9410	R-102 ELECTRIC	252	52884919	16,063.34
		R-301 ELECTRICAL	O 12/68	176 9410	for R-301	258	51921148	7,432.91

K92

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		R-301 ELECTRICAL	O 12/68	176 9410	for R-301	258	51921147	8,077.57
		R-401 & 402 ELECTRICAL	O 12/69	176 9410	ELECT FOR D LINE		51921159	4,499.11
		R-401 & 402 ELECTRICAL	O 7/69	176 9410	REACTORS R-401 & 402		51921149	30,504.97
		R-401 & 402 ELECTRICAL	O 7/71	176 9410	ELECT FOR D LINE ADD		52355144	5,552.75
		S-1401 ELECT	O 11/72	176 9410	ELECT S-1401	-	51921176	76.99
		T-1301 MIXER ELECTRIC	O 3/74	176 9410	ELECTRIC	-	51921180	1,113.38
		T-1302 MIXER ELECTRIC	O 5/72	176 9410	ELECT	-	51921171	1,160.78
		T-1303 MIXER ELECTRIC	O 3/74	176 9410	ELECT	-	51921181	1,113.37
		T-1304 MIXER ELECTRIC	O 5/72	176 9410	ELECT	-	51921170	1,160.78
		T-1308 ELECTRIC	O 12/70	176 9410	ELECT T-8	-	51921151	2,862.52
		T-1309 ELECTRIC	O 3/74	176 9410	T-1309 ELECTRIC	-	51921179	2,820.25
		T-1406 ELECTRICAL	X 5/78	176 9410	T-1406 ELECT	-	52556327	1,454.13
		X-120 ELECTRICAL	O 1/72	176 9410	X-120 ELECT		51921169	1,109.46
		T-1406 PRESSURE SWITCH	O 12/82	176 9419	T-1406 PRESS SWITCH	-	53111586	338.81
		T-1406 STOP/GO SWITCH	O 12/82	176 9419	T-1406 STOP/GO SWITCH	-	53111589	427.37
		T-1407 PRESSURE SWITCH	O 12/82	176 9419	T-1407 PRESS SWITCH	-	53111587	338.81
		T-1407 STOP/GO SWITCH	O 12/82	176 9419	T-1407 STOP/GO SWITCH	-	53111590	427.37
		T-1408 PRESSURE SWITCH	O 12/82	176 9419	T-1408 PRESS SWITCH	-	53111588	338.82
		T-1408 STOP/GO SWITCH	O 12/82	176 9419	T-1408 STOP/GO SWITCH	-	53111591	427.37
C-1401		B-1403 HOLDING BIN BLOWER, Schwitzer, 4½"x4"	O 7/71	188 1000	B-1403 BIN BLOWER	282	51921188	1,560.00
C-1401-EM		C-1401 BLOWER MOTOR, 15 hp	O 7/71	w/C-1401	C-1401 BLOWER MOTOR	282	w/C-1401	
C-1402		B-1405 BAGGER/BLENDER BLOWER, Duraflow-4509V8	O 4/74	188 1000	B-1404 BLOWER	282	52230511	5,942.93
C-1402-EM		C-1402 BAGGER/BLENDER BLOWER MOTOR, 30 hp, 1770 rpm	O 4/74	w/C-1405	C-1402 BLOWER MOTOR	282	w/C-1402	
C-1419-EM		C-1419 BLOWER MOTOR, 25 hp, 1775 rpm	O 7/71	188 1000	C-1419 MOTOR, 25 hp	284	51921191	2,350.00
5200		EQUIPMENT BLOWER	O 7/63	188 1000	EQUIP EXHAUST BLOWER	-	51921192	386.40
C-1602+EM		FINES AND WASTE BLOWER TO B-1601, 3 hp	X 2/66	188 1000	FINES BLOWER TO D-1601	-	51921185	432.00
C-1403		T-1401 BLOWER,Sutorbilt,4"x4"-7HB(Below Silo # 1)	O 8/71	188 1000	T-1401 BLOWER	283	51921190	1,441.64
C-1403-EM		C-1403 BLOWER MOTOR, 25 hp	O 8/71	w/C-1403	C-1403 BLOWER MOTOR	283	w/C-1403	

K-97

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
C-116		TRANSFER BLOWER, 200 cfm	X 7/63	188 1000	TRANS BLOWER w/MOTOR	253	51921182	386.40
C-116-EM		C-116 BLOWER MOTOR, 2 hp, 3505 rpm	O 7/63	w/C-116	C-116 BLOWER MOTOR	253	w/C-116	
C-316		TRANSFER BLOWER for B-318	X 12/68	188 1000	TRANS BLOWER, C LINE	259	51921186	380.83
C-316-EM		C-316 TRANSFER BLOWER MOTOR, 2 hp	X 12/68	w/C-316	C-3116 TRANS BLOWER MOTOR	259	w/C-316	
C-416		TRANSFER BLOWER for S-401	X 7/69	188 1000	C-416 BLOWER	263	52355182	832.43
C-416-EM		C-416 TRANSFER BLOWER MOTOR, 3 hp	X 7/69	w/C-416	C-416 BLOWER MOTOR	263	w/C-416	
C-409		WATER STRIPPER BLOWER	O 7/69	188 1000	WATER STP D-LINE	263	52355146	2,779.10
C-409-EM		WATER STRIPPER BLOWER MOTOR, 10 hp	O 7/69	w/C-409	C-409 WATER STP MOTOR	263	w/C-409	
C-109	-B	WATER STRIPPER BLOWER	O 8/80	188 1000	A-LINE WATER STRIPPER	253	52824190	7,390.00
C-109-EM		C-109 BLOWER MOTOR, 10 hp, 3400 cfm	O 8/80	w/C-109-B	C-109 WATER STRIPPER MOTOR	253	w/C-109-B	
C-309		WATER STRIPPER BLOWER	X 12/68	188 1000	WATER STRIPPER C LINE	259	52116114	1,150.50
C-309-EM		WATER STRIPPER BLOWER MOTOR, 1.5 hp, 3000 rpm	X 12/68	w/C-309	WATER STRIPPER C LINE MOTOR	259	w/C-309	
		C-109 MODIFY (STAND)	O 7/63	188 1009	C-109 STAND	252	52904387	208.00
C-1417		BLOWER	O 12/91	188 1020	SUTORBILT MHL	-	56022938	1,346.06
C-1416	-B	B-318 BAGGER BIN TRANSFER BLOWER	O 8/83	188 1980	C-1416 BLOWER, YOUNG	259	53167988	740.67
C-1416-EM		C-1416 BLOWER MOTOR, 10 hp, 1725 rpm	O	W/T-1402	C-1416 BLOWER MOTOR	259	w/T-1402	
C-1412		BLOWER FOR SILOS 6,7 & 8(Below Silo # 8)	O 7/81	188 1980	C-1412, SILO 6,7 & 8 BLOWER	285	52946627	4,082.96
C-1412-EM		C-1412 BLOWER MOTOR, 40 hp, 3545 rpm	O	w/C-1412	C-1412 BLOWER MOTOR	285	w/F-1412	
5200		EXHAUST FAN	O 10/79	188 2000	EXHAUST BLOWER	-	52682043	71.30
5200		ROOF FAN UNITS (4)	O 7/63	188 2000	ROOF FAN UNITS	WHR	51921193	5,524.48
5200		TUBE FAN COOLING COIL	O 7/63	188 2000	TUBE FAN COOLING COIL	WHR	51921194	2,044.20
C-1502		C-1502 AIR COMPRESSOR	O 7/71	188 9000	C-1502 AIR COMPRESSOR	289	52116095	3,416.00
C-1502-EM		C-1502 AIR COMPRESSOR MOTOR, 25 HP	O 7/71	w/C-1502	C-1502 AIR COMPRESSOR MOTOR	289	w/C-1502	
C-1505		C-1505 AIR COMPRESSOR	O 11/76	188 9000	C-1505 AIR COMPRESSOR	289	52369919	4,988.00
C-1505-EM		C-1505 AIR COMPRESSOR MOTOR, 25 HP	O 11/76	w/C-1505	C-1505 AIR COMPRESSOR MOTOR	289	w/C-1505	
P-124		DEVOL VACUUM PUMP, Leybold Model: SV180	O 12/90	189 0000	A-LINE VACUUM PUMP, Leybold	254	55907403	6,162.30
P-124-EM		P-124 MOTOR, 7.5 hp	O 10/90	w/P-124	P-124 MOTOR	254	w/P-124	
P-131+MS		R-101 HOT OIL CIRC PUMP, Dean Bros, R-454	O 12/90	189 0000	P-131 H.O. CIRC PUMP w/Mech Seal	252	55907406	7,311.20
P-131-EM		P-101 MOTOR, 50 hp	O 12/90	w/P-131	P-131 MOTOR	252	w/P-131	
		SUMP PUMP MOTOR	O 9/88	189 0000	SUMP PUMP MOTOR		55581509	270.56
P-324		DEVOL VACUUM PUMP, Leybold, SV180	O 10/90	189 5550	324 VAC PUMP, Leybold J901102025	260	55879131	6,119.13
P-324-EM		P-324,DEVOL VACUUM PUMP MOTOR, 7.5 hp	O 10/90	w/P-324	D-LINE VACUUM PUMP MOTOR	260	w/P-324	
P-424		P-424, DEVOL VACUUM PUMP, Leybold, SV180	O 10/90	189 5550	D VAC PUMP, Leybold J901102009	264	55879132	5,178.05

K-92

AMOCO CHEMICAL COMPANY - TOK NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
P-424-EM		P-424, DEVOL VACUUM PUMP MOTOR, 7.5 hp	O 6/90	w/P-424	D-LINE VAC PUMP MOTOR	264	w/P-424	
C-1503		C-1503 VACUUM SYSTEM	O 10/72	189 9000	LINE VACUUM SYSTEM	300	52265593	4,000.00
C-1503-EM		C-1503 VACUUM SYSTEM BLOWER MOTOR, 10 hp	O 10/72	w/C-1503	C-1503, VACUUM SYSTEM MOTOR	300	w/C-1502	
P-133+MS	-B	D-101 HOLDING TANK H.O. CIRC PUMP, Dean Bros,R-434,2"x3"	X 8/80	189 9000	D-101 TK H.O. PUMP	253	52824192	3,440.13
P-133+EM	-B	D-101 H.O. CIRC PUMP MOTOR, 5 hp, 1750 rpm	X 7/63	189 9000	P-133 MOTOR	253	52438760	884.40
P-103	-B	D-101, HOLDING TANK FORWARDING PUMP, 10"sq.in x 6"out	O 9/80	189 9000	D-101 FORWARDING PUMP	253	52844103	14,157.00
P-104	-B	D-102, DEVOL FORWARDING PUMP	O 7/63	189 9000	D-102 FORWARD PUMP	253	51921209	1,998.96
P-1105		D-1103 FILL PUMP, Viking Gear, 1/2"x 1/2"	X 9/66	189 9000	D-1103 FILL PUMP	269	51921217	140.00
P-1105-EM		P-1105 PUMP MOTOR, 1/2 hp	X 9/66	w/P-1105	P-1105 FILL PUMP MOTOR	269	w/P-1105	
P-1108		D-1103 TRANSFER PUMP, Cent, 1½"x1"	X 7/63	189 9000	D-1103 XFR PUMP	269	51921294?	205.00
P-1108-EM		P-1108 TRANSFER PUMP MOTOR, 1/2 hp	X 7/63	w/P-1108	P-1108 XFR PUMP MOTOR	269	w/P-1108	
P-1305		D-1305 CONDENSATE PUMP, Viking Gear, 1/2" x 1/2"	O	189 9000	P-1305 CONDENSATE PUMP	287	-	250.00
P-1305-EM		P-1305 CONDENSATE PUMP MOTOR, 1 hp	O	w/P-1305	P-1305 MOTOR	287		
P-1301		D-1310 PUMP, Viking Gear, 1" x 1"	O 4/83	189 9000	D-1310 PUMP	252	53141958	171.50
P-1301-EM		P-1301 PUMP MOTOR, 1/2 hp	O 7/63	w/P-1301	P-1301 PUMP MOTOR	252	w/P-1301	
P-1303+MS		D-1312 PUMP, GEAR PUMP	X 7/69	189 9000	D-1312 PUMP	262	52355148	185.81
P-1303-EM		P-1303 PUMP MOTOR, 1 hp	X 7/69	w/P-1303	P-1303 PUMP MOTOR	262	w/P-1303	
P-303		D-301 FORWARDING PUMP	X 12/68	189 9000	D-301 FWD PUMP	259	52965764	1,113.00
P-304-VS		D-302 FWD PUMP VARI-DRIVE, Sterling	O 12/81	189 9000	D-302 FWD PUMP VARI-DRIVE	259	52997371	7,863.42
P-304-EM		P-304 PUMP MOTOR, 7.5 hp, 1760 rpm	O 12/81	w/P-304VS	D-302 FWD PUMP MOTOR	259	w/P-304	
P-304		D-302 FWD PUMP	O 12/68	189 9000	D-302 FWD PUMP	259	51921220	2,739.34
P-403		D-401 FORWARDING PUMP, 10"Sq x 6"	O 7/69	189 9000	R-401 FWD PUMP	263	52369893	4,600.00
P-433+MS		D-401 H.O. PUMP, Dean Bros,R-434, 2"x3"x8½"	X 7/69	189 9000	P-433 PUMP w/Mech Seal(91)	263	52355153	1,055.00
P-433-EM		P-433 H.O. PUMP MOTOR, 5hp	X 7/69	w/P-433	P-433 PUMP MOTOR	263	W/P-433	
P-1323		D-421, DEVOL RECEIVER PUMP, Viking Gear, 1" x 1"	X 7/69	189 9000	D-421 DRUM PUMP	264	52355149	185.81
P-1323-EM		D-421, DEVOL RECEIVER PUMP MOTOR, 1 hp	X 7/69	w/P-1323	P-1323 PUMP MOTOR	264	w/P-1323	
P-1321		DEVOL COND PUMP, Viking Gear, 1" x 1"	X 9/64	189 9000	A-LINE COND PUMP	254	51921215	244.20
P-1321-EM		P-1321 MOTOR, 1 hp	X 9/64	w/P-1321	P-1321 MOTOR	254	w/P-1321	
P-1322		DEVOL COND PUMP, Viking Gear, 1" x 1", 1 hp Motor	X 11/64	189 9000	C-LINE COND PUMP	260	51921216	449.78
P-1322-EM		P-1322 DEVOL COND PUMP MOTOR, 1 hp Motor	X 11/64	w/P-1322	P-1322 COND PUMP MOTOR	260	w/P-1322	
P-404		DEVOL FORWARDING PUMP, 10"Sq x 6"	X 7/69	189 9000	D-402 FWD PUMP	263	52355155	1,902.82
P-1501		E-1503 CIRC PUMP, Paco, Model 10-12705	O 12/74	189 900[illegible]	E-1503 CIRC PUMP	294	52116148	285.70
P-1501-EM		E-1503 CIRC PUMP MOTOR, 5 hp	O 12/74	w/P-1505	P-1501 CIRC PUMP MOTOR	294	w/P-1501	

KAZ

AMOCO CHEMICAL COMPANY - TOR. NCE POLYSTYRENE BATCH PLANT

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P-1308+MS	-B	FEED TRANSFER PUMP Cent.	O 7/81	189 9000	P-1308 FEED TO REACTORS	276	52946628	532.71
P-1308-EM		P-1308 ELECTRIC MOTOR, 10 hp, 3480 rpm				276		
P-1304+MS		FEED TRANSFER PUMP Deming, CENT, 2x1½, DC-435725	X 6/64	189 9000	P-1304 FEED TRANS PUMP	276	51921214	275.00
P-1304-EM		P-1311 ELECTRIC MOTOR, 10 hp, 3600 rpm, US	X 6/64	189 9000	FEED PUMP, P-1304	276	w/P-1304	
P-1103		H-1103 H.O. CIRC PUMP, Dean Bros, R434, 3"x4"x8½"	X 7/69	189 9000	P-1103, D-LINE H.O.CIRC PUMP	269	52355147	1,388.55
P-1103-EM		P-1103 H.O. CIRC PUMP MOTOR, 25 hp, 3530 rpm	X 7/69	w/P-1103	P-1103, D-LINE H.O.CIRC PUMP MOTOR	269	w/P-1103	
P-333+MS		HOLDING TANK H.O. CIRC PUMP,DeanBros,R-434,2"x3"x8½"	X 12/68	189 9000	D-301 H.O. PUMP	259	51921223	1,044.63
P-333-EM		HOLDING TANK H.O. CIRC PUMP MOTOR, 5hp, 1750 rpm	X 12/68	w/P-333	P-333 MOTOR	259	w/P-333	
P-1101+MS		HOT OIL CIRC PUMP, Dean, R434, 3"x4"x8½"	O 7/63	189 9000	P-1101 H.O.CIRC PUMP w/Mech Seal	268	51921200	2,900.00
P-1101-EM		P-1101 HOT OIL CIRC PUMP MOTOR, 20 hp, 3530 rpm	O 7/63	w/P-1101	P-1101 H.O.CIRC PUMP MOTOR	268	w/P-1101	
P-1102+MS		HOT OIL CIRC PUMP, Dean, R434, 3"x4"x8½"	O 7/63	189 9000	P-1102 H.O.CIRC PUMP w/Mech Seal	268	51921197	3,200.00
P-1102-EM		P-1102 HOT OIL CIRC PUMP MOTOR, 20 hp, 3530 rpm	O 7/63	w/P-1102	P-1102 H.O.CIRC PUMP MOTOR	268	w/P-1102	
P-1602		HYDRAULIC SYSTEM PUMP	O 7/63	189 9000	HYDRAULIC PUMP FOR SCREENS	299	51921208	5,100.00
P-1602-EM		HYDRAULIC SYSTEM PUMP MOTOR, 10 HP	O 7/63	w/P-1602	HYDRAULIC PUMP MOTOR FOR SCREENS	299	w/P-1602	
P-303-VS		P-303 FORWARDING PUMP VARI DRV, Sterling	O 9/81	189 9000	P-303 VARI-DRIVES	259	52964837	3,322.84
P-303-EM		D-301 FORWARDING PUMP MOTOR, 3 hp, 1800 rpm	O 9/81	w/P-303-VS	P-303 FWD PUMP MOTOR	259	w/P-303-VS	
P-1506		PUMP TO SAND FILTER S-1506	O	189 9000	P-1506 TO S-1506	293	-	250.00
P-1506-EM		P-1506 PUMP MOTOR, 3/4 hp	O	w/P-1506	P-1506 PUMP MOTOR	293	w/P-1506	
P-101		R-101 FORWARDING PUMP, Stearns-Rogers, 10"Sq x 6"	X 7/63	189 9000	FORWARDING PUMP, R-101	252	51921198	1,052.53
P-132+MS		R-102 HOT OIL CIRCULATING PUMP,Dean Bros,R-454,6"x8"x12½"	X 8/80	189 9000	R-102 H.O. CIRC PUMP w/MechSeal	252	52824191	8,275.50
P-132-EM		R-102 H.O. CIRC PUMP MOTOR, 50 hp, 1770 rpm	X ??	w/P-132	P-132 MOTOR	252	w/P-132	
P-102		R-102 FORWARDING PUMP	X 9/80	189 9000	R-102 FWD PUMP	252	52844102	14,157.00
P-301		R-301 FORWARDING PUMP, Gear, 10"Sq x 6"	O 12/68	189 9000	R-301 FORWARD PUMP	258	51921218	2,613.00
P-301-GD		R-301 FORWARDING PUMP GEAR DRIVE	O 12/68	w/P-301	P-301 GEAR DRIVE	258	w/P-301	
P-301-EM		R-301 FORWARDING PUMP MOTOR, 7.5 hp, 1760 rpm	O 12/68	w/P-301	P-301 MOTOR	258	w/P-301	
P-331+MS		R-302 HOT OIL CIRC PUMP, I-R, 8 x 15A	O 12/68	189 9000	R-301 H.O. PUMP w/Mech Seal	258	51921223	3,904.48
P-401		R-401 FORWARDING PUMP, 10"Sq x 6"	O 7/69	189 9000	R-401 FWD PUMP	262	52355150	4,600.00
P-401-GD		R-401 FWD GEAR DRIVE	O 4/74	189 9000	P-401 GEAR DRIVE	262	52309665	2,133.00
P-401-EM		P-401 FWD PUMP MOTOR, 7.5 hp, 1800 rpm	O 7/69	w/P-401-GD	P-401 MOTOR	262	w/P-401-GD	
P-431+MS		R-401 H.O. PUMP, Dean Bros,R-454, 6"x8"x12½",MS(91)	O 7/63	189 9000	R-401 H.O. PUMP w/MS	262	51921212	2,417.76
P-431-EM		R-401 H.O. PUMP MOTOR, 50 hp	O 7/63	w/P-431	R-401 H.O. PUMP MOTOR	262	w/P-431	
P-432		R-402 H.O. PUMP,Dean Bros, R454, 6"x8"x12½",MS(91)	O 6/82	189 9000	R-402 H.O. PUMP	262	53044035	6,050.50
P-432-EM		P-432 H.O. PUMP MOTOR, 50 hp	O 7/69	w/P-432	P-432 H.O. PUMP MOTOR	262	w/P-432	
P-402		R-402 FORWARDING PUMP, 10"Sq x 6"	O 7/69	189 9000	R-402 FWD PUMP	262	52369892	4,600.00

KAZ

AMOCO CHEMICAL COMPANY - TOI NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
P-1312		STYRENE PUMP, Cent, 2"x1½"x7 5/16" w/10 hp Motor	X 3/74	189 9000	T-1312 PUMP	275	52116098	690.20
P-1312-EM		P-1312 STYRENE PUMP MOTOR, 10 hp	X 3/74	w/P-1312	T-1312 PUMP MOTOR	275	w/P-1312	
P-1311+MS		STYRENE PUMP, Cent, 2"x1½"x7 5/16"	X 12/70	189 9000	T-1308, P-1311 PUMP w/MS	275	51921238	592.00
P-1311-EM		STYRENE PUMP MOTOR, 15 hp Motor	X 12/70	w/P-1311	P-1311 PUMP MOTOR	275	w/P-1311	
P-1503		WATER FROM BATHS CIRC PUMP, Paco, Model: 10-10705	O 6/92	189 9000	P-1503 FROM BATH CIRC PUMP	294	-	2,030.84
P-1503-EM		P-1503 CIRC PUMP MOTOR, 3 hp	O	w/P-1503	P-1503 CIRC PUMP MOTOR	294	w/P-1503	
P-1502		WATER CIRC PUMP TO BATHS, Paco, 10-10701	O 12/74	189 9000	P-1502, CHILLER WATER TO BATHS	294	52116149	285.70
P-1502-EM		P-1502 WATER CIRC PUMP TO BATHS MOTOR, 1 hp	O 12/74	w/P-1502	P-1502, CIRC PUMP MOTOR	294	w/P-1502	
P-1306		MINERAL OIL PUMP, TRI-ROTOR	O 1/87	190 2090	P-1306 (Old P-1308)	276	55266921	751.23
P-1306-EM		P-1306 MINERAL OIL PUMP MOTOR, 5 hp	O 1/87	w/P-1306		276	w/P-1306	
P-1102		PIPING REVISION	O 12/91	191 0200	P-1102 & H-1102 REVISION	268	56019093	17,726.18
P-1101		PIPING REVISION	O 12/91	191 0200	P-1101 & H-1101 REVISION	268	56019091	17,726.19
P-131		PIPING REVISION	O 12/90	191 3200	BR-1 CIRC. PUMP UPGRADE	252	56019090	27,178.29
P-331-EM		P-331 HOT OIL CIRC PUMP MOTOR, 50 hp, 1745 rpm	O 12/68	192 4430	P-331 H.O. PUMP MOTOR	258	52609239	3,764.27
P-402-GD		P-402 FWD PUMP GEAR DRIVE, Sterling	O 1/87	197 7800	P-402 GEAR DRIVE	262	55255157	3,898.90
P-402-EM		P-402 FWD PUMP MOTOR, 7.5 hp, 1800 rpm	O 7/69	w/P-401-GD	P-402 MOTOR	262	w/P-401-GD	
S-305-EM		C-LINE VIBRATING SCREEN MOTOR, Baldor, >5 hp	O 6/88	197 7800	S-305 MOTOR, Baldor, >5 hp	259	55534021	149.33
P-101+GD		P-101 GEAR DRIVE, Sterling	X 7/63	197 9990	P-101 GEAR DRIVE	252	51921247	1,230.00
P-101-EM		P-101 MOTOR, 7.5 hp, 1760 rpm	X 7/63	w/P-101-GD	P-101 MOTOR	252	w/P-101-GD	
P-103-VS	-B	P-103 FORWARD PUMP, VARI GEAR DRIVE, Sterling	O 7/80	197 9990	P-103 VARI DRIVE	253	52809287	3,202.60
P-103-EM		P-103 FORWARD PUMP MOTOR, 3 hp, 1800 rpm	O 7/63	w/P-103	P-103 MOTOR	253	w/P-103	
P-104-VS	-B	P-104 FORWARD PUMP w/VARI GEAR DRIVE, Sterling	O 7/80	197 9990	P-104 VARI DRIVE	253	52809288	5,487.34
P-104-EM		P-104 FORWARD PUMP MOTOR, 7.5 hp, 1800 rpm	O 7/80	w/P-104-B	P-104 VARI DRIVE MOTOR	253	w/P-104-B	
P-403-VS	-B	P-403 FWD PUMP VARI-DRIVE	O 5/85	197 9990	P-403 VARI-SPEED	263	-	4,148.18
P-403-EM		P-403 FWD PUMP MOTOR, 3 hp	O 7/69	w/P-403-VS	P-403 MOTOR	263	w/P-403	
P-404-VS		P-404 VARI-SPEED DRIVE	O 6/77	197 9990	P-404 VARI-SPEED DRIVE	263	52458527	3,664.64
P-404-EM		P-404 MOTOR, 7.5 hp	O 6/77	w/P-404-VS	P-404 MOTOR	263	w/P-404-VS	
P-102-GD		R-102 FORWARDING PUMP GEAR DRIVE,	X 11/69	197 9990	P-102 FWD PUMP GEAR DRIVE	252	51921253	1,272.36
P-102-EM		R-102 FORWARDING PUMP MOTOR, 7.5 hp, 1760 rpm	X 11/69	w/P-102-GD	P-102 FWD PUMP MOTOR	252	w/P-102-GD	
LG-1101		D-1101 Level Gauge	X 8/90	204 1480	LEVELOMETER	268	-	3,400.00
LG-1102		D-1102 LEVEL GLASS, Levelometer:	O 5/89	204 1480	D-1102 LEVEL GAUGE, Levelometer	269	55663313	3,354.66
		BUTTON MOLD ASSEMBLY	O 7/71	204 2140	BUTTON MOLD	LAB	52116093	136.67
M-9540ld		COLOR METER, Gardner??	O 7/71	204 2140	COLOR DIFF METER	LAB	52116107	3,650.00

K92

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M-1601		SCALE, PLATFORM, B-1601 BAGGER	X 6/88	204 4570	SCALES, PLATFORM, M-1601	-	55534020	798.75
		ELECTRIC CART	O 6/92	215 2539	MINI-CRANE ATTACHMENT	MNT	-	2,598.00
		HAND CART	O 9/87	215 3480	HAND CART	VAR	55383256	151.12
F-1401		B-1402 ROTARY VALVE, F-1401, Semco,OBRV-12	O 7/71	215 4180	B-1402 ROTARY VALVE	282	52116108	1,880.00
F-1401-EM		F-1401 ROTARY VALVE MOTOR, 1 hp, 1725 rpm	O 7/71	w/F-1401	F-1401 ROTARY VALVE MOTOR	282	w/F-1401	
F-1402		B-1403 ROTARY VALVE, Semco,OBRV-12	O 7/71	215 4180	B-1403 ROTARY VALVE	282	52116109	1,880.00
F-1402-EM		F-1402 ROTARY VALVE MOTOR, 1 hp, 1725 rpm	O 7/71	w/F-1402	F-1402 ROTARY VALVE MOTOR	282	w/F-1402	
F-1403		B-1404 ROTARY VALVE,Semco,OBRV-12	O 7/71	215 4180	B-1404 ROT VALVE	282	52116110	3,250.00
F-1403+GR		F-1403 GEAR REDUCER, AllispedAJ4B	O 7/71	w/F-1403	F-1403 ROT VALVE GEAR REDUCER	282	w/F-1403	
F-1403-EM		F-1403 ROTARY VALVE MOTOR, 1½ hp, 1740 rpm	O 7/71	w/F-1403	F-1403 ROT VALVE MOTOR	282	w/F-1403	
F-1404		BAGGER BIN, B-118, ROTARY VALVE	O 8/71	215 4180	B-118 ROTARY VALVE	253	52116111	822.32
F-1404-EM		F-1404 MOTOR, 1/2 hp, 1725 rpm	O 8/71	w/F-1404	F-1404 MOTOR	253	w/F-1404	
F-1406		S-401 PRODUCT FORWARDING VALVE	O 2/77	215 4180	ROTARY VALVE(END D-LINE)W/MOTOR	263	52419269	1,927.45
F-1406-EM		S-401 PRODUCT FORWARDING VALVE MOTOR, 1/2 hp	O 2/77	w/F-1406	F-1406 ROTARY VALVE MOTOR	263	w/F-1406	
M-321		PORTABLE PLATFORM SCALES	X 2/67	215 8010	PORT PLATFORM SCALE	259	51921266	220.32
M-421		PORTABLE PLATFORM SCALES	X 7/69	215 8010	PORT PLAT SCALES	263	52355159	310.00
M-121		PORTABLE PLATFORM SCALES	X 12/68	215 8010	PORTABLE SCALE	253	51921267	704.58
M-1601		SCALES, PLATFORM, PORTABLE	O 11/69	215 8010	PLAT SCALES	-	51921269	395.00
M-955		SCALE, PRECISION, Ainsworth, TYPE 10N, S/N 51185	X 5/69	215 8050	LAB SCALES	LAB	51921270	678.21
		WEIGHT SET, BECKER-CHRISTEN			WEIGHT SET	LAB		
		RAILROAD SIDING TRACKS	O 12/75	232 0100	RAILROAD SIDING TRACKS	-	52143990	6,903.00
		RENOVATE RAIL SIDING & SPILL CONTAINMENT	X 6/92	232 0100	SOIL REMEDIATION, FIBERGLASS PANS	250	-	128,251.00
		SAFETY GATES	O 2/91	234	SAFETY GATES	-	56021791	2,188.35
		OXYGEN ANALYSER, CALTECH, INC, MODEL 1214S, S/N C1744	X 9/88	234 4490	CALTECH (GASTECH)	LAB	55581508	1,304.63
		FIRE BLANKET, SAFETY, (Seven Locations)	X 72/91	234 7200	WITH CASE	VAR	-	1,260.00
TO-220		STRETCHER, SAFETY, PORTABLE	X	234 7200	PORTABLE STRETCHER	LAB	-	150.00
5500		SAFETY BELT	X 5/83	234 7261	SAFETY BELT	-	53150102	44.43
5500		LADDERS, CAGES, WALL CROSSINGS, HAND RAILS	O 3/74	234 7300	LADDERS, HANDRAILS, ETS	-	51921287	11,214.47
		SIREN, 30152518	O 7/89	234 7980	SIREN		55684941	2,050.89
TO-246		FIRE EXTINGUISHER, # 23, 20# DRY CHEMICAL	O 3/74	234 9610	FE # 23, 20# DRY CHEM	-	51921278	58.30

KAZ

AMOCO CHEMICAL COMPANY - TOI NCE POLYSTYRENE BATCH PLANT

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TO-228		FIRE EXTINGUISHER, # 5, 20# DRY CHEMICAL	O 6/76	234 9610	FE # 5, 20# DRY CHEM	-	52304194	59.00
TO-232		FIRE EXTINGUISHER, # 9, 1# DRY CHEMICAL	O 11/72	234 9610	FE # 9, 1# DRY CHEM	-	51921274	24.14
TO-233		FIRE EXTINGUISHER, # 10, 20# DRY CHEMICAL	X 7/63	234 9610	FE # 10, 20# DRY CHEM	-	51921282	109.50
TO-234		FIRE EXTINGUISHER, # 11, 20# DRY CHEMICAL	O 7/63	234 9610	FE # 11, 20# DRY CHEM	-	w/TO-233	
TO-225		FIRE EXTINGUISHER, # 2, 150# DRY CHEMICAL, CART	X 7/63	234 9610	FE # 2, 150# DRY CHEM CART	-	51921280	535.50
TO-227		FIRE EXTINGUISHER, # 4, 20# DRY CHEMICAL	O 6/76	234 9610	FE # 4, 20# DRY CHEM	-	52304193	59.00
TO-235		FIRE EXTINGUISHER, # 12, 20# DRY CHEMICAL	O 6/76	234 9610	FE # 12, 20# DRY CHEM	-	52304195	59.00
TO-238		FIRE EXTINGUISHER, # 15, 20# DRY CHEMICAL	O 4/77	234 9610	FE # 15, 20# DRY CHEM	-	52441578	59.00
TO-245		FIRE EXTINGUISHER, # 22, 10# DRY CHEMICAL	O 6/76	234 9610	FE # 22, 10# DRY CHEM	-	52304198	43.50
TO-229		FIRE EXTINGUISHER, # 6, 50# DRY CHEMICAL, CART	O 12/72	234 9610	FE # 6, 50# DRY CHEM CART	-	51921275	276.00
TO-236		FIRE EXTINGUISHER, # 13, 20# DRY CHEMICAL	O 6/76	234 9610	FE # 13, 20# DRY CHEM	-	52304196	59.00
TO-242		FIRE EXTINGUISHER, # 19, 20# DRY CHEMICAL	O 11/72	234 9610	FE # 19, 20# DRY CHEM	-	51921276	51.80
TO-237		FIRE EXTINGUISHER, # 14, 20# DRY CHEMICAL	O 4/77	234 9610	FE # 14, 20# DRY CHEM	-	52441577	59.00
TO-224		FIRE EXTINGUISHER, # 1, 30# DRY CHEMICAL	X 7/63	234 9610	FE # 1, 30# DRY CHEM	-	51921281	89.10
TO-243		FIRE EXTINGUISHER, # 20, CO_2 (EMERG GEN ROOM)	O	234 9610	FE # 20, CO_2	-	-	170.00
TO-247		FIRE EXTINGUISHER, # 24, CO_2	O	234 9610	FE # 24, CO_2	-	-	170.00
TO-244		FIRE EXTINGUISHER, # 21, 5# DRY CHEMICAL	O	234 9610	FE # 21, 5# DRY CHEM	-	-	35.00
TO-241		FIRE EXTINGUISHER, # 18, 1# DRY CHEMICAL	O 11/72	234 9610	FE # 18, 20# DRY CHEM	-	51921271	24.14
TO-226		FIRE EXTINGUISHER, # 3, 20# DRY CHEMICAL	O 6/76	234 9610	FE # 3, 20# DRY CHEM	-	52304197	59.00
TO-239		FIRE EXTINGUISHER, # 16, 20# DRY CHEMICAL	O 11/72	234 9610	FE # 16, 20# DRY CHEM	-	51921277	51.80
TO-231		FIRE EXTINGUISHER, # 8, 1# DRY CHEMICAL	O 11/72	234 9610	FE # 8, 1# DRY CHEM	-	51921273	24.14
TO-230		FIRE EXTINGUISHER, # 7, CO_2	O	234 9610	FE # 7, CO_2	-	-	170.00
TO-240		FIRE EXTINGUISHER, # 17, 20# DRY CHEMICAL	O	234 9610	FE # 17, 20# DRY CHEM	-	-	59.00
		T-1308 & 1309 FIRE WATER PIPING	O 3/74	234 9620	FIRE PIPING, T-8 & T-9	275	51921282	4,409.38
		SAFETY STATION (Northside BR5 Fin Fans) EyeWash/Shower	O 11/80	234 9810	SAFETY STATION(East)	-	51921283	304.64
		SAFETY STATION (By BR3) EyeWash/Shower	X 3/91	234 9810	SAFETY STATION(East)	-	51921283	304.64
TO-547		SAFETY STATION (Westside E Tk Frm) Eyewash/Shower	O 11/72	234 9810	SAFETY STATION(West)	-	51921284	304.64

KAZ

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
TO-546		SAFETY STATION (Eastside E Tk Frm) EyeWash/Shower	O 11/72	234 9810	SAFETY STATION(East)	-	51921283	304.64
		INSTALLATION WEST SAFETY STATION	O 11/72	234 9811	SAFETY STATION(West) INSTALL	-	51921286	367.92
		INSTALLATION EAST SAFETY STATION	O 11/72	234 9811	SAFETY STATION (East) INSTALL	-	51921285	367.92
		PLANT MAINTENANCE CART	O 12/91	245 2000	ELECTRIC CART TRANS-ELECTRIC	MNT	56019106	4,373.30
		FORK TRUCK JIB ATTACHMENT	X	245 8420	RAMPMASTER	-	-	500.00
		FORK TRUCK MANLIFT	X	245 8420	MANLIFT ATTACHMENT	MNT	-	400.00
		PIPE RACK	O 12/91	260 9810	PIPE RACK ADDITION	250	56021796	3,476.51
D-1504		WATER SOFTENER FOR BATH WATER	O 6/84	262 9970	WATER SOFTENER FOR COOLING BATHS	294	53286326	979.00
		HAZOP	O 6/92	263 5145	GENERAL HAZOP CHARGES	-	-	4,950.00
		HAZOP	O 12/91	263 5145	GENERAL HAZOP IMPROVEMENTS	-	56019011	209,184.49
		HAZOP	O 6/92	263 5145	GENERAL HAZOP CHARGES	-	-	24,741.36
		HAZOP	O 12/91	263 5145	GENERAL HAZOP IMPROVEMENTS	-	56021793	19,340.87
		PARTS CLEANER	X	265 1980	McMASTER-CARR A300	-	-	460.00
TO-596		VACUUM CLEANER (PORTABLE)	X 5/96	265 4980	SHOP VACUUM CLEANER	MNT	51921290	555.00
		WET/DRY VACUUM, BLACK & DECKER	O --/78	265 4980*	WET/DRY SHOP VACUUM	MNT	52629607	216.62
		G-110-C ADD (RAMPS)	O 12/80	265 5990	G-110 RAMPS & PLATFORMS	253	52884920	2,809.00
5200		PLATFORMS & LADDERS	O 10/72	265 5990	PLATFORMS & LADDERS	-	51921291	5,413.55
5200		PLATFORMS & LADDERS - ADDITIONAL	O 12/80	265 5990	PLATFORMS & LADDERS ADD	-	52884991	10,100.00
--1400		TRUCK RACK PLATFORMS	O 7/71	266 2520	T-4 & 5 TRUCK RACK	284	51921292	698.23
--1400		BULK RAILROAD LOADING SYSTEM	O 9/77	266 2550	RR LOADING SYS	275	52482610	4,391.10
--1400		LOADING DOCK ADJUSTABLE RAMP	O 9/81	266 2550	LOAD DOCK ADJ RAMP	-	52964838	5,040.00
--1400		TANK TRUCK LOADING	O 10/72	266 2550	TANK TRUCK LOADING	-	51921293	907.62
--1400		TANK TIEDOWNS	O 12/82	266 2550	TANK TIEDOWNS	-	53111592	3,018.00
--1400		TRUCK LOADING	O 11/74	266 2550	TRUCK LOADING	-	52265590	2,429.25
--1400		TRUCK LOADING STATION REVAMP	O 9/81	266 2550	TRUCK LOADING STATION REVAMP	-	52964839	1,300.00
--1400		INSTALL RR LOAD SYS	O 9/77	266 2551	RR SYS INSTALL	-	52482611	6,317.00
--1400		D-301 PLATFORMS	O 8/82	266 5990	D-301 PLATFORMS	-	53056568	4,166.64

KAZ

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD		ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		FLOOR SWEEPER, MANUAL PUSH	X		266 8600	MANUAL PUSH	WHS	-	600.00
TO-568		BOX, TOOL	X		266 9000	CRAFTSMAN, 20" x 7" x 4"	MNT	-	250.00
TO-569		BOX, TOOL	X		266 9000	CRAFTSMAN, 18" x 8" x 9"	MNT	-	250.00
TO-567		CART, TOOL	X		266 9000	2-DRAWER, 24" x 36"	MNT	-	380.00
		TOOL BOX	X		266 9000	HOMARK	-	-	250.00
5200		VENT, ROOF UNITS (4)	X	7/63	266 9950	ROOF VENTS	WHR	51921295	298.00
5200		VENT, ROOF, HARTZELL UNITS (2)	X	6/67	266 9950	ROOF VENTS	WHR	51921296	526.40
5200		VENTS FOR HARTZELL UNITS	X	5/69	266 9950	ROOF VENTS	WHR	51921297	139.01
--1500		PLANT AIR INSTALL	O	7/71	266 9951	INSTALL PLANT AIR	-	51921298	3,234.52
TO-572		DRILL, HAND	X		268 2750	BLACK & DECKER, 1/2"	MNT	-	150.00
TO-595		DRILL PRESS, 1/2" DELTA, SN # 138248	O	8/71	268 3910	DRILL PRESS, DELTA/ROCKWELL	MNT	51921118	500.00
TO-591		GRINDER, PEDESTAL, UTILITY, 2 hp	X		268 5180	UTILITY 2HP	MNT	-	1,750.00
TO-592		GRINDER, PEDESTAL, DAYTON, 3/4 hp	X		268 5180	DAYTON	MNT	-	450.00
		PNEUMATIC IMPACT HAMMER	X		268 6500	PHILLIPS	-	-	190.00
		LATHE, BOTWINIK BROS.	X		268 8490	BELT DRIVEN, BENCH	-	-	3,500.00
		BEARING HEATER	X		269 0700	BEARING HEATER	MNT	-	180.00
		DRILL, HAND 1/2"	X		269 2960	MILWAUKEE	-	-	150.00
TO-577		BAND SAW, 7" EMERSON, SN # 10-170 IU	O	8/71	269 3750	7" BAND SAW, JOHNSON	MNT	51921119	475.00
TO-574		CONCRETE SAW	X		269 4020	JEPSON, 1/2" MODEL # 2218	MNT	-	700.00
		CIRCULAR SAW	X		269 4060	BLACK & DECKER 6 1/2"	-	-	40.00
		CUT-OFF SAW	X		269 4790	BLACK & DECKER #3108	-	-	375.00
		JIG SAW	X		269 4790	BLACK & DECKER #7330	-	-	190.00
TO-575		SABRE SAW, HAND, BLACK & DECKER, # 7015T2	X		269 5050	SABRE SAW	MNT	-	95.00
		HAMMER, CHIPPING	X		269 5420	SIOUX	-	-	150.00
		HAMMER, CHIPPING	X		269 5420	DAYTON	-	-	150.00
TO-571		DIE AND TAP SET	X		269 6200	ACE #614	MNT	-	125.00
TO-582		PIPE THREADER	O	9/92	269 6370	PIPE THREADER	MNT	51921120	2,215.00

KAZ

EQUIPMENT NO. SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION				
			P C D	SPECIFICATIONS	DWG	ASSET NO	COST
TO-588	CUTTING TORCH SET, ACETYLENE	X 7/63	269 6640*	CUTTING TORCH SET	MNT	51921121	131.65
TO-587	PIPE VISE, RIGID # 40-A	X 7/63	269 7400*	PIPE VISE	MNT	51921122	37.00
	BENCH VISE	X	269 7520	COLUMBIAN 6"	-	-	450.00
	TABLE VISE	X	269 7520	COLUMBIA 8"	-	-	1,076.00
TO-585	VISE, BENCH, COLUMBIAN, 3-1/2"	X	269 7520	BENCH VISE	MNT	-	300.00
TO-584	VISE, DRILL PRESS, STANLEY 4"	X	269 7520	TABLE VISE	MNT	-	150.00
TO-586	VISE, BENCH, ATHOL 4-1/2"	X	269 7520	BENCH VISE	MNT	-	350.00
TO-529	WELDER, LINCOLN, IDELARC # 250	X 11/70	269 7920*	WELDER, LINCOLN, AC-250	MNT	52339440	254.00
	ARC WELDING MACHINE	X 5/91	269 8060	MILLER	MNT	56019099	3,255.60
	IMPACT WRENCH	X	269 9570	BLACK & DECKER 1/2"	-	-	350.00
	ALIGNMENT KIT	X	269 9960	DAUPHIN VIBRALIGN	-	-	1,350.00
	AMMETER	X 12/91	269 9960	FLUKE MULTIMETER	-	-	204.00
	AMMETER	X	269 9960	ULTRA	-	-	60.00
	BARREL PUMP, HAND	O 4/81	269 9960	BARREL PUMP, HAND	MNT	52918723	45.10
	COME-ALONG, 2 TON, P-150	O 8/71	269 9960	COME-ALONG, 2 TON	MNT	51921124	30.38
	CORDLESS PIPE CLEANER	X	269 9960	RIGID 429A	BLO	-	250.00
	CURRENT TRACER	X 1/92	269 9960	PASAR # P23	-	-	452.07
	CUT OFF SAW, BLACK & DECKER	O 4/82	269 9960	CUT OFF SAW, BLACK & DECKER	MNT	53029669	142.20
	DIE GRINDER	X	269 9960	MILWAUKEE	-	-	250.00
	DIGITAL MANOMETER	X 12/91	269 9960	MANOMETER	MNT	-	450.00
	DRILL, HAND, VARI-SPEED, 3/8"	O --/79	269 9960	DRILL, HAND, 3/8"	MNT	52641640	49.44
	DRUM PUMPS (6)	X	269 9960	TUTHILL HAND-OP. ROTARY PUMP 1226R	MNT	-	75.00
	ELECTRIC INSULATION TESTER	X 12/91	269 9960	TIF MEGOMETER	-	-	168.94
TO-570	EXTRACTOR SET	X	269 9960	SCREW, BLUE POINT # 1020	MNT	-	40.00
TO-576	GREASE GUN, LINCOLN AIR, # 82716	X	269 9960	LINCOLN AIR	MNT	-	500.00
TO-590	GRINDER, HAND, BLACK & DECKER	X	269 9960	BLACK & DECKER	MNT	-	100.00
	HEAT GUN	X	269 9960	MASTER	-	-	25.00

KAZ

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		MICROMETER SET	X	269 9960	FOWLER	-	-	500.00
TO-579		PIPE REAMER, RIGID	O	269 9960	PIPE REAMER	MNT	-	200.00
TO-581		PIPE THREADER, HAND, RIGID, 3/8", 1/2", 3/4", 1", & 2"	O	269 9960	PIPE THREADER, RIGID, 3/8"to 2"	MNT	-	250.00
		PORTABLE THERMOMETER	X 2/92	269 9960	RAYNGER TEMPMETER # EPD ST-2	-	-	299.00
		SHEAR, CUTTING	X	269 9960	STANLEY	-	-	75.00
		SOLDERING GUN	X	269 9960	WELLER	-	-	30.00
		SPRAY GUN	O 7/81	269 9960	SPRAY GUN	MNT	52946626	48.95
		WRENCH, IMPACT, BLACK & DECKER	O --/80	269 9960	WRENCH, IMPACT, BLACK & DECKER	MNT	52844101	125.10
		DRUM TILTER	O 9/87	269 9980	DRUM TILTER		55383255	490.68
		DRUM TOOL	O 9/87	269 9980	DRUM TOOL		55383254	54.84
FE-1201 FE-1200		E-1305 VAPOR IN, EG&G FlowTech,S/N3201855,FT-32NENA-GEA-3 E-1305 COOLANT FLOW, Signet Scientific, 1-½"	N 01/91 N 01/91	269 9980	VAPORS TO E-1305	278 278	56019098	997.20
		MISC M & E	O 1/90	269 9980	MISC M & E		55773921	4,141.67
5800		MISC M & E	O 12/89	269 9980	MISC M & E		55758229	12,248.17
--5800		STORAGE SHED	O 12/90	269 9980	STORAGE SHED	-	55907402	4,793.51
S-1506		HEAT SHRINK GUN W/CART	O 11/72	269 9990	HEAT SHRINK GUN & CART	MNT	51921125	537.21
		MISC. M & E	O 12/91	296 9980	MOTOR & CONTROLLER	-	56019101	1,058.32
		WATER TEST WELLS, INSTALLATION	O 9/88	398 5571	WATER TEST WELLS, INSTALL	-	55581510	19,340.00
5800		45 KVA TRANSFORMER & PANEL (OFFICE)	O 8/71	400 0320	45 KVA TRANSFORMER (OFFICE)	238	51921311	1,221.09
--5800		AC/HTR- LUNCH ROOM	O 12/90	400 0320	AC/HTR UNIT - LUNCH ROOM	-	55907408	4,585.00
		ALARM PANEL	X 12/91	400 0320	PANALARM (PROVOX)	-	-	1,121.00
		ALARM PANEL	X 12/91	400 0320	PANALARM (PROCESS)	-	-	1.121.00
D-1602		BLOWDOWN TANK FOR REACTOR RUPTURE DISK , 8'D x 10'H	O 9/85	400 0320	BLOWDOWN TANK (RELOCATED 10/90)	262	53380456	3,514.00
		CABINET, PROVOX	X 12/91	400 0320	HOFFAM	-	-	7,253.00
		CABINET, PNEUMATIC INSTRUMENT	X 12/91	400 0320	RITTAL	-	-	6,292.00
S-1100		CIRC H.O. FILTER, Cartridge Type	O 10/90	400 0320	D-LINE H.O. FILTER	269	55879136	2,690.10
TCV-301		CONTROL VALVE TCV-301	X 7/69	400 0320	TCV-301 for R-301	258	52355164	1.081.30

KAZ

AMOCO CHEMICAL COMPANY - TOF NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO. SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION				
			P C D	SPECIFICATIONS	DWG	ASSET NO	COST
--1600	CONTROL VALVES & REGULATORS	O 12/90	400 0320	CONTROL & REGULATOR VALVES	-	55907400	8,625.99
TIC 125	D-101 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	253	-	485.00
LSH-101	D-101 LEVEL ALARM, Dyatrol	O 11/74	400 0320	D-101 LEVEL ALARM	253	51990195	1,339.05
LSH-102	D-102 LEVEL ALARM, Dyatrol	X 121/80	400 0320	D-102 LEVEL ALARM	253	52884923	495.87
TIC 315	D-301 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	259	-	485.00
LSH-303	D-302 LEVEL ALARM, Dyatrol	O 11/74	400 0320	LEVEL ALARM	259	51990196	1,399.06
TIC 428	D-401 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	263	-	485.00
LSH-402	D-401 LEVEL ALARM, Dynatron	O 10/81	400 0320	D-401 LEVEL ALARM	263	52975379	435.05
--1400	FIREWALL STAIRWAYS	X 7/75	400 0320	FIREWALL STAIRWAYS	-	52419271	585.85
FE-1304	FLOW METER, XOTechnology,S/N202477, 2" Model:RT100-1-1	N 10/90	400 0320	FLOW METER, FE-1304	275	55879137	w/FE-1300
FI-1305	Remote Read Out at A & C Line	N 10/90	400 0320	FLOW INDICATOR, FI-1305	258	55879137	w/FE-1300
FI-1306	Remote Read Out at D Line	N 10/90	400 0320	FLOW INDICATOR, FI-1306	262	55879137	w/FE-1300
FE-1300	FLOWMETER, XOTechnology, S/N201945, 2", Model:RT100-1-1	O 10/90	400 0320	P-1311 FLOW METER	275	55879137	8,499.46
FE-1301	FLOWMETER, XOTechnology, S/N201943, 2", Model:RT100-1-1	O 10/90	w/FE-1300	FE-1301 FLOW METER	275	w/FE-1300	
	FOXBORO GAS ANALYSER, MODEL OVA 108	O 10/90	400 0320	ORGANIC GAS ANALYSER	-	55879129	7,230.97
5800	INSTRUMENT MODIFY, CONT PANEL	O 9/81	400 0320	CONT PANEL MODIFY	-	52992840	2,002.76
5800	INSTRUMENT CONTROL PANEL	O 7/71	400 0320	CONT PANEL INSTRUMENTS	-	51921312	2,365.10
	INSTRUMENT SHELF	X 12/91	400 0320	FOXBORO #102-5W	-	-	-
	INSTRUMENT SHELF	X 12/91	400 0320	FOXBORO #102-4W	-	-	-
--1600	INSTRUMENTATION & CONTROLS	O 2/77	400 0320	CONTROLS, PROCESS AREA	-	52419270	19,986.59
LI-1305	LEVEL INDICATOR, Hg, Tank-O-Meter	O 3/74	400 0320	T-1301 LEVEL, Hg	276	51921318	224.61
LI-1304	LEVEL INDICATOR, Hg, Tank-O-Meter	O 5/72	400 0320	T-1302 LEVEL, Hg	276	51921314	187.00
LI-1309	LEVEL INDICATOR, Hg, Tank-O-Meter	X 3/74	400 0320	T-1314 LEVEL, Hg	276	-	225.00
LI-1307	LEVEL INDICATOR, Hg, Tank-O-Meter	O 3/74	400 0320	T-1305 LEVEL, Hg	276	51921320	224.60
LI-1303	LEVEL INDICATOR, Hg, Tank-O-Meter	O 3/74	400 0320	T-1303 LEVEL, Hg	276	51921317	224.61
LI-1308	LEVEL INDICATOR, Hg, Tank-O-Meter	O 5/72	400 0320	T-1304 LEVEL, Hg	276	51921315	186.99
LI-1306	LEVEL INDICATOR, Hg, Tank-O-Meter	O 3/74	400 0320	T-1306 LEVEL, Hg	276	-	225.00
LI-1302	LEVEL INDICATOR, Hg, Tank-O-Meter	O 3/74	400 0320	T-1307 LEVEL, Hg	276	51921316	227.34

KAZ

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		LOOP ISOLATOR (2)	X 12/91	400 0320	ACTION-PAK #4380-0000	-	-	-
		LOOP ISOLATOR (6)	X 12/91	400 0320	ANALOG DEVICES #2B24B	-	-	-
		MECHANICAL SEALS	O 12/91	400 0320	HOT OIL & STYRENE PUMPS	250	56021794	24,815.84
1,3,400		MECHANICAL SEALS, H.O. PUMPS (P-131,132,133,331,333,ECT)	O 10/90	400 0320	MECHANICAL SEALS FOR H.O. PUMPS	-	55879138	8,309.72
		MECHANICAL SEALS	O 12/91	400 0320	HOT OIL & STYRENE PUMPS	250	56021787	8,093.26
		MISCELLANEOUS INSTRUMENTATION	O 10/90	400 0320	MISC INSTRUMENTATION	-	55879139	9,570.29
		POWER SUPPLY	X 12/91	400 0320	TOPAZ #61106	-	-	-
		R-101 & 301 PROC CONTROL MODIFY	O 11/78	400 0320	R-101 & 301 CONTROL MODIFY		52600458	16,530.85
		R-101 CONTROL VALVE, TCV-105	X 7/69	400 0320	TCV-105	252	52355163	1,081.29
		R-101 & R-301 PROCESS CONTROL MODIFY (A & C LINES)	O 11/78	400 0320	A & C LINE PROC CONT MODIFY		52600458	6,530.XX
		R-101 THERMOMETERS	X 7/63	400 0320	THERMOMETERS	252	51921300	228.20
		R-101 PRESSURE GAUGES, R-101	X 7/63	400 0320	PRESSURE GAUGES, R-101	252	51921299	108.12
TIC 116		R-101 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	252	-	485.00
		R-102 INSTRUMENTATION	O 4/81	400 0320	R-102 INSTRUMENTATION	252	52918724	13.60
		R-102 INSTRUMENTATION	O 8/80	400 0320	R-102 INSTRUMENTATION	252	52884922	17,732.02
TIC 112		R-102 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	252	-	485.00
TIC 306		R-301 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	258	-	485.00
		R-301 INSTRUMENTS, GAUGES	X 12/68	400 0320	INSTRUMENTS, R-301	258	51921301	572.18
		R-401 & 402 INSTRUMENTS - PRESS GAUGES, REGULATORS	X 7/69	400 0320	INST-PI'S, PCV'S, ETC		52355161	916.62
		R-401 & 402 INSTRUMENTS - THERMOMETERS, GAUGES	O 7/69	400 0320	INST-GAUGES, TH'S, ETC		52355160	2,073.58
TIC 406		R-401 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	262	-	485.00
TIC 419		R-402 TEMPERATURE CONTROLLER	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	262	-	485.00
--1600		REACTOR LOADING CONTROLS	O 9/78	400 0320	REACTOR LOADING CONTROLS	-	52584181	4,812.00
RD-402	-B	RUPTURE DISC ASSEMBLY, D-401	O 10/87	400 0320	D-401 RUPTURE DISC ASSEMBLY	263	55425559	1,100.75
RD-102	-B	RUPTURE DISC ASSEMBLY	O 10/87	400 0320	D-101 RUPTURE DISC ASSEMBLY	253	55425560	1,469.75
RD-403	-B	RUPTURE DISC ASSEMBLY, D-402	O 10/87	400 0320	D-402 RUPTURE DISC ASSEMBLY	263	55425562	1,416.75
RD-102	-B	RUPTURE DISC ASSEMBLY, D-102	O 10/87	400 0320	A-102 RUPTURE DISC ASSEMBLY	253	55425557	1,504.75

K-27

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
RD-302	-B	RUPTURE DISC ASSEMBLY, C-302	O 10/87	400 0320	C-302 RUPTURE DISC ASSEMBLY	253	55425561	1,416.75
RD-101	-B	RUPTURE DISC ASSEMBLY, D-301	O 10/87	400 0320	D-301 RUPTURE DISC ASSEMBLY	259	55425558	1,100.75
		SERVICE TRANSFER STATION	X 12/91	400 0320	FISHER PROVOX OP. STATION #CD6201	-	-	485.00
LI-1300		T-1308 LEVEL INDICATOR, Hg, Tank-O-Meter	X 12/70	400 0320	T-1308 LEVEL INDICATOR, Hg	275	51921310	507.90
LI-1301		T-1309 LEVEL INDICATOR, Hg, Tank-O-Meter	O 3/74	400 0320	T-1309 LEVEL INDICATOR, Hg	275	51921319	224.60
TR-306		TEMPERATURE RECORDER	X 12/91	400 0320	FOXBORO #124-RE	-	-	-
TR-112		TEMPERATURE RECORDER	X 12/91	400 0320	FOXBORO #124-RE	-	-	-
TR-419		TEMPERATURE RECORDER	X 12/91	400 0320	FOXBORO #124-RE	-	-	-
TR-406		TEMPERATURE RECORDER	X 12/91	400 0320	FOXBORO #124-RE	-	-	-
TR-116		TEMPERATURE RECORDER	X 12/91	400 0320	FOXBORO #124-RE	-	-	-
TR-100		TEMPERATURE RECORDER T. R. JUNCTION BOX	X 12/91 X 12/91	400 0320 400 0320	METRASCOPE MS20D J-TYPE, #70337F	-	-	2,464.00
--1300		THERMOMETERS FOR 1300 SECTION	O 3/74	400 0320	SEC 1300 TH'S	-	51921321	198.89
		TOOLS, MISC	X 10/90	400 0320	TOOLS, MISC	-	55879123	3,169.62
		TRANSDUCER, E/I (9)	X 12/91	400 0320	TRANSMATION #610T	-	-	-
		TRANSDUCER, E/I (4)	X 12/91	400 0320	ACTION-PAK #4350-A001	-	-	-
		TRANSDUCER, I/P (10)	X 12/91	400 0320	MOORE #77-16	-	-	-
		TRANSDUCER, I/P (8)	X 12/91	400 0320	BELLOFRAM TYPE 1000	-	-	-
		INSTRUMENT MODIFY, A,C & HTRS	O 10/90	400 0321	A,C & HTRS INSTRUMENT MODIFY	-	55879135	4,400.00
		INSTRUMENT, PARTS	O 10/87	400 0329	INSTRUMENT PARTS	-	55425563	156.75
		INSTRUMENT, PARTS	O 10/87	400 0329	INSTRUMENT PARTS	-	55425564	156.75
5800		INSTRUMENT, FREIGHT	O 10/90	400 0329	INSTRUMENT FREIGHT	-	55879130	92.28
		B-1404 & 1405 PIPING	O 7/71	400 0340	BLEND SYS PIPING	282	51921331	16,137.30
5800		INSTRUMENTATION, CONTROL VALVE	O 12/88	400 0340	CONTROL VALVE	-	55622389	1,917.00
5800		MISCELLANEOUS	O 12/90	400 0340	MISC	-	55907401	108.21
		R-101 PIPING	O 7/63	400 0340	R-101 PIPING	252	51921324	5,172.13
		R-101 BLOCK VALVE, H.O.	X 7/71	400 0340	BLOCK VALVE, H.O.	252	51946985	1,263.46

K-12

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		R-101 PIPING	O 7/63	400 0340	R-101 PIPING	252	51921325	9,577.97
		R-301 PIPING	X 12/68	400 0340	for R-301	258	51921327	1,084.03
		R-301 PIPING	O 12/68	400 0340	for R-301	258	51921326	9,368.79
		R-301 H.O. BLOCK VALVE	O 7/71	400 0340	BLOCK VALVE	258	51921333	1,745.11
		R-401 & 402 PIPING	O 12/69	400 0340	REACTORS R-401 & 402		51921328	19,604.04
		R-401 & 402 CONTROL MODIFY	O 11/78	400 0340	R-401 & 402 CONTROL MODIFY		52600459	16,530.85
P-1304/P-1308		STYRENE PUMP RELIEF LINE	O 12/91	400 0340	PRESSURE RELIEF LINE	276	56019095	1,166.94
		T-1308 PIPING	O 2/91	400 0340	PIPING FOR T-1308	275	-	812.79
R-101/R-301		TRANSFER LINE MODIFICATION	O 9/91	400 0340	INSULATION	250	56019108	5,518.55
R-101/R-301		TRANSFER LINE MODIFICATION	O 9/91	400 0340	MISCELLANEOUS	250	56019109	407.41
R-101/R-301		TRANSFER LINE MODIFICATION	O 9/91	400 0340	PIPING	250	56019107	48,007.39
--1400		PIPING, TRANSFER SYSTEM	O 5/73	400 0349	PIPING, TRANSFER SYS	-	51921341	5,483.16
--1400		TRANSFER SYSTEM	O 7/80	400 0349	TRANSFER SYSTEM	-	52809289	925.00
--1400		TRANSFER SYSTEM	O 10/79	400 0349	TRANSFER SYS	-	52682044	3,829.21
		B-1404 & 1405 STRUCTURAL	O 7/71	400 0680	BLEND SYS STRUCTURAL	282	51921347	5,266.80
		B-1404 & 1405 STRUCTURAL	O 7/71	400 0680	BLEND SYS STRUCTURAL	282	51921348	1,287.25
1600		CONC SLAB (OLD REGRIND)	X 7/71	400 0680	CONC SLAB	-	51921349	618.04
		PLATFORMS	O 1/91	400 0680	INSTALLATION OF NEW PLATFORMS	-	56021798	1,985.90
		R-101 STRUCTURAL	X 7/63	400 0680	R-101 STRUCTURAL	252	51921342	151.20
		R-101 STRUCTURAL	X 7/63	400 0680	R-101 STRUCTURAL	252	51921343	730.00
		R-301 STRUCTURAL	X 12/68	400 0680	for R-301	258	51921345	482.85
		R-301 STRUCTURAL	O 12/68	400 0680	Channel Plate for R-301	258	52355169	270.60
		R-401 & 402 STRUCTURAL	O 12/69	400 0680	REACTORS R-401 & 402		51921346	10,269.96
--1400		T-1404 STRUCTURAL	O 7/71	400 0680	T-1404 STRUCTURAL	-	51921350	3,149.00
		T-1405 STRUCTURAL	O 7/71	400 0680	T-1405 STRUCTURAL	-	51921351	3,149.00
T-1306		FEED PREP TANK, 10'D x 24'H	X 7/63	400 6070	T-1306	276	51921446	1,154.00
A-1302+MS		T-1306 TANK MIXER, Lightnin, 15.1" PROPELLER (SN 673356)	O 12/90	w/T-1306	T-1306 MIXER(A-1302)	276	w/T-1306	
A-1302-EM		A-1302 TANK MIXER MOTOR, 3 hp	O 12/90	w/A-1302	A-1302 MIXER MOTOR	276	w/A-1302	

K-7

AMOCO CHEMICAL COMPANY - TOI NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
T-1305		MINERAL OIL TANK, 10'D x 18'H	X 7/63	400 6070	T-1305	276	51921445	1,154.00
		H-1102 PIPE INSULATION	O 4/80	408 8040	PIPE INSULATION		52751445	10,679.00
T-1304		FEED PREP TANK, 10'D x 18'H	X 7/63	410 0670	T-1304	276	51921444	1,154.00
D-1305		CONDENSATE RECEIVER	O	410 1010	18"D x 6'L T-T	278	-	700.00
E-1305(1603?		CONDENSATE VAPOR CONDENSER, S&T, Holland, (SN 84-129)	O 5/85	410 1010	E-1603 ??, VAPOR CONDENSER	278	53347079	3,129.15
D-121	-B	DEVOLATILIZER CONDENSATE RECEIVER, 36"D x 6'-6" T-T	X 8/80	410 1010	D-121 DEVOL COND DRUM	254	52884194	1,314.00
E-421		DEVOLATILIZER CONDENSER, S&T, 172 ft^2, 31,500 Btu/hr	X 7/69	410 1010	DEVOL CONDENSER	264	52355170	1,738.62
E-321		DEVOLATILIZER CONDENSER, S&T, 172 ft^2, 31,500 Btu/hr	X 12/68	410 1010	DEVOL CONDENSER	260	51921353	1,897.41
E-1404		AIR COOLER, X-Changer Inc, AL	N 10/90	410 1020	C-1402 BLOWER AIR COOLER	282	55879125	6,292.91
E-1404-EM		E-1404 AIR COOLER FAN MOTOR, 1/3 hp	N 10/90	410 1020	E-1404 AIR COOLER FAN MOTOR	282	w/E-1404	
E-131		R-101 OIL COOLER, 5,005 ft^2, 575 M Btu/hr	O 7/63	410 1020	E-131 FIN FAN COOLER	252	51921355	7,902.00
E-131-EM(W)		E-131 FAN MOTOR(W), 5 hp, 1150 rpm	O 10/90	w/E-131	E-131 MOTOR(W)	252	w/E-131	
E-131-EM(E)		E-131 FAN MOTOR(E), 5 hp, 1150 rpm	O 10/90	w/E-131	E-131 MOTOR(E)	252	w/E-131	
E-331		R-102 OIL COOLER, 7,700 ft^2, 875 M Btu/hr	O 12/68	410 1020	E-331 FIN FAN H.O. COOLER	258	51921356	5,439.59
E-331-EM(N)		E-331 FAN MOTOR(N), 5 hp, 1175 rpm	O 12/68	w/E-331	E-331 FAN MOTOR(N)	258	w/E-331	
E-331-EM(Mid)		E-331 FAN MOTOR(Mid), 5 hp, 1175 rpm	O 12/68	w/E-331	E-331 FAN MOTOR(Mid)	258	w/E-331	
E-331-EM(S)		E-331 FAN MOTOR(S), 5 hp, 1175 rpm	O 12/68	w/E-331	E-331 FAN MOTOR(S)	258	w/E-331	
E-132		R-102 OIL COOLER, 7,700 ft^2, 875 M Btu/hr	O 8/80	410 1020	E-132 H.O. FIN FAN COOLER	252	52824195	4,936.74
E-132-EM(W)		E-132 FAN MOTOR(W), 5 hp, 1150 rpm	O 8/80	w/E-132	E-132 FAN MOTOR(W)	252	w/E-132	
E-132-EM(Mid)		E-132 FAN MOTOR(Mid), 5 hp, 1150 rpm	O 8/80	w/E-132	E-132 FAN MOTOR(Mid)	252	w/E-132	
E-132-EM(E)		E-132 FAN MOTOR(E), 5 hp, 1150 rpm	O 8/80	w/E-132	E-132 FAN MOTOR(E)	252	w/E-132	
E-431		R-401 OIL COOLER, 8,437 ft^2, 875 M Btu/hr	O 7/69	410 1020	R-401 H.O. FIN FAN COOLER	262	52355171	3,275.53
E-431-EM		E-431 OIL COOLER FAN MOTOR, 5 hp, 1750 rpm	O 7/69	w/E-431	E-431 H.O. COOLER FAN MOTOR	262	w/E-431	
E-432		R-402 OIL COOLER, 8,437 ft^2, 875 M Btu/hr	O 7/69	410 1020	R-402 H.O.FIN FAN COOLER	262	52355172	3,275.54
E-432-EM		E-432 OIL COOLER FAN MOTOR, 5 hp, 1750 rpm	O 7/69	w/E-432	E-432 H.O.COOLER FAN MOTOR	262	w/E-432	
		WATER COOLED BLOWER CHILLER	X 12/90	410 1020	X-CHANGER INC.	WHS	-	5,000.00
H-1102	-B	HOT OIL HEATER, Parker Boiler, NG, 4,985 M Btu/Hr, 688 ft_2	O 7/71	410 2000	H-1102 HEATER	268	51921362	9,962.83
H-1101	-B	HOT OIL HEATER, Parker Boiler, NG, 4,985 M Btu/Hr, 688 ft_2	O 7/63	410 2000	H-1101 HEATER	268	51921360	9,577.97
H-1103		HOT OIL HEATER, Parker Boiler, 4,980 M Btu/Hr, 688 ft^2	O 7/69	410 2000	D-LINE HEATER	269	52355173	8,726.00
		H-1102 INSTALLATION	O 7/71	410 2001	H-1102 INSTALL		51921363	3,012.98
S-1100		INSTALL H.O. FILTER	O 10/90	410 2001	S-1100 INSTALL	269	55879128	3,587.53
		ADDITIONAL COSTS	O 10/90	410 2009	S-1100 ADDED COSTS	-	55879126	1,685.00

K12

AMOCO CHEMICAL COMPANY - TOK NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
H-1101		DOOR	O 6/92	410 2009	REPLACEMENT DOOR H-1101	268	-	1,351.50
		FREIGHT	O 10/90	410 2009	S-1100 FREIGHT	-	55879127	99.61
H-1101		NEW BURNERS	O 6/92	410 2009	PARKER BOILER H-1101	268	-	26,954.25
E-1502		E-1502 COOLING TOWER, York Recold, YQDF-3112	O	410 3110	E-1502 COOLING TOWER	294		4,714.00
E-1502-EM		E-1502 COOLING TOWER FAN MOTOR, 7.5 hp	O	w/E-1502	E-1502 COOLING TOWER FAN MOTOR	294	w/E-1502	
E-1502-EM		E-1502 CIRC PUMP, 3/4 hp	O	w/E-1502	E-1502 CIRC PUMP	294	w/E-1502	
S-1308		MAGNET FILTER (for Railroad Car Unloading)10"D w/3"in/out	X	410 3960	RR SIDING MAGNET	275	-	1,300.00
S-1305		MAGNET FILTER (for Railroad Car Unloading)10"D w/3"in/out	O 6/82	410 3960	RR SIDING MAGNET, S-1305	275	53044036	1,300.00
S-1307		MAGNET FILTER (for Railroad Car Unloading)10"D w/3"in/out	O 8/82	410 3960	RR SIDING MAGNET	275	53056570	250.00
A-1304+MS		T-1308 MIXER, Lightning, 21.7"Prop	O 12/70	410 4000	T-1308 MIXER	275	51921369	1,485.98
A-1304-EM		T-1308 MIXER MOTOR, 7½ hp,280 rpm	O 12/70	w/A-1304	T-1308 MIXER MOTOR	275	w/A-1304	
A-1307+MS		TANK MIXER, Lightnin, 15.1" PROPELLER (SN 7318135)	O 3/74	410 4000	T-1301 MIXER	276	51921372	1,122.65
A-1307-EM		A-1307 MIXER MOTOR, 3 hp	O 3/74	w/A-1307	A-1307 MIXER MOTOR	276	w/A-1307	
A-1308+MS		TANK MIXER, Lightnin, 15.1" PROPELLER (SN 7318134)	X 3/74	410 4000	T-1303 MIXER	276	51921373	1,122.65
A-1308-EM		A-1308 MIXER MOTOR, 3 hp	X 3/74	w/A-1308	A-1308 MIXER MOTOR	276	w/A-1308	
A-1305+MS		TANK MIXER, Lightnin, 15.1" PROPELLER (SN 721524)	O 5/72	410 4000	T-1304 MIXER	276	51921370	1,670.56
A-1305-EM		TANK MIXER MOTOR, 7½ hp, AllisChalmers	O 5/72	w/A-1305	A-1305 MIXER MOTOR	276	w/A-1305	
A-1306+MS		TANK MIXER, Lightnin, 15.1" PROPELLER (SN 721525)	O 5/72	410 4000	T-1304 MIXER	276	51921371	1,670.56
A-1306-EM		A-1307 MIXER MOTOR, 7½ hp, US	O 5/72	w/A-1306	A-1306 MIXER MOTOR	276	w/A-1306	
		B-1404 & 1405 INSTALLATION	O 7/71	410 4001	BLEND SYS INSTALL	282	51921377	29,343.00
		T-1301 MIXER INSTALL	O 3/74	410 4001	INSTALL MIXER	-	51921379	6,134.04
		T-1302 MIXER INSTALL	O 5/72	410 4001	INSTALL MIX	-	51921374	226.67
		T-1303 MIXER INSTALL	O 3/74	410 4001	INSTALL MIXER	276	51921378	6,134.04
		T-1304 MIXER INSTALL	O 5/72	410 4001	INSTALL MIX	-	51921375	226.68
D-1502		AIR DRYER	O 8/79	410 4030	E-1502 AIR DRYER FOR PLANT AIR	289	52669388	3,871.87
		AIR DRYER REFRIG MOTOR, 2 hp	O 8/79	w/C-1502	C-1502 COMP MOTOR	289	w/C-1502	
		S-1401 INSTALL	O 11/72	410 4041	INSTALL S-1401	-	51921383	855.30
C-1508(A)		ELECTROSTATIC PRECIPITATOR, Tepco Model T2600, w/1 hp motor	O 4/89	410 4050	A-LINE TEPCO (C8800364)	259	55658445	5,064.22
C-1508(D)		ELECTROSTATIC PRECIPITATOR, Tepco Model T2600, w/1 hp motor	O 4/89	410 4050	D-LINE TEPCO (C8800366)	259	55658447	5,064.22
C-1508(C)		ELECTROSTATIC PRECIPITATOR, Tepco Model T2600, w/1 hp motor	O 4/89	410 4050	C-LINE TEPCO (C8800365)	259	55658446	5,064.22
S-1507		FILTER, BATH WATER CIRC, Puralator, Series 50, Dual	O	410 4050	S-1507 FILTER, BATH WATER	294	-	100.00

K92

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO. SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
S-1506	SAND FILTER, Whittaker, Model: RCW 24241A	N	410 4050	S-1506 SAND FILTER	293	-	100.00
E-1503	BATH WATER CHILLER, York, LCHA20-46, 19.9 TONS (CM028073)	O 12/74	410 4200	E-1503 BATH WATER CHILLER	294	51946988	5,773.80
E-1503-EM	E-1503 COMPRESSOR MOTOR, 1 hp	O	w/E-1503	E-1503 COMPRESSOR MOTOR	294	w/E-1503	
E-1503-EM(1)	E-1503 CHILLER FAN MOTOR, 1/2 hp	O	w/E-1503	E-1503 CHILLER FAN MOTOR(1)	294	w/E-1503	
E-1503-EM(2)	E-1503 CHILLER FAN MOTOR, 1/2 hp	O	w/E-1503	E-1503 CHILLER FAN MOTOR(2)	294	w/E-1503	
E-1503-EM(3)	E-1503 CHILLER FAN MOTOR, 1/2 hp	O	w/E-1503	E-1503 CHILLER FAN MOTOR(3)	294	w/E-1503	
E-1503-EM(4)	E-1503 CHILLER FAN MOTOR, 1/2 hp	O	w/E-1503	E-1503 CHILLER FAN MOTOR(4)	294	w/E-1503	
E-1501	CHILLER WATER COOLING TOWER	O 5/89	410 4200	WATERBATH COOLING TOWER	-	55663314	10,448.20
E-1202	CHILLER, 10 TON	X 12/78	410 4200	D-LINE CHILLER, 10 TON	273	52614863	9,816.44
E-1202-EM(C)	CHILLER COMPRESSOR MOTOR, 10 hp	X 12/78	w/E-1302	D-LINE CHILLER COMP MOTOR	273	w/E-1302	
E-1202-EM(F)	CHILLER FAN MOTOR, 2hp	X 12/78	w/E-1302	D-LINE CHILLER FAN MOTOR	273	w/E-1302	
E-1202-EM(P)	CHILLER PUMP MOTOR, 3 hp	X 12/78	w/E-1302	D-LINE CHILLER PUMP MOTOR	273	w/E-1302	
E-1204	CHILLER, Schreiber, S/N 933, 1 TON, Model 100AC	O	410 4200	E-1204 CHILLER	278	-	3,548.36
E-1204+EM	E-1204 CHILLER COMPRESSOR MOTOR, 1 hp	O	w/E-1204	E-1204 COMP MOTOR	278	w/E-1204	
E-1204+EM	E-1204 CHILLER PUMP MOTOR, 1 hp	O	w/E-1204	E-1204 PUMP MOTOR	278	w/E-1204	
E-1204+EM	E-1204 CHILLER FAN MOTOR, 0.20 hp	O	w/E-1204	E-1204 FAN MOTOR	278	w/E-1204	
E-1201 -C	CHILLER,Schreiber, 10 TON	O 7/69	410 4200	A & C LINE CHILLER w/MOTORS	273	52975381	12,351.20
E-1201-EM(C1)	E-1201 CHILLER COMPRESSOR MOTOR (1), 5 hp	O 7/69	w/E-1201	A & C LINE CHILLER COMP MOTOR(1)	273	w/E-1201	
E-1201-EM(C2)	E-1201 CHILLER COMPRESSOR MOTOR (2), 5 hp	O 7/69	w/E-1201	A & C LINE CHILLER COMP MOTOR(2)	273	w/E-1201	
E-1201+EM(F1)	E-1201 CHILLER FAN MOTOR (1), 3/4 hp	O 7/69	410 4200	A & C LINE CHILLER FAN MOTORS(1)	273	w/E-1201	
E-1201+EM(F2)	E-1201 CHILLER FAN MOTOR (2), 3/4 hp	O 7/69	410 4200	A & C LINE CHILLER FAN MOTORS(2)	273	w/E-1201	
E-1201+EM(P1)	E-1201 CHILLER PUMP MOTOR (1), 5 hp	O 7/69	410 4200	A & C LINE CHILLER PUMP MOTOR(1)	273	w/E-1201	
E-1201+EM(P2)	E-1201 CHILLER PUMP MOTOR (2), 5 hp	O 7/69	410 4200	A & C LINE CHILLER PUMP MOTOR(2)	273	w/E-1201	
E-1203	CHILLER,Schreiber,S/N 1242,3 TON,Model 300AC	O 5/85	410 4200	E-1203 CHILLER	278	53347080	3,414.50
E-1203+EM	E-1203 CHILLER COMPRESSOR MOTOR, 3 hp	O	w/E-1203	E-1203 COMPRESSOR MOTOR	278	w/E-1203	
E-1203+EM	E-1203 CHILLER FAN MOTOR, 3/4 hp	O	w/E-1203	E-1203 FAN MOTOR	278	w/E-1203	
E-1203+EM	E-1203 CHILLER PUMP MOTOR, 1 hp	O	w/E-1203	E-1203 FAN MOTOR	278	w/E-1203	
	PIPE & ELECT BATH SYS WATER	O 12/74	410 4201	WATER PIPE & ELECT	-	51946989	21,411.30
S-305	C-LINE VIBRATING SCREEN, Witte Model 242-D	O 10/77	410 4210	SCREEN VIBRATOR	259	52496997	2,650.00
S-405-EM -B	S-405 VIBRATOR MOTOR, 3/4 hp	O 10/81	410 4210	S-405 SCREEN VIB MOTOR	263	52975382	110.35
X-120	SCREEN CHANGER w/Hydraulics	O 7/71	410 4210	SCREEN CHANGER	253	51921391	13,917.71
X-420	SCREEN CHANGER w/DIE HEADS, Elect Panel & Hydraulics	O 7/69	410 4210	CHANGER ASSEMBLY	263	52355176	13,991.11
X-320	SCREEN CHANGER w/DIE HEADS, Elect & Hydraulics	O 7/70	410 4210	SCREEN CHANGE ASSEM	259	51946990	20,862.73
M-995	SHAKER, Tyler, MODEL RX-24	X 2/69	410 4210	LAB SHAKER	LAB	52116092	129.50
S-????	PORTABLE SIEVE	O 12/88	410 4210	PORTABLE SIEVE	-	55622391	312.95
M-401	STRAND DIE HEAD	O ?	410 4210	X-420 STRAND DIE HEAD	263	-	w/X-420
S-405	VIBRATING SCREEN, Witte Model 242-D	O 7/71	410 4210	S-405 SCREEN, D-LINE	263	52116101	3,749.00

KAZ

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
S-105		VIBRATOR SCREEN, 42"W x 56"L, Witte:242-D w/Vibrator	O 8/80	410 4210	S-105, A-LINE SCREEN w/VIB	253	52824196	13,383.23
S-105-EM		S-105 MOTOR, 1.5 hp	O 8/80	w/S-105	S-105 SCREEN MOTOR	253	w/S-105	
A-116		TUMBLER, BARREL, SS, Belt Drive, 33"D x 36"L	O 8/80	w/S-105	A-116 BLEND DRUM	253	w/S-105	
A-116-EM		A-116 TUMBLER MOTOR, 3/4 hp, 1725 rpm	O 7/63	w/A-116	A-116 MOTOR	253	w/A-116	
M-101		X-120 STRAND DIE HEAD, w/20 Amp Elect Htrs	O 7/71	410 4210	DIE HEAD w/HTRS	253	52116118	2,575.00
M-301		X-320 STRAND DIE HEADS w/ELECT	O	410 4210	M-301, X-320 DIE HEAD	259	-	w/X-320
		X-120 INSTALLATION	O 7/71	410 4211	X-102 INSTALL		51921392	1,390.22
		X-120 INSULATION	O 7/71	410 4219	X-102 INSUL		51921393	262.62
		S-405 INSTALLATION	O 7/71	410 4221	INSTALL SCREEN		51921394	789.48
		G-110-C ADDED EQUIP	O 12/80	410 4460	G-110-C ADDED EQUIP	253	52884924	589.17
		G-110-C ADDED EQUIP	O 12/80	410 4460	G-110-C ADDED EQUIP	253	52918725	4,085.84
G-310+VS	-B	PELLETIZER, CUMBERLAND, 8", Helic Knives	O 12/89	410 4460	PELLETIZER, CUMBERLAND	263	55758228	31,280.14
G-110	-C	PELLETIZER, 48 knife Helical	O 8/80	410 4460	PELLETIZER C-LINE	253	52824197	31,523.11
G-110+VS-EM		G-110-C VARI-SPEED & MOTOR, 15 hp	O 8/80	w/G-110	G-110 MOTOR	253	w/G-110	
G-410+VS	-B	PELLETIZER, 14" Cumberland w/Vari-Drive	O 7/87	410 4460	PELLETIZER, D LINE	263	55349772	58,939.25
G-410-EM	-A	PELLETIZER G-410 MOTOR ,15 hp	O 7/87	w/G-410	D-LINE PELLETIZER MOTOR	263	w/G-410-A	
		G-410 INSTALL	O 7/87	410 4461	G-410 INSTALL	-	55349773	2,050.82
		HOIST ELECT	O 10/82	410 4469	HOIST, ELECT		53076805	350.65
S-1401		DUST COLLECTOR, Semco, 3'OD x 4'H+CONE, Pneumatic	O 11/72	410 4570	BLEND & HOLD TKS DUST COLLECTOR	282	52116117	2,933.99
R-101		REACTOR, w/H.O. Internals, 6'-1½"IDx18'-9¼" S-S	O 7/63	410 5000	REACTOR, R-101	252	52438759	18,728.90
R-102		REACTOR, Insulated, H.O. Internals, 6'-1½"IDx25'-2¾" T-T	O 8/80	410 5000	R-102 REACTOR	252	52884198	22,175.00
R-301		REACTOR, w/H.O. Internals, 6'-1½"IDx25'-2¾" T-T	O 12/68	410 5000	REACTOR, R-301	258	52116121	63,658.90
R-401		REACTOR w/H.O. Internals, 6'-1½"IDx25'-2¾ T-T	O 7/69	410 5000	REACTOR 4, "D" LINE	262	52355178	36,653.80
		D-1602 INSTALL	O 12/90	410 5009	BLOWDOWN DRUM INSTALL	-	55907390	12,445.56
D1310/D1312		OVERFLOW WEIGH SYSTEM	O 1/91	410 5009	SENSORTRONICS MODEL 65016	250	56019089	10,495.00
D1310/D1312		OVERFLOW WEIGH SYSTEM	O 1/91	410 5009	MISCELLANEOUS	250	55924939	1,236.95
		R-101 MISCELLANEOUS EQUIP	X 7/63	410 5009	F/A D-101	252	52265594	131.32
		R-102 MISCELLANEOUS EQUIP	O 4/81	410 5009	F/A-LINE R-102	252	52918726	5,200.00
		R-102 MISCELLANEOUS EQUIP	O 12/80	410 5009	F/A LINE R-102	252	52884925	25,743.60

KAZ

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		R-301 MISCELLANEOUS EQUIP	O 12/68	410 5009	for R-301	258	52265584	14,410.90
		R-401 & 402 MISCELLANEOUS	X 7/69	410 5009	MISC D LINE EQUIP		52438762	1,991.34
		R-101 INSULATION	O 7/63	410 5020	R-101 INSULATION	252	52438761	4,052.30
		R-102 INSULATION	X 8/80	410 5020	R-102 INSULATION	252	52884926	41,629.08
		R-102 INSTALLATION	O 12/80	410 5021	R-102 INSTALLATION	252	52884927	122,127.89
		R-102 INSTALLATION	O 4/81	410 5021	R-102 INSTALLATION	252	52918727	352.63
		R-401 & 402 INSTALLATION	O 7/69	410 5021	REACTORS R-401 & 402		52355180	3,888.54
		R-401 & 402 INSTALLATION	O 12/69	410 5021	REACTORS R-401 & 402		51926991	120,954.25
		R-401 & 402 INSULATION	O 12/71	410 5021	REACTORS R-401 & 402		51921409	10,980.90
		R-401 & 402 INSTALLATION	O 7/71	410 5021	REACTORS R-401 & 402		52265581	7,761.56
D-402		DEVOLATILIZER, Insulated, Jacketed, 4'ID x 4'-0" T-T	O 7/69	410 5500	DEVOL, D-LINE	263	52355183	3,390.00
D-421		DEVOLATILIZER CONDENSATE RECEIVER, 36"D x 8'-0" T-T	X 7/69	410 5500	DEVOL COND REC	264	52355184	615.00
D-302		DEVOLATILIZER, Insulated, Jacketed, 4'ID x 7'-0" T-T	O 12/68	410 5500	DEVOL TANK, D-302	259	51921416	4,974.59
D-321		DEVOLATILIZER CONDENSATE RECEIVER, 36"D x 6'-6" T-T	X 12/68	410 5500	COND RECEIVER	260	51921417	672.08
T-1501		EVAPORATOR BASIN	O 1/82	410 5500	EVAPORATOR BASIN		53011415	1,975.00
D-301		HOLDING TANK, Insulated, Jacketed, 7'-6"ID x 18'-9" T-T	O 12/68	410 5500	HOLD TANK, D-301	259	51921415	8,788.35
D-401		HOLDING TANK, Insulated, Jacketed, 7'-6"ID x 18'-9" T-T	O 7/69	410 5500	D-401 HOLD TANK	263	52355182	7,940.00
D-1101		HOT OIL EXPANSION TANK, A & C-LINE, 4'D x 8' T-T	X 7/63	410 5500	D-1101, H.O. EXP TK	268	52116137	880.00
D-1102		HOT OIL EXPANSION TANK, D-LINE, 4'D x 12' T-T	X 7/69	410 5500	D-LINE H.O.EXPAN TK	269	52355185	615.00
R-402		REACTOR w/H.O. Internals, 6'-1½"IDx25'-2¾" T-T	O 7/69	410 5500	REACTOR 5, "D" LINE	262	52355179	33,473.80
A-416		TUMBLER, BARREL, SS, Belt Drive, 33"D x 36"L	O 7/69	410 5500	D-LINE TUMBLER	263	52355181	2,101.39
A-416-EM		A-416, D-LINE TUMBLER MOTOR, 3/4 hp	O 7/69	w/A-416	A-416 TUMBLER MOTOR	263	w/A-416	
		D-102 MODIFY	X 12/80	410 5509	MODIFY D-102-B	252	52884929	8,090.00
		S-105 MODIFY HOPPER	O 12/80	410 5509	S-105 HOPPER MODIFY	253	52884928	343.00
E-121	-B	DEVOLATILIZER CONDENSER, S & T, 172 ft^2, 31,500 Btu/hr	X 8/80	410 5550	E-121 DEVOL CONDENSER	254	52824199	785.00
F-411+VS		WAX FEEDER, w/Auger Feeder w/Vari-Drive	X 7/69	410 5630	WAX FEED D LINE	263	52355186	1,098.00
F-411-EM		WAX FEEDER F-411 MOTOR, 1/2 hp	X 7/69	w/F-411	F-411 WAX FEED MOTOR	263	w/F-411	
F-311		WAX FEEDER, w/Auger Feeder	O 10/77	410 5630	WAX FEED, C LINE	259	52496999	1,000.00

KA7

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
F-311-VS-EM		WAX FEEDER, w/Auger Feeder, 1/12 hp Vari-Drive	O 10/77	w/F-311	C-LINE WAX FEED VARI-DRIVE & MOTOR	259	w/F-311	
F-111+VS		WAX FEEDER, Auger Feeder, w/Vari-Drive	X 7/63	410 5630	WAX FEED w/VARISPEED	253	52115103	880.00
F-111-EM		WAX FEEDER MOTOR, 1/12 hp	X 7/63	w/F-111	WAX FEED MOTOR	253	w/F-111	
		F-111 FEED BOX	O 12/80	410 5639	F-111 FEED BOX	253	52884930	117.75
D-102	-B	DEVOLATILIZER, Insulated, Jacketed, 4'ID x 7'-0" T-T	X 8/80	410 5670	DEVOL TANK, D-102	253	52824201	3,650.00
D-101	-B	HOLDING TANK, Insulated, Jacketed, 7'-6"ID x 18'-9" T-T	X 8/80	410 5670	HOLDING TANK, D-101	253	52824200	7,790.90
B-1405		BAGGING BIN, 60,000 #, 8'-6"OD x 24'+CONE	O 7/71	410 6000	BAGGING BIN	282	51921431	4,125.00
B-1404		BLENDING BIN, 60,000 #, 8'-6"OD x 24'+CONE	O 7/71	410 6000	BLENDING BIN	282	51921430	13,250.00
B-1402		HOLDING BIN # 1, 60,000 #, 8'-6"OD x 24'+CONE	O 7/69	410 6000	HOLDING BIN # 1	282	51921428	4,700.00
B-1403		HOLDING BIN # 2, 60,000 #, 8'-6"OD x 24'+CONE	O 7/71	410 6000	HOLDING BIN # 2	282	51921429	4,700.00
F-1415	-B	ROTARY VALVE FOR B-318	O 7/84	410 6050	B-318 ROTARY VALVE	259	52809292	1,345.64
F-1415-EM		F-1415 ROTARY VALVE MOTOR, 1/2 hp, 1800 rpm	O 7/84	W/T-1402	F-1415 ROTARY VALVE MOTOR	259	w/T-1402	
T-1401		SILO NO. 1, 118,000 #, 12'-4"OD x 24'+ CONE	O 5/69	410 6050	SILO NO. 1	283	52116132	16,573.60
F-1413		SILO # 1 ROTARY VALVE, Shick, T42G-1	O 5/69	w/SILO	T-1401 ROTARY VALVE	283	w/T-1401	
F-1413-GR		F-1413 ROTARY VALVE GEAR REDUCER	O 5/69	w/F-1413	F-1413 ROTARX VALVE GEAR REDUCER	283	w/F-1413	
F-1413-EM		F-1413 ROTARY VALVE MOTOR, 3/4 hp	O 5/69	w/F-1413	F-1413 ROTARY VALVE MOTOR	283	w/F-1413	
T-1408		SILO NO. 8, 12' OD x 35'H +CONE	O 9/81	410 6050	SILO NO 8	285	52964842	20,290.79
F-1423		T-1408 ROTARY VALVE	O		SILO 8 ROTARY VALVE	285	w/T-1408	
F-1423-EM		F-1423 ROTARY VALVE MOTOR, 1 hp, 1725 rpm	O	w/F-1423	F-1423 ROTARY VALVE MOTOR	285	w/F-1423	
		SILO DIVERTER VALVE INSTALLATION	O 1/91	410 6050	DIVERTER VALVES	283	56019094	98,169.80
T-1407		SILO NO. 7, 12' OD x 35'H + CONE	O 9/81	410 6050	SILO NO. 7	285	52964841	20,290.79
F-1422		T-1407 ROTARY VALVE	O		SILO 7 ROTARY VALVE	285	w/T-1407	
F-1422-EM		F-1422 ROTARY VALVE MOTOR, 1 hp, 1725 rpm	O	w/F-1422	F-1422 ROTARY VALVE MOTOR	285	w/F-1422	
		SILO DISTRIBUTION SYSTEM	O 1/91	410 6050	DIVERTER VALVES	283	56021792	72,325.14
T-1403		SILO NO. 3, 300,000 #, 15'OD x 53'-0"H +45°CONE	O 12/70	410 6050	SILO NO. 3	284	52116134	27,970.71
F-1416		F-1416 BAGGER BIN, B-418, ROTARY VALVE	O	W/T-1403	F-1416 ROTARY VALVE	263	W/T-1403	
F-1416-EM		F-1416 ROTARY VALVE MOTOR, 1/2 hp, 1800 rpm	O	W/T-1403	F-1416 ROTARY VALVE MOTOR	263	W/T-1403	
C-1417		C-1417 BAGGER BIN TRANSFER BLOWER	O	W/T-1403	C-1417 BLOWER	263	W/T-1403	
C-1417-EM		C-1417 B-418 TRANSFER BLOWER MOTOR, 10 hp, 1750 rpm	O	W/T-1403	C-1417 BLOWER MOTOR	263	W/T-1403	
F-1418		T-1403 ROTARY VALVE, Model 685F, 21 rpm	O 12/70	w/T-1403	T-1403 ROTARY VALVE	284	W/T-1403	
F-1418-EM		F-1418 ROTARY VALVE MOTOR, 3/4 hp, 1725 rpm	O 12/70	w/F-1418	F-1418 ROTARY VALVE MOTOR	284	w/F-1418	
T-1406		SILO NO. 6, 300,000 #, 15'OD x 53'-0"H +45°CONE	O 5/78	410 6050	SILO NO. 6	285	52556328	25,864.57
F-1421		T-1406 ROTARY VALVE, Semco	O		F-1421, SILO 6 ROTARY VALVE	285	w/T-1406	
F-1421-EM		F-1421 ROTARY VALVE MOTOR, 1 hp, 1710 rpm	O	w/F-1421	F-1421 ROTARY VALVE MOTOR	285	w/F-1421	
T-1402		SILO NO. 2, 300,000 #, 15'OD x 53'-0"H +45°CONE	O 12/70	410 6050	SILO NO. 2	284	52116133	27,970.72
F-1417		T-1402 ROTARY VALVE, Model 685F, 21 rpm	O 12/70	w/T-1402	T-1402 ROTARY VALVE	284	W/T-1402	

KAZ

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
F-1417-EM		F-1417 ROTARY VALVE MOTOR, 3/4 hp	O 12/70	w/F-1417	F-1417 ROTARY VALVE MOTOR	284	w/F-1417	
C-1414		BAGGER BIN TRANSFER BLOWER, Sutterbult, 4-MF	O ?	w/T-1402	BLOWER C-1414, A-LINE	253	w/T-1402	
C-1414-EM		C-1414 MOTOR, 10 hp, 1760 rpm	O ?	w/C-1414	C-1414 MOTOR	253	w/C-1414	
C-1418		SILOS 2 & 3 BLOWER(Below #3), Sutorbilt, 6M-F	O 12/70	w/T-1402	C-1418, SILO 2 & 3 BLOWER	284	W/T-1402	
C-1418-EM		C-1418 BLOWER MOTOR, 25 hp, 1775 rpm	O 12/70	w/C-1418	C-1418 BLOWER MOTOR, 25 hp	284	W/C-1418	
T-1405		SILO NO. 5, 300,000 #, 15'OD x 53'-0"H +45°CONE	O 7/71	410 6050	SILO NO. 5	284	52116136	20,848.13
F-1420		T-1405 ROTARY VALVE, Model 685F, 21 rpm	O 12/70	w/T-1405	T-1405 ROTARY VALVE	284	W/T-1405	
F-1420-EM		F-1420 ROTARY VALVE MOTOR, 3/4 hp, 1800 rpm	O 12/70	w/F-1420	F-1420 ROTARY VALVE MOTOR	284	w/F-1420	
C-1419		SILOS 4 & 5 BLOWER(Below #4),Sutorbilt,6M-B	O 12/70	w/T-1405	SILO 4 & 5 BLOWER	284	W/T-1405	
T-1404		SILO NO. 4, 300,000 #, 15'OD x 53'-0"H +45°CONE	O 7/71	410 6050	SILO NO. 4	284	52116135	20,848.12
F-1419		T-1404 ROTARY VALVE, Model 685F, 21 rpm	O 12/70	w/T-1404	T-1404 ROTARY VALVE	284	W/T-1404	
F-1419-EM		F-1419 ROTARY VALVE MOTOR, 3/4 hp, 1725 rpm	O 12/70	w/F-1419	F-1419 ROTARY VALVE MOTOR	284	w/F-1419	
F-101		TUMBLER HOPPER ROTARY VALVE	O 8/80	410 6050	F-101 ROTARY VALVE	253	52824202	1,915.03
F-101-EM		HOPPER ROTARY VALVE MOTOR, 1/2 hp Motor	O 8/80	w/F-101	F-101 MOTOR	253	w/F-101	
		T-1406 INSTALL	O 5/78	410 6051	T-1406 INSTALL	-	52556329	6,269.60
T-1314		CONDENSATE STORAGE TANK, 9'0"D x 15'H	X 7/63	410 6070	T-1314 CONDENSATE TANK	276	51921448	200.00
D-1410		DUST & FINES DRUM	O	410 6070	D-1410, DUST DRUM AT BLENDER	282	-	200.00
D-1501		EXP TANK	O 12/74	410 6070	D-1501 EXP TANK		51946992	1,142.85
T-1303		FEED PREP TANK, 10'D x 18'H	X 7/63	410 6070	T-1303	276	51921443	1,173.00
T-1307		FEED PREP TANK, 10'D x 24'H	X 7/63	410 6070	T-1307	276	51921447	1,200.00
A-1303+MS		T-1307 TANK MIXER, Lightnin, 15.1" PROPELLER (SN 673357)	O 12/90	w/T-1307	T-1307 MIXER	276	w/T-1307	
A-1303-EM		A-1303 TANK MIXER MOTOR, 3 hp	O 12/90	w/A-1303	A-1308 MIXER MOTOR	276	w/A-1303	
T-1302		FEED PREP TANK, 10'D x 18'H	X 7/63	410 6070	T-1302	276	51921442	1,154.00
T-1301		FEED PREP TANK, 10'D x 18'H	X 7/63	410 6070	T-1301	276	51921441	1,154.00
D-1103		HOT OIL MAKE-UP & OVER-FILL TANK w/Heat Coils,6'D x 7' T-T	O 11/72	410 6070	H.O.OVERFLOW TANK	269	52116131	3,364.30
D-1104		MAKE-UP OIL DRUM, 30 gal	O 11/72	410 6070	D-1104 DRUM	269	52116125	195.00
D-1312		R-401 & R-402 OVERFLOW DRUM	X 7/63	410 6070	R-401 & R-402 OVERFLOW DRUM	262	52139405	250.00
D-1310		REACTOR OVERFILL RECEIVER POT, 24"D x 4'H	X 7/63	410 6070	OVERFLOW DRUM A & C LINE	252	52139404	141.40
T-1309		STYRENE STORAGE TANK, 50,000 gal, 20'D x 21'H	O 3/74	410 6070	T-1309 STYRENE TANK	275	51921452	3,223.13
T-1308		STYRENE STORAGE TANK, 30,000 gal, 15'D x 24'H	O 12/70	410 6070	T-1308, STYRENE STG	275	51921451	6,177.00
		T-1308 INSTALL TANK & MIXER	O 12/70	410 6070	INSTALL T-1308 W/MIXER		w/T-1308	
T-1315		ZINC MIXING TANK, Cone Bottom, 6'-6"D x 5'H	O 8/79	410 6070	T-1315, ZINC MIX TANK	275	52669389	2,793.93
A-1315		MIXER, Vertical w/Shaft, 10" Prop, 2 hp Motor	O 8/79		T-1315 MIXER	275	w/T-1315	
A-1315-EM		T-1315 MIXER MOTOR, 2 hp	O 8/79	w/A-1315	A-1315 MIXER MOTOR	275	w/T-1315	

KAZ

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		D-1103 INSTALLATION	O 11/72	410 6071	INSTALL D-1103		52438758	3,097.50
		T-1308 & 1309 INSTALLATION	O 12/70	410 6071	INSTALL T-8 & T-1304	-	51921453	7,912.25
		T-1309 INSTALL	O 3/74	410 6071	T-1309 INSTALL	-	51921454	14,385.67
--1300		CONCRETE SLAB FOR T-1314-A	O 6/88	410 6074	T-1314 SLAB	-	55534023	8,141.91
		D-1104 SUPPLY LINES PIPING	O 12/72	410 6079	D-1104 PIPING		51921455	876.68
LI-1311		T-1309 LEVEL INDICATOR, Tape	O 7/75	410 6079	T-1309 TAPE GAUGE	275	52436914	602.62
A-1309+MS		T-1309 MIXER, Lightning, 21.7"Prop	O 3/74	W/T-1309	T-1309 MIXER W/MS	275	W/T-1309	
A-1309-EM		T-1309 MIXER MOTOR, 7½ hp, 280 rpm	O 3/74	W/T-1309	T-1309 MIXER MOTOR	275	W/T-1309	
		TANK GAUGE, T-1306	O 7/74	410 6079	T-1306 TANK GAUGE	276	52436913	602.63
B-418		BAGGER BIN, 6000 # Working Capacity	O 7/63	410 6080	BAGGER HOPPER	263	52265587	4,052.29
B-118		BAGGER BIN,	X 7/63	410 6080	BAGGER BIN, B-118	253	52116140	343.80
B-318		BAGGER BIN, 5000 # Working Capacity	O 12/68	410 6080	BIN, B-318	259	52116143	4,239.98
B-1601		FINES AND WASTE HOPPER	O 10/63	410 6080	FINES BAGGER HOPPER D-1601	-	52116142	2,050.00
		B-418 ALTERATIONS FOR BAGGER	O 11/74	410 6089	ALTER TO B-418		52265592	847.02
5800		NORTH TANK FARM CONCRETE PAD	X 10/90	410 6509	PAD NORTH TANK FARM		55879140	65,034.38
E-1504		HOT WATER HEATER	O 7/91	410 9360	STATE 120 GALLON	294	56019110	818.12
E-1504		HOT WATER HEATER INSTALLATION	O 7/91	410 9360	PIPING	294	56019100	3,241.46
		WATER HEATER	X	410 9360	NATIONAL 10 GALLON #NSG10	LAB	-	170.00
		WATER HEATER	X	410 9360	RICHMOND MISER #8V40-2	LRM	-	250.00
		OIL SHED	X 7/71	411 5850	OIL SHED	250	52061555	2,000.00
		MAJOR SPARE PARTS	O 12/91	451 2670	VARI-DRIVE A & D LINE	MNT	56019096	9,647.39
		MAJOR SPARE PARTS	O 12/91	451 2670	GEAR PUMP	MNT	56019097	5,889.51
TO-528		HYDRAULIC PRESS, NUGIER, H 40-17	X 11/70	630 3380*	HYDRAULIC PRESS	MNT	52339441	916.30
S-101		LINE HOPPER W/Magnets	X 7/63	630 5030	S-101 MAGNET GRATE	253	52438757	139.70
S-401		LINE HOPPER W/Magnet Grate	O	630 5030	S-401 MAGNET GRATE	263	-	140.00
S-301		LINE HOPPER W/Magnet Grate	O	630 5030	C-LINE END OF LINE MAGNETS	259	-	140.00
M-319		BAGGER, STOKER W/AUGER	O 12/68	700 0320	BAGGER, B-301	259	52265589	2,438.53
M-319-EM		M-319 BAGGER MOTOR, 3 hp, 1750 rpm	O 12/68	W/M-319	M-319 BAGGER MOTOR	259	W/M-319	

AMOCO CHEMICAL COMPANY - TOR NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
M-419+EM		BAGGER, 12,000 lbs/hr, w/AUGER	X 7/69	700 0630	M-419 BAGGER w/AUGER	263	52355189	690.60
M-419-EM		M-419 BAGGER MOTOR, 2 hp, 1800 rpm	X 7/69	w/M-419	M-419 BAGGER MOTOR	263	w/M-419	
M-119		BAGGER, w/AUGER	O 7/63	700 0630	BAGGER W/Motor	253	52116141	2,057.06
M-119-EM		M-119 BAGGER MOTOR, 2 hp, 1800 rpm	O 7/63	w/M-119	M-119 BAGGER MOTOR	253	w/M-119	
M-1402		M-1402 BAGGER	O 7/71	700 0630	B-1405 BAGGER	282	52116145	2,840.00
M-1402-EM		M-1402 BAGGER MOTOR, 3 hp, 1800 rpm	O 7/71	w/M-1402	M-1402 BAGGER MOTOR	282	w/M-1402	
M-1403		B-1405 BAG SETTLER	O 7/71	700 0730	B-1405 BAG SETTLER	282	51921461	765.00
M-1403-EM		M-1403 BAG SETTLER MOTOR, 1/2 hp, 1725 rpm	O 7/71	w/M-1403	M-1403 BAG SETTLER MOTOR	282	w/M-1403	
M-318		B-318 BAGGER SETTLER	X 12/68	700 0730	BAG SETTLER, B-318	259	52265595	709.19
M-318+EM		BAGGER SETTLER MOTOR, 1/2 hp, 1800 rpm	X 12/68	w/M-318	BAG SETTLER FOR M-319	259	w/M-318	
M-118		BAGGER SETTLER	X 5/69	700 0730	BAG SETTLER	253	51921459	714.11
M-118-EM		BAGGER SETTLER MOTOR, 1/2 hp	X 5/69	w/M-118	BAG SETTLER MOTOR	253	w/M-118	
M-418		M-418 BAGGER SETTLER	O 7/69	700 0730	M-418 BAG SETTLER	263	52391009	2,589.11
M-418-EM		M-418 BAGGER SETTLER MOTOR, 1/2 hp	O 7/69	w/M-418	M-418 BAG SETTLER MOTOR	263	w/M-418	
N-1405		BAGGER & WEIGHER	O 12/91	700 0900	MHE AIR PACKER	WHS	56019092	11,245.00
		ALUMINIUM TUBE BAG	O 6/92	700 0909	NEW BAGGER PARTS	WHS	-	135.10
N-1405		BAGGER PARTS	O 6/92	700 0909	NEW BAGGER PARTS	WHS	-	1,054.20
		CONTROL PANEL ENCLOSURE	O 8/71	798 2025	CONTROL PANEL ENCLOSURE		51921475	846.27
TO-183		CLOCK, WALL, G.E. 12"	X	851 ??	CLOCK, 12" GE	LAB	-	50.00
TO-214		CLOCK, WALL, G.E. 8"	X	851 ??	CLOCK, 8" G.E.	PLT	-	30.00
		CLOCK, SETH-THOMAS, 12"	X	851 ??	CLOCK, SETH-THOMAS, 12"	BLO	-	50.00
		CLOCK, SETH-THOMAS, 12"	X	851 ??	CLOCK, SETH-THOMAS, 12"	MNT	-	50.00
		CLOCK, SETH-THOMAS, 12"	X	851 ??	CLOCK, SETH-THOMAS, 12"	PEO	-	50.00
TO-148		CLOCK, WALL, G.E. 8"	X	851 ??	CLOCK, G.E. 8"	LRM	-	30.00
TO-212		TABLE, DRAFTING	O	851 ??	CHARTPAK/PICKET ULTIMA	PEO	-	350.00
TO-161		TRAY, LETTER, 2-TIER, TAN	O	851 ??	TRAY	CR	-	20.00
TO-141		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	PSU	-	20.00
TO-144		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	OFF	-	20.00
TO-140		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	FO	-	20.00
TO-143		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	PEO	-	20.00

KAZ

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DMG	ASSET NO	COST
TO-142		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	SO	-	20.00
TO-139		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	LAB	-	20.00
TO-145		TRAY, LETTER, 3-TIER, TAN	O	851 ??	TRAY	TWX	-	20.00
TO-147		BULLETIN BOARD (Foreman Office)	X	851 0750	BULLETIN BOARD	OFF	-	50.00
		BULLETIN BOARD (Office)	X	851 0750	BULLETIN BOARD	FO	-	50.00
TO-185		BULLETIN BOARD (Plant)	X	851 0750	BULLETIN BOARD	PLT	-	50.00
		BULLETIN BOARD (Lunch Room)(2)	X 91	851 0750	BULLETIN BOARD	LRM	-	50.00
TO-156		BOOKCASE, STEEL, BLACK	X 12/70	851 0800	OFFICE BOOKCASE	PEO	51921030	137.80
TO-126		BOOKCASE, STEEL, BAMBOO	X 5/72	851 1000	OFFICE BOOKCASE	OFF	51921031	46.00
TO-123		CABINET, ECONOCASE SLIDING DOOR	X 4/72	851 1000	OFFICE CABINET	MTO	51921045	58.40
5100		CABINET, PAINT STG	O 10/80	851 1000	MAINT CABINET	MNT	52865689	384.51
TO-120		CABINET, 6 SHELVES, TAN	O --/71	851 1000	OFFICE CABINET	FLR	52629589	359.63
TO-121		CABINET, 6 SHELVES, TAN	O --/71	851 1000	OFFICE CABINET	FLR	W/TO-120	
TO-122		CABINET, 6 SHELVES, TAN (NO DOORS)	O --/71	851 1000	PLANT CABINET	MNT	W/TO-120	
TO-174		CABINET, METAL CLOSET, BLACK	X 10/68	851 1000	PLANT CABINET	PTL	51921043	44.00
		CABINET	X 12/88	851 1000	FIRE CABINET	-	55622390	393.54
TO-209		CABINET, 2-DOOR, TAN, 4'	X 12/67	851 1000	MAINT CABINET	CR	51921042	47.50
TO-208		CABINET-TABLE, STORAGE UNBIT TAN	X 7/63	851 1000	OFFICE CABINET	TWX	52061553	301.75
		CABINETS, STORAGE	O 10/90	851 1000	LAB CABINETS	-	55879124	1,581.00
		FILE, SINGLE, #3000 L W/LOCK	O --/75	851 1000	FILE, SINGLE UNIT	FO	52629592	35.04
F-0017		FILE, LETTER 4-DRAWER, COLE, Grey	X 12/71	851 1000	OFFICE FILE	FO	52465568	73.50
TO-173		FILE, CARD, 2-DRAWER	O	851 1000	FILE, 2+1-DRAWER CARD	FO	-	35.00
TO-117		FILE, LETTER 5-DRAWER, HOLGA, BROWN	X 7/68	851 1000	OFFICE FILE	OFF	51921035	90.28
TO-207		FILE, LETTER, 5-DRAWER, NORWALK	X 7/63	851 1000	MAINT FILE	MNT	51921034	78.50
		FILE, LETTER, 5-DRAWER, "S"	X 91	851 1000	OFFICE FILE "S", 5-DRAWER	SO	-	680.00
		FILE, SINGLE, #3000 L W/LOCK	O --/75	851 1000	FILE, SINGLE UNIT	FO	52629591	35.04
		FILE, SINGLE, #3000 L W/LOCK	O --/72	851 1000	FILE, SINGLE UNIT	FO	52629590	35.05
TO-213		FILE, CARD, 8"x10"x16	O	851 1000	FILE, CARD, 8"X10"X16"	MNT	-	30.00

K47

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
TO-116		FILE, LETTER 5-DRAWER, HOLGA, BROWN	X 5/72	851 1000	OFFICE FILE	OFF	51921039	125.00
		FILE, DRAWINGS, 8-DRAWER, 4'x3'x4'	X 91	851 1000	FILE, DRAWING	MNT	-	530.00
TO-173		FILE, LETTER 4-DRAWER, COLE	X 7/68	851 1000	PLANT FILE	FO	51921036	90.27
TO-119		FILE, LETTER 5-DRAWER, NORWALK, TAN	X 7/63	851 1000	OFFICE FILE	PEO	51921032	78.50
TO-118		FILE, LETTER 5-DRAWER, BLACK	X 12/70	851 1000	OFFICE FILE	OFF	51921038	69.50
TO-154		FILE, LETTER 5-DRAWER, TORCO	X 11/69	851 1000	OFFICE FILE	PSU	51921037	49.95
		FILE, SINGLE, #3000 L W/LOCK	O --/75	851 1000	FILE, SINGLE UNIT	FO	52629593	35.04
TO-206		FILE, LETTER 5-DRAWER, NORWALK	X 7/63	851 1000	MAINT FILE	MNT	51921033	78.50
TO-202		CHAIR, SWIVEL ARM TAN	X 7/63	851 1300	MAINT OFFICE CHAIR	MNT	51921054	73.50
		CHAIR, SWIVEL, ORANGE	O --/75	851 1300	CHAIR, ORANGE SWIVEL	SO	52629595	30.00
TO-168		CHAIR, SIDE ARM, GREEN	X 12/70	851 1300	PLANT CHAIR	FO	51921063	35.80
TO-110		CHAIR, STRAIGHT BACK ARMLESS TAN	X 7/63	851 1300	OFFICE CHAIR	OFF	51921049	29.06
TO-151		CHAIR, STOOL TYPE, HI-BACK SWIVEL ROCKER BLACK	X 11/69	851 1300	OFFICE CHAIR	LAB	51921060	119.50
TO-108		CHAIR, SWIVEL ARM TAN	X 7/63	851 1300	OFFICE CHAIR	PEO	51921047	73.50
C-0025		CHAIR, SWIVEL, TAN	X 12/71	851 1300	PLANT CHAIR	MNT	52465576	54.00
		CHAIR, SWIVEL, GREEN	O --/75	851 1300	CHAIR, GREEN SWIVEL	FO	52629594	30.00
TO-249		CHAIR, JUDGES	X 5/89	851 1300	JUDGES CHAIR	PSU	55663315	319.50
TO-170		CHAIR, LOW-BACK SWIVEL TAN	X 5/64	851 1300	PLANT CHAIR	TWX	51921059	39.95
TO-112		CHAIR, SIDE ARM TAN	X 7/63	851 1300	OFFICE CHAIR	SO	51921051	33.75
TO-530/541		CHAIRS, METAL FOLDING, TAN (12)(5 FOUND/91)	O	851 1300	CHAIRS, FOLDING	var	-	60.00
M 224		CHAIRS, STACKING(Sliver Frame)(9 found)	O 9/76	851 1300	OFFICE NU 12*	var	52465636	217.23
TO-159		TABLE, CUSTOMER, 70" WALNUT	X 5/72	851 1400	70" WALNUT OFFICE TABLE	LRM	51921066	17.10
TO-106		CREDENZA, 2-DRAWER BAMBOO	X 5/72	851 1700	OFFICE CREDENZA	TWX	51921067	154.80
TO-150		CREDENZA, 2-DRAWER BLACK	X 5/72	851 1700	OFFICE CREDENZA	SO	51921080	221.28
TO-103		DESK, SMALL STEEL BAMBOO	X 5/64	851 1800	OFFICE DESK	SO	51921072	84.70
TO-162		DESK, REGULAR STEEL TAN & BLACK	X 11/69	851 1800	PLANT DESK	FO	51921076	139.00
D-0025		DESK, 24" x 40"	X 12/71	851 1800	TWX DESK	FR	52465584	74.80

KAZ

AMOCO CHEMICAL COMPANY - TOI NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
TO-201		DESK, REGULAR STEEL TAN	X 7/63	851 1800	MAINT DESK	MNT	51921071	151.00
TO-166		DESK, STEEL STAND-UP # 5420	X 10/68	851 1800	PLANT DESK	PLT	51921074	59.00
TO-163		DESK, REGULAR STEEL	?	851 1800	PLANT (OPERATORS)	CR	-	140.00
TO-105		DESK, W/TYPEWRITER DRAWER, BAMBOO	X 5/72	851 1800	OFFICE DESK	TWX	51921079	213.78
TO-149		DESK, REGULAR STEEL BLACK	X 5/69	851 1800	OFFICE DESK	FO	51921075	150.00
TO-104		DESK, REGULAR STEEL BAMBOO	X 4/70	851 1800	OFFICE DESK	OFF	51921077	156.98
D-0003		DESK, 30"x60" METAL W/FORMICA TOP	X 10/63	851 1800	TWX DESK	TWX	51921082	159.00
TO-164		DESK, REGULAR STAND-UP	X 5/72	851 1800	PLANT DESK	CR	51921080	60.10
		LAMP, HAND UV, DUAL TUBE	X	851 2300	UV DUAL TUBE	LAB	-	300.00
TO-210		CABINET, 2-DOOR, TAN, 4'	X 10/68	851 2600	MAINT CABINET	CR	51921081	18.00
TO-192		LOCKERS, LYONS, 3-8 LOCKER UNITS & 4 BENCHES	X 7/71	851 2600	CHANGE ROOM LOCKERS AND BENCHES	LRM	51921082	893.33
		PAINTING W/FRAME, 3'x5'	O --/76	851 2800	PAINTING, OFFICE	TWX	52629598	60.00
		PAINTING W/FRAME, 3'x5'	O --/76	851 2800	PAINTING, OFFICE	TWX	52629597	65.00
		PAINTING W/FRAME, 3'x5'	O --/76	851 2800	PAINTING, OFFICE	TWX	52629596	85.00
		SHELVING, OPEN, STORAGE ROOM	O --/71	851 3051	SHELVING, OPEN, STG RM	STG	52629599	150.00
		STAND, TV & VCR	O 2/79	851 3200	STAND, TV & VCR	OFF	52629601	90.00
TO-155		STAND, SMOKING, WALNUT TOP	X 1/68	851 3200	STAND SMOKING	PSU	51921086	35.00
TO-125		STAND, TYPEWRITER, WALNUT TOP	X 5/69	851 3200	OFFICE TYPEWRITER STAND	TWX	51921087	49.40
TO-124		STAND, COPY MACHINE, TAN	X 9/65	851 3200	OFFICE STAND	TWX	51921085	39.95
		CHAIRS, STACKING(Black Frame)(5)	X 91	851 3500	CHAIRS, STACKING (5)	var	-	165.00
TO-115		CLARIDGE SET, THREE (3) PIECES	X 5/72	851 3500	OFFICE CLARIDGE SET	OFF	51921065	358.00
M-243		TABLE, CONFERENCE	O 9/76	851 3500	OFFICE CLOE BT-6	MNT	52465637	118.06
		TABLE, CONFERENCE	X 91	851 3500	TABLE, CONFERENCE	LAB	-	220.00
M-242		TABLE, CONFERENCE	O 9/76	851 3500	OFFICE CLOE BT-6	LRM	52465638	118.07
TO-182		CLOCK, TIMER, AMANO	X 4/70	851 3520	PLANT # 15194	PLT	51921109	425.00
TO-158		WASTEBASKET W/LINER, BLACK	X 1/68	851 3900	WASTEBACKET, OFFICE	PSU	51921093	32.00
		CABINET, STORAGE, 2-DR, 4' (2)	X 12/90	853 1900	CABINET, STORAGE FO	OFF	55907407	181.46

K-92

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		COMPUTER	O 6/92	853 1900	IBM 386 PC	OFF	-	1,125.70
		LIGHTING	O 12/91	853 1900	MISC. LIGHTING FIXTURES	250	56021789	741.53
		LIGHTING	O 12/91	853 1900	MISC. CONDUIT FOR PLANT LIGHTING	250	56021788	19,626.83
		COMPUTER PARTS	O 6/92	853 1909	MODEM	OFF	-	256.39
		SOFTWARE	O 6/92	853 1909	APM SOFTWARE	OFF	-	351.81
		PROJECTION SCREEN	X	854	KNOX MONITOR	LAB	-	180.00
		PROJECTOR, 3M, OVERHEAD, # M-585	O --/78	854 3396	OVHD PROJECTOR, 3M	OFF	52629602	390.89
		TV, RCA	O 12/88	854 5300	TV	LRM	-	200.00
		TV, EMERSON	O 12/86	854 5300	EMERSON TV	OFF	55246581	198.97
		VIDEO RECORDER	O 12/86	854 5376	VIDEO TAPE RECORDER	OFF	-	174.00
		RADIO, SCAQMD COMMAND RECEIVER	O --/78	858 4890	SCAQMD RADIO (Foreman Office)	FO	52629603	203.61
TO-138		RADIO, LLOYD'S AM/FM, BLACK	X	858 5970	RADIO	FO	-	25.00
		HOT PLATES (3)	X	863 3906	HOT PLATES	LAB	-	450.00
		MICROWAVE OVEN, Kenmore	X 91	863 5520	MICROWAVE OVEN, Kenmore	LRM	-	200.00
		REFRIGERATOR, SEARS	O 12/86	863 7355	SEARS REFRIGERATOR	LRM	55246582	420.25
TO-248		AIR CONDITIONER, SEARS (KENMORE?)	O 5/89	864 3954	AC UNIT (SEARS)	CR	55663312	455.82
--5100		AC UNIT (S/N 0592648452)	O 9/80	864 4926	AC UNIT (S/N 0592648452)	FO	52844100	339.95
--5100		AC UNIT (S/N NKMM1130656)	O 5/83	864 4997	AC UNIT (S/N NKMM1130656)	LRM	53150101	3,001.39
--5200		AC UNIT, HEATING & COOLING	O 1/82	864 4997	AC UNIT (HTG & CLG)	LAB	53011413	607.51
TO-135		MAILING MACHINE, HAND	X 9/65	870 8766	MAIL MACHINE #41-156	-	51921107	225.00
		STENCIL MACHINE	X	871	BRADLEY DIAGRAPH	BLO	-	100.00
		STENCIL MAKER	X	871	SCOTT	BLO	-	50.00
TO-134		SCALES, POSTAL OMCO	X 9/65	871 4800	POSTAL SCALES	-	51921108	29.95
TO-128		TYPEWRITER, IBM SELECTRIC, SN # 9630822	X 5/72	871 8082	IBM TYPEWRITER, #9630822	-	51921112	558.00
		COMPUTER SOFTWARE	O 12/90	872 1309	COMPUTER SUPPLIES	-	55911639	9,855.08
		COMPUTER MONITORS	O 12/90	872 1309	COMPUTER MONITORS	-	55911640	1,536.99
		COMPUTER SUPPLIES	O 12/90	872 1309	COMPUTER SUPPLIES	-	55907391	852.88

K-92

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		COMPUTER PRINTER, LASER	O 12/90	872 1350	COMPUTER PRINTER, LASER PROFS	-	55907392	1,124.22
		COMPUTER DISPLAY TERMINAL, 1144836	O 12/84	872 1370	COMPUTER DISPLAY TERMINAL	TWX	53301373	4,596.30
LAB PC		COMPUTER, PC, DELL SYS 200 (3019) w/HPLazerJetIIP	O 12/88	872 6711	COMPUTER, PC, DELL SYS 200	LAB	55622384	4,378.73
		COMPUTER PERSONAL, IBM 23-715ANMP	O 10/90	872 6711	COMPUTER PC, IBM 23-715ANMP	-	55879145	6,350.34
		COMPUTER PERSONAL, IBM 23-7282676	O 10/90	872 6711	COMPUTER PC, IBM 23-7282676	-	55879143	6,350.33
		COMPUTER PERSONAL, IBM 23-715ANBV	O 10/90	872 6711	COMPUTER PC, IBM 23-715ANBV	-	55879144	6,350.34
		COMPUTER PERSONAL, IBM 23-7282677	O 10/90	872 6711	COMPUTER PC, IBM 23-7282677	-	55879142	6,350.33
		COMPUTER PERSONAL, IBM 23-715AOSV	O 10/90	872 6711	COMPUTER PC, IBM 23-715AOSV	-	55879141	6,350.33
		COMPUTER MONITOR, NEC MULTISYNC II	O 12/88	872 6712	COMPUTER MONITOR, NEC MULTI SYNC II	OFF	55622386	273.00
		COMPUTER PRINTER, HP LASER JET II	O 12/88	872 6713	COMPUTER PRINTER, HP LASER JET II	OFF	55622385	2,529.00
		SOFTWARE	O 6/92	872 6719	IBM SOFTWARE	OFF	-	4,580.15
		CALCULATOR, CANON	X	881 2017	CANON	FO	-	130.00
TO-223		CALCULATOR, MONROE, MODEL 1430, SN # E248431	X 11/73	881 2048	CALCULATOR, MONROE, SN # E248431	-	51921102	646.00
		CALCULATOR, SHARP	X 1/87	881 2117	CALCULATOR, SHARP, S/N 53151171		55255156	100.01
		CALCULATOR, Sharp EL-1197 IV	X	881 2117	CALCULATOR, Sharp	LAB	-	100.00
		CALCULATOR, TEXAS INST	X	881 2125	TEXAS INST.	MNT	-	65.00
		COPIER	O 12/91	881 3462	MINOLTA EP 300	OFF	-	75.00
		MICROFLICHE READER	O --/74	881 8870	MICROFLICHE READER	OFF	52957273	153.59
		MICROFLICHE READER (For Traffic)	O --/79	881 8870	MICROFLICHE READER	OFF	52957274	170.06
		BOOKCASE, THREE SHELF (3)	X 12/90	886 5012	BOOKCASE, 3 SHELF CR(2)	OFF	55907396	318.35
		CHAIR, GUEST (2)	Y 12/90	886 5012	CHAIR, GUEST (2)	PSU	55907394	172.44
		CHAIR, EXECUTIVE	Y 12/90	886 5012	CHAIR, EXEC	PSU	55907393	106.94
		DESK, SECRETARIAL, COMP VERSION	O 12/90	886 5012	DESK, SECRETARIAL	OFF	55907395	396.90
		DESKS, COMPUTER, TWO(2)	O 12/90	886 5012	DESKS, COMPUTER, (2) PEO	MNT	55907398	752.27
		SHELVES, TWO(2)[FOR COMP DESKS-ENGR & MAINT]	O 12/90	886 5012	SHELF, TWO(2) PEO	MNT	55907397	428.13
		TRUCK, PICKUP, FORD (06052)	O 7/89	906 4400	FORD PICKUP TRUCK	-	55684939	10,426.69
		RADIOS, MOTOROLA (6)	O 5/92		SIX MOTOROLA HT600 FM RADIOS			

KAZ

AMOCO CHEMICAL COMPANY - TOI NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DATE ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		RADIOS, BATTERY CHARGER	0 5/92		BATTERY CHARGER FOR MOTOROLA HFT600 RADIOS			
		TANK, POLYETHYLENE, 6000 GALLON	0 10/92		6000 GAL PE TANK FOR STORMWATER			3,290.00
		RADIOS, SPARE BATTERIES, ACCESSORIES	0 5/92		SPARE BATTERIES, CLIPS FOR HT600'S			840.00
		PUMP, SJE20D SUMP PUMP	0 9/92		SUMP PUMP FOR RAILSIDING SUMP			1,782.00
		INSTALL RR SIDING STORWWATER SYSTEM	0 11/92		STORMWATER COLLECTION SYSTEM			3,100.00
		BAGGER, PNEUMATIC	0 1/92		MHE MODEL 2010FF AIR PACKER			8,250.00
		BLOWER, FOR PNEUMATIC BAGGER	0 1/92		SUTORBILT BLOWER FOR AIR PACKER			2,995.00
							GRAND TOTAL	$4,019,640.54

KAZ

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

	EQUIPMENT NO SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
1		SECTION 100 " A " LINE			
2	R-101	REACTOR, Insulated, H.O. Internals	6'-1½"IDx18'-9¾" S-S	O 7/63	252
4					
5	TR-116	R-101 TEMP. RECORDER	Foxboro 124-RE	11/91	-
6					
7	TIC-116	R-101 TEMP. CONTROLLER	Fisher Provox CD6201	11/91	-
8					
9	P-101+GD	R-101 FORWARDING PUMP, w/GEAR DRIVE	10"Sq x 6"	O 7/63	252
10					
11	P-101+EM	R-101 FORWARDING PUMP w/MOTOR	7.5 hp, 1760 rpm	O 7/63	252
12					
13	P-131+MS	R-101 HOT OIL CIRCULATING PUMP, Dean Bros,R-454	6"x8"x12½"-1600gpm@60ft.hd.	N 2/91	252
14					
15	P-131-EM	R-101 H.O. CIRC PUMP MOTOR	50 hp, 1770 rpm	???	252
16					
17	E-131	R-101 OIL COOLER, Fin Fan	5,005 ft^2, 575 M Btu/hr		252
18					
19	E-131-EM	E-131 FAN MOTOR	5 hp, TEFC		252
20					
21	E-131-EM	E-131 FAN MOTOR	5 hp, TEFC		252
22					
23	R-102	REACTOR, Insulated, H.O. Internals	6'-1½"IDx25'-2¾" T-T		252
24					
25	TR-112	R-102 TEMP. RECORDER	Foxboro 124-RE	11/91	-
26					
27	TIC-112	R-102 TEMP. CONTROLLER	Fisher Provox CD6201	11/91	-
28					
29	P-102+VS	R-102 FORWARDING PUMP w/VARI DRIVE 25 rpm	10"Sq x 6"		252
30					
31	P-102-EM	R-102 FORWARDING PUMP MOTOR	7.5 hp, 1760 rpm		252
32					
33	P-132+MS	R-102 HOT OIL CIRCULATING PUMP, Dean Bros,R-454	6"x8"x12½"-1600gpm@60ft.hd.		252
34					
35	P-132-EM	R-102 H.O. CIRC PUMP MOTOR	50 hp, 1770 rpm		252
36	E-132	R-102 OIL COOLER, Fin Fan	7,700 ft^2, 875 M Btu/hr		252
38					
39	E-132-EM	E-132 FAN MOTOR (A)	5 hp, TEFC		252
40					
41	E-132-EM	E-132 FAN MOTOR (B)	5 hp, TEFC		252
42					
43	E-132-EM	E-132 FAN MOTOR (C)	5 hp, TEFC		252
44					
45	D-101	HOLDING TANK, Insulated, Jacketed	7'-6"ID x 18'-9" T-T		253
46					
47	P-103	HOLDING TANK FORWARDING PUMP, Gear, 25 rpm	10"Sq x 6"		253
48					
49	P-103-VS+EM	FORWARDING PUMP VARI DRIVE(Sterling) w/MOTOR	3 hp, 1800 rpm		253
50					
51	P-133+MS	HOLDING TANK H.O. CIRC PUMP, Dean Bros,R-434	2"x3"x8½"-150gpm@60 ft.hd.		253
52					
53	P-131+EM	D-101 H.O. CIRC PUMP MOTOR	5 hp, 1750 rpm		253
54					
55	D-102	DEVOLATILIZER, Insulated, Jacketed	4'ID x 7'-0" T-T		253
56					
57	P-104	DEVOL FORWARDING PUMP	10"Sq x 6"		253
58					
59	P-104-VS+EM	DEVOL FORWARDING PUMP GEAR DRIVE w/MOTOR	7.5 hp		253
60					
61	X-120	SCREEN CHANGER w/DIE HEADS, Elect Panel & Hydraulics			254
62					
63	C-1508A	ELECTROSTATIC PRECIPITATOR, Tepco Model T2600	2600 cfm, 1 hp motor		254
64					
65	E-108	WATER BATH, A-LINE			254
66					
67	C-109+EM	WATER STRIPPER BLOWER, 3400 cfm, w/Motor	10 hp, 3400 rpm		254
68					
69	G-110+EM	PELLETIZER, 48 knife Helical	15 hp w/Vari-Drive		254
	S-105+EM	VIBRATING SCREEN, 42"W x 30"L w/26"L, Witte Model 242-D	1.5 Vibrator Motor		254
72					
73	F-111+EM	WAX FEEDER, w/Auger Feeder	1/20 hp Vari-Drive		254
74					
75	A-116+EM	TUMBLER, BARREL, SS, w/Belt Drive Motor	33"D x 36"L, 3/4 hp	O /63	254

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XI.2

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

EQUIPMENT NO SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
S-101+EM	LINE HOPPER w/Magnet Grate			254
F-101+EM	S-101 PRODUCT FORWARDING VALVE w/Motor	1/2 hp, 29 rpm		
C-116+EM	TRANSFER BLOWER for S-101, 200 cfm	2 hp		254
B-118	BAGGER BIN, 6000 # Working Capacity			254
M-119+EM	BAGGER, 12,000 lbs/hr, w/AUGER MOTOR	2 hp, 1800 rpm		254
M-119+EM	BAGGER SETTLER w/Motor	1/2 hp		254
M-121	PORTABLE PLATFORM SCALES			
F-1404	BAGGER BIN, B-118, ROTARY VALVE w/Motor			
C-1414+EM	BAGGER BIN TRANSFER BLOWER w/Motor			
E-121	DEVOLATILIZER CONDENSER, Shell & Tube	172 ft^2, 31,500 Btu/hr		254
D-121	DEVOLATILIZER CONDENSATE RECEIVER	36"D x 6'-6" T-T		254
P-1321+EM	DEVOL COND PUMP, Viking Gear, 1" x 1"	1 hp, 1710 rpm		254
P-124+EM	DEVOL VACUUM PUMP w/Motor, Leybold, SV180, 2"-180 cfm	7.5 hp		254
	SECTION 300 " C " LINE			
R-301	REACTOR, Insulated, H.O. Internals	6'-1½"IDx25'-2¾" T-T		258
TR-306	R-301 TEMP. RECORDER	Foxboro 124-RE	11/91	-
TIC-306	R-301 TEMP. CONTROLLER	Fisher Provox CD6201	11/91	-
P-301+GD	R-301 FORWARDING PUMP w/25 rpm Gear Drive	10"Sq x 6"		258
P-301-EM	R-301 FORWARDING PUMP MOTOR	7.5 hp, 1760 rpm		258
P-331+MS	R-301 HOT OIL CIRC PUMP, Ingersol-Rand	6"x8"x12½"-1600gpm@80ft.hd.		258
P-331-EM	R-301 H.O. CIRC PUMP MOTOR	50 hp, 1800 rpm		258
E-331	R-301 OIL COOLER, Fin Fan	7,700 ft^2, 875 M Btu/hr		258
E-331-EM	E-331 FAN MOTOR (1)	5 hp, TEFC		258
E-331-EM	E-331 FAN MOTOR (2)	5 hp, TEFC		258
E-331-EM	E-331 FAN MOTOR (3)	5 hp, TEFC		258
D-301	HOLDING TANK, Insulated, Jacketed	7'-6"ID x 18'-9" T-T		259
P-303+VS	D-301 FORWARDING PUMP w/Sterling VARI-DRIVE	10"Sq x 6"		259
P-303-EM	FORWARDING PUMP MOTOR	3 hp, 1800 rpm		259
P-333+MS	HOLDING TANK H.O. CIRC PUMP, Dean Bros,R-434	2"x3"x8½"-150gpm@60 ft.hd.		259
P-333-EM	D-301 H.O. CIRC PUMP MOTOR	5 hp, 1750 rpm		259
D-302	DEVOLATILIZER, Insulated, Jacketed	4'ID x 7'-0" T-T		259
P-304+VS	DEVOL FORWARDING PUMP w/Sterling VARI-DRIVE	10"Sq x 6"		259
P-304-EM	DEVOL FORWARDING PUMP MOTOR	7.5 hp		259
X-320	SCREEN CHANGER w/DIE HEADS, Elect Panel & Hydraulics			259
M-301	STRAND DIE HEAD	61 HOLES		
C-1508B	ELECTROSTATIC PRECIPITATOR, Tepco Model T2600	2600 cfm, 1 hp motor		
E-308	WATER BATH, C-LINE	20'Lx3'Wx9"D		259
C-309+EM	WATER STRIPPER BLOWER, 3400 cfm, w/Motor	10 hp, 3400 rpm		259

KAZ

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

	EQUIPMENT NO	SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
1	G-310-VS+EM		PELLETIZER, Cumberland 8" w/Motor w/VARI-DRIVE	10 hp w/Vari-Drive		253
-	S-305+EM		VIBRATING SCREEN, 42"W x 30"L w/26"L, Witte Model 242-D	1 hp Vibrator Motor		253
4						
5	F-311+EM		WAX FEEDER, w/Auger Feeder	1/12 hp Vari-Drive		
6						
7	S-301		LINE HOPPER w/Magnet Grate	1/2 hp, 29 rpm		
8						
9	C-316+EM		TRANSFER BLOWER for S-101, 200 cfm	2 hp, 3500 rpm		
10						
11	B-318		BAGGER BIN, 5000 # Working Capacity			
12						
13	M-319+EM		BAGGER, STOKER w/AUGER MOTOR	3 hp, 1750 rpm		
14						
15	M-318+EM		BAGGER SETTLER w/Motor	1/2 hp		
16						
17	M-321		PORTABLE PLATFORM SCALES			
18						
19	F-1415+EM		ROTARY VALVE, B-318, w/Motor	1/2 hp		
20						
21	C-1416+EM		BAGGER BIN TRANSFER BLOWER w/Motor			
22						
23	E-321		DEVOLATILIZER CONDENSER, Shell & Tube	172 ft^2, 31,500 Btu/hr		254
24						
25	D-321		DEVOLATILIZER CONDENSATE RECEIVER	36"D x 6'-6" T-T		254
26						
27	P-1322+EM		DEVOL COND PUMP, Viking Gear, 1" x 1"	1 hp, 1710 rpm		254
28						
29	P-324+EM		DEVOL VACUUM PUMP w/Motor, Leybold, SV180, 2"-180 cfm	7.5 hp		
30						
31			**Section 1100 and 1300 Equipment Serving "A" and "C" Lines:**			
32						
33	D-1310		REACTOR OVERFILL RECEIVER POT	24"D x 4'H		252
34						
35	P-1301		D-1310 PUMP, Viking Gear	1" x 1"		252
-	P-1301-EM		P-1301 PUMP MOTOR, Viking Gear,	1/2 hp		252
38						
39	M-1301		D-1310 LOAD CELLS, Sensortronics, Model 65016	3000 # Capacity(Max)	12/90	252
40						
41	D-1101		HOT OIL EXPANSION TANK, A, C-LINE	4'D x 8' T-T		268
42						
43	P-1101+EM		HOT OIL CIRC PUMP w/Motor	3"x4"x10",20 hp@3530 rpm		
44						
45	P-1102+EM		HOT OIL CIRC PUMP w/Motor	3"x4"x10",20 hp@3530 rpm		
46						
47	H-1101		HOT OIL HEATER, Parker Boiler, NG	5,000 M Btu/Hr, 688 ft_2		268
48						
49	H-1102		HOT OIL HEATER, Parker Boiler, NG	5,000 M Btu/Hr, 688 ft_2		268
50						
51	E-1201+EM		CHILLER, Schreiber w/2-¾hp Fans,2-5hp Comp,2-5hp Pumps	10 TON		273
52						
53						
54			**SECTION 400 " D " LINE**			
55						
56	R-401		REACTOR, Insulated, H.O. Internals	6'-1½"IDx25'-2¾ T-T		262
57						
58	TR-406		R-401 TEMP. RECORDER	Foxboro 124-RE	11/91	-
59						
60	TIC-406		R-401 TEMP. CONTROLLER	Fisher Provox CD6201	11/91	-
61						
62	P-401+GD		R-401 FORWARDING PUMP w/Gear Drive	10"Sq x 6"		262
63						
64	P-401-EM		R-401 FORWARDING PUMP MOTOR	7.5 hp, 1760 rpm		262
65						
66	P-431+MS		R-401 HOT OIL CIRCULATING PUMP, Dean Bros,R-454	6"x8"x12½"-1600gpm@60ft.hd.		262
67						
68	P-431-EM		R-401 H.O. CIRC PUMP MOTOR	50 hp, 1770 rpm		262
69						
	E-431		R-401 OIL COOLER, Fin Fan	8,437 ft^2, 875 M Btu/hr		262
72	E-431-EM		E-431 FAN MOTOR	5 hp, TEFC		262
73						
74	R-402		REACTOR, Insulated, H.O. Internals	6'-1½"IDx25'-2¾" T-T		262
75						

KAZ

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

	EQUIPMENT NO SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
	TR-419	R-402 TEMP. RECORDER	Foxboro 124-RE	11/91	-
	TIC-419	R-402 TEMP. CONTROLLER	Fisher Provox CD6201	11/91	-
4					
5	P-402+GD	R-402 FORWARDING PUMP w/25 rpm Gear Drive	10"Sq x 6"		262
6					
7	P-402+EM	R-402 FORWARDING PUMP MOTOR	7.5 hp, 1760 rpm		262
8					
9	P-432+MS	R-402 HOT OIL CIRCULATING PUMP, Dean Bros,R-454	6"x8"x12½"-1600gpm@60ft.hd.		262
10					
11	P-432-EM	R-402 H.O. CIRC PUMP MOTOR	50 hp, 1770 rpm		262
12					
13	E-432	R-402 OIL COOLER, Fin Fan	8,437 ft^2, 875 M Btu/hr		262
14					
15	E-432-EM	E-432 FAN MOTOR	5 hp, TEFC		262
16					
17	D-1312	R-401 & R-402 OVERFLOW DRUM			
18					
19	P-1303	D-1312 PUMP			
20					
21	M-1306	D-1312 LOAD CELLS, Sensortronics, Model 65016	3000 # Capacity(Max)	12/90	-
22					
23	D-401	HOLDING TANK, Insulated, Jacketed	7'-6"ID x 18'-9" T-T		263
24					
25	P-403+VS	D-401 FORWARDING PUMP w/25 rpm VARI-DRIVE	10"Sq x 6"		263
26					
27	P-403+EM	FORWARDING PUMP MOTOR	3 hp, 1800 rpm		263
28					
29	P-433+MS	HOLDING TANK H.O. CIRC PUMP, Dean Bros,R-434	2"x3"x8½"-150gpm@60 ft.hd.		263
30					
31	P-433+EM	P-433 H.O. CIRC PUMP MOTOR	5 hp, 1750 rpm		263
32					
33	D-402	DEVOLATILIZER, Insulated, Jacketed	4'ID x 7'-0" T-T		263
34					
35	P-404+VS	DEVOL FORWARDING PUMP w/VARI-DRIVE	10"Sq x 6"		263
	P-404+EM	DEVOL FORWARDING PUMP MOTOR	7.5 hp		263
38					
39	X-420	SCREEN CHANGER w/DIE HEADS, Elect Panel & Hydraulics			263
40					
41	M-401	STRAND DIE HEAD			263
42					
43	C-1508C	ELECTROSTATIC PRECIPITATOR, Tepco Model T2600	2600 cfm, 1 hp motor		263
44					
45	E-408	WATER BATH			263
46					
47	C-409+EM	WATER STRIPPER BLOWER, 3400 cfm, w/Motor	10 hp, 3400 rpm		254
48					
49	G-410-VS+EM	PELLETIZER, Cumberland 8"	15 hp w/Vari-Drive		254
50					
51	S-405+EM	VIBRATING SCREEN, 42"W x 30"L w/26"L, Witte Model 242-D	1.5 Vibrator Motor		254
52					
53	F-411+EM	WAX FEEDER, w/Auger Feeder	1/20 hp Vari-Drive		254
54					
55	A-416+EM	TUMBLER, BARREL, SS, w/Belt Drive Motor	33"D x 36"L, 3/4 hp	XX/63	254
56					
57	S-401+EM	LINE HOPPER w/Magnet Grate			254
58					
59	F-1406+EM	PRODUCT FORWARDING VALVE w/Motor	1/2 hp, 29 rpm		
60					
61	C-416+EM	TRANSFER BLOWER for S-101, 200 cfm	2 hp		254
62					
63	B-418	BAGGER BIN, 6000 # Working Capacity			254
64					
65	M-419+EM	BAGGER, 12,000 lbs/hr, w/AUGER MOTOR	2 hp, 1800 rpm		254
66					
67	M-418+EM	BAGGER SETTLER w/Motor	1/2 hp		254
68					
70	M-421	PORTABLE PLATFORM SCALES			
	F-1416+EM	BAGGER BIN, B-118, ROTARY VALVE w/Motor			
72					
73	C-1417+EM	BAGGER BIN TRANSFER BLOWER w/Motor			
74					
75	E-421	DEVOLATILIZER CONDENSER, Shell & Tube	172 ft^2, 31,500 Btu/hr		254

KAZ

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

EQUIPMENT NO SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
D-421	DEVOLATILIZER CONDENSATE RECEIVER	36"D x 8'-0" T-T		254
P-1323+EM	DEVOL COND PUMP, Viking Gear, 1" x 1"	1 hp, 1710 rpm		254
E-1202+EM	CHILLER w/10 hpCOMP,2hp FAN,3 hp PUMP	10 TON		273
P-424+EM	DEVOL VACUUM PUMP w/Motor, Leybold, SV180, 2"-180 cfm	7.5 hp		264
H-1103	HOT OIL HEATER, Parker Boiler	4,980 M Btu/Hr, 688 ft^2		269
D-1102	HOT OIL EXPANSION TANK, D-LINE	4'D x 12' T-T		269
P-1103	H.O. CIRC PUMP, Dean Bros, R434	3"x4"x8½",350 gpm,140 ft,hd		269
P-1103-EM	H.O. CIRC PUMP MOTOR	25 hp, 3530 rpm		269
S-1100	CIRC H.O. FILTER, Cartridge Type			269
	Equipment Within Process Area Utilized by "A","C", & "D" Lines			
D-1103	HOT OIL MAKE-UP & OVER-FILL TANK w/Heat Coils	6'D x 7' T-T		269
P-1108+EM	H.O. TRANSFER PUMP, Cent w/1/2 hp Motor	1½"x1"		269
D-1104	MAKE-UP OIL DRUM	30 gal		269
P-1105+EM	H.O. TO D-1103, Viking Gear w/Motor	1/2 hp		269
D-1602	REACTOR RUPTURE DISK BLOWDOWN TANK	6'D x 10'H		262
	Styrene Receiving, Transfer and Storage Area:			
T-1308	STYRENE STORAGE TANK, 30,000 gal	15'D x 24'H		275
A-1304+MS+EM	T-1308 MIXER, Lightning	7½ hp,280 rpm,21.7"Prop		275
P-1311+MS	STYRENE PUMP, Cent, 100gpm@200ft.hd	2"x1½"x7 5/16"		275
P-1311-EM	P-1311 ELECTRIC MOTOR	10 hp		
FE-1300	FLOW METER, XOTechnology,S/N201945	2", Model:RT100-1-1	01/91	275
T-1309	STYRENE STORAGE TANK, 50,000 gal	20'D x 21'H		275
A-1309+MS+EM	T-1309 MIXER, Lightning	7½ hp,280 rpm,21.7"Prop		275
P-1312	STYRENE PUMP, Cent, 100gpm@200ft.hd	2"x1½"x7 5/16"		275
P-1312-EM	P-1311 ELECTRIC MOTOR	10 hp		
FE-1301	FLOW METER, XOTechnology,S/N201943	2", Model:RT100-1-1	01/91	275
S-1305	MAGNET FILTER (for Railroad Car Unloading)	10'D w/3"in/out		275
S-1307	MAGNET FILTER (for Railroad Car Unloading)	10'D w/3"in/out		275
S-1308	MAGNET FILTER (for Railroad Car Unloading)	10'D w/3"in/out		275
T-1315	ZINC MIXING TANK, Cone Bottom	6'-6"D x 5'H		275
A-1315+EM	MIXER, Vertical w/Shaft and 10" Prop	2 hp		275
Leased	PROPANE SPHERE (Petrolane), 250 gal	4'D		
	North Tank Farm: Feed Preparation Area:			
T-1301	FEED PREP TANK,	10'D x 18'H		276
A-1307+MS+EM	TANK MIXER, Lightning	15.1"Prop, 3 hp	N 12/90	276
T-1302	FEED PREP TANK,	10'D x 18'H		276

KAZ

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

EQUIPMENT NO SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
A-1306+MS+EM	TANK MIXER, Lightning	15.1"Prop, 7½ hp		276
T-1303	FEED PREP TANK,	10'D x 18'H		276
A-1308+MS+EM	TANK MIXER, Lightning	15.1"Prop, 3 hp	N 12/90	276
T-1304	FEED PREP TANK,	10'D x 18'H		276
A-1305+MS+EM	TANK MIXER, Lightning	15.1"Prop, 7½ hp		276
T-1305	MINERAL OIL TANK	10'D x 18'H		276
P-1306	MINERAL OIL PUMP, Viking Gear	3" x 3", 5 hp	I 12/90	276
T-1306	FEED PREP TANK,	10'D x 24'H		276
A-1302+MS+EM	TANK MIXER, Lightning	15.1"Prop, 3 hp	N 12/90	276
T-1307	FEED PREP TANK,	10'D x 24'H		276
A-1303+MS+EM	TANK MIXER, Lightning	15.1"Prop, 3 hp	N 12/90	276
P-1304+MS	FEED TRANSFER PUMP Cent.			276
P-1304-EM	P-1311 ELECTRIC MOTOR	10 hp		276
FI-1304	FLOW METER, XOTechnology,S/N202477	2", Model:RT100-1-1	N 01/91	275
FI-1305	Remote Read Out at A & C Line		N 01/91	258
FI-1305	Remote Read Out at D Line		N 01/91	262
P-1308+MS B	FEED TRANSFER PUMP Cent.		B 12/90	276
P-1308-EM	P-1311 ELECTRIC MOTOR	7½ hp		276
T-1314	CONDENSATE STORAGE TANK	9'0"D x 15'H		276
FE-1201	VAPORS TO CONDENSER: EG&G FlowTechnology,S/N3201855	Model:FT-32NENA-GEA-3	N 01/91	278
E-1305	CONDENSATE VAPOR CONDENSER, S&T, Holland			278
E-1203+EM	CHILLER, Schreiber,S/N 1242,3hp Comp,1hp Pump,¾hp Fan	3 TON, Model 300AC		278
E-1204+EM	CHILLER, Schreiber,S/N 933,1hp Comp,1hp Pump,.2hp Fan	1 TON, Model 100AC		278
FE-1200	CHILLER COOLANT FLOW, Signet Scientific	1-½"	N 01/91	278
D-1305	CONDENSATE RECEIVER	18"D x 6'L T-T		278
P-1305+EM	CONDENSATE PUMP, Viking Gear	1/2" x 1/2"		287
	Product Handling Systems:			
B-1402	HOLDING BIN # 1	50,000 #,8'-6"OD x 24'+CONE	O 7/69	282
F-1401+EM	B-1402 ROTARY VALVE	Semco,OBRV-12, w/1 hp Motor	O 7/71	282
B-1403	HOLDING BIN # 2	50,000 #,8'-6"OD x 24'+CONE	O 7/71	282
F-1402+EM	B-1403 ROTARY VALVE	Semco,OBRV-12, w/1 hp Motor	O 7/71	282
C-1401+EM	HOLDING BIN BLOWER	Schwitzer,4½"x4", 15 hp	O 7/71	282
B-1404	BLENDING BIN	50,000 #,8'-6"OD x 24'+CONE	O 7/71	282
F-1403+GR+EM	B-1404 ROTARY VALVE	Semco,OBRV-12w/GR-AJ4B,1½hp	O 7/71	282
B-1405	BAGGING BIN	50,000 #, 8'-6"OD x 24'+CONE	O 7/71	282
M-1402+EM	BAGGER	MHE Air Packer W/ Blower	O 2/92	282
C-1402+EM	BAGGER/BLENDER BLOWER	Duraflow-4509V8, 30 hp	O 7/71	282
E-1404	AIR COOLER, X-Changer Inc, AL, 1/3 hp FAN		N 4/91	282

K97

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

	EQUIPMENT NO	SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
1	T-1401		SILO NO. 1, 118,000 #	12'-4"OD x 24'+ CONE	O 5/69	283
4	F-1413+EM		SILO # 1 ROTARY VALVE, Shick, T42G-1 w/GR	3/4 hp Motor	O 5/69	283
5	C-1403+EM		T-1401 BLOWER,Sutorbilt,4"x4"-7HB(Below Silo # 1)	25 hp	O 8/71	283
6						
7	T-1402		SILO NO. 2, 300,000 #	15'OD x 53'-0"H +45°CONE	O 12/70	284
8						
9	F-1417+EM		T-1402 ROTARY VALVE, Model 685F	21 rpm, 3/4 hp	O 12/70	284
10						
11	T-1403		SILO NO. 3, 300,000 #	15'OD x 53'-0"H +45°CONE	O 12/70	284
12						
13	F-1418+EM		T-1403 ROTARY VALVE, Model 685F	21 rpm, 3/4 hp	O 12/70	284
14						
15	C-1418+EM		SILOS 2 & 3 BLOWER(Below #3),Sutorbilt,6M-F	25 hp	O 12/70	284
16						
17	T-1404		SILO NO. 4, 300,000 #	15'OD x 53'-0"H +45°CONE	O 7/71	284
18						
19	F-1419+EM		T-1404 ROTARY VALVE, Model 685F	21 rpm, 3/4 hp	O 12/70	284
20						
21	T-1405		SILO NO. 5, 300,000 #	15'OD x 53'-0"H +45°CONE	O 7/71	284
22						
23	F-1420+EM		T-1405 ROTARY VALVE, Model 685F	21 rpm, 3/4 hp	O 12/70	284
24						
25	C-1419		SILOS 4 & 5 BLOWER(Below #4)	Sutorbilt,6M-B	O 12/70	284
26						
27	C-1419-EM		C-1419 BLOWER MOTOR	25 hp	O 7/71	284
28						
29	T-1406		SILO NO. 6, 300,000 #	15'OD x 53'-0"H +45°CONE	O 5/78	285
30						
31	F-1421+EM		T-1406 ROTARY VALVE, Semco, 1 hp			
32						
33	T-1407		SILO NO. 7	12' OD x 35'H + CONE		285
34						
35	F-1422		T-1407 ROTARY VALVE	3/4 HP		
38	T-1408		SILO NO. 8	12' OD x 35'H +CONE		285
39	F-1423		T-1408 ROTARY VALVE	3/4 HP		
40						
41	C-1412		BLOWER FOR SILOS 6,7 & 8(Below Silo # 8)	40 hp		
42						
43	S-1401		DUST COLLECTOR, Semco, Pneumatic	3'OD x 4'H+CONE	O 11/72	282
44						
45						
46			**General Plant Utilities:**			
47						
48	C-1502+EM		AIR COMPRESSOR	25 HP	O 7/76	
49						
50	C-1505+EM		AIR COMPRESSOR	25 HP	O 11/76	
51						
52	D-1502		AIR DRYER	??? hp	O 8/79	
53						
54	D-1410		VACUUM SYSTEM DUST DRUM			
55						
56	C-1503+EM		VACUUM SYSTEM	10 hp BLOWER	O 10/72	
57						
58	D-1504		WATER SOFTENER			
59						
60	E-1501		R5D70 WATER COOLING TOWER			
61						
62	E-1502		YORK EVAP COOLING TOWER W/7.7 HP MOTOR			
63						
64	E-1503		YORK CHILLER			
65						
66	E-1504		WATER HEATER FOR STRAND BATHS	STATE 120 GAL	7/92	294
67						
68	G-1501		EMERGENCY GENERATOR w/Diesel Engine		O 3/74	
69			ELECTRICAL TRANSFER SWITCH		O 3/74	
	P-1501		YORK CHILLER CIRC PUMP			
72						
73	P-1502		PROCESS COOLING WATER PUMP			
74						
75	P-1503		CONSOLATED SUMP PUMP			

KAZ

AMOCO CHEMICAL COMPANY - TORRANCE PLANT - EQUIPMENT LIST

	EQUIPMENT NO	SUF	DESCRIPTION OF EQUIPMENT	SIZE	DATE ACQD	A-TO-DWG
1	P-1505	B	COOLING WATER PUMP			
4	S-1502		SAND FILTER, 1 HP			
5	P-1507		SUMP PUMP, SAND FILTER			
6						
7	S-1506		SAND FILTER, 3/4 HP			
8						
9	P-1508		SUMP PUMP, SAND FILTER			
10						
11						

KAZ

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA ACQU	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		SPARE EQUIPMENT TO MAINTAIN PLANT OPERATIONS						
PELLETIZERS								
		14", w/15 hp Vari-Drive	O 7/80	197 9990	G-310 PELLETIZER VARI-DRIVE, C LINE		52436911	1,958.89
		8" Cumberland, Straight Knives w/10 hp Vari-Drive	X 5/72	410 4460	PELLETIZER, C LINE		51921400	9,702.71
		8" Cumberland, Straight Knives w/10 hp Vari-Drive	X 7/69	410 4460	PELLETIZER, D LINE		52355177	10,440.50
		PELLETIZER FEED ROLL FRAME	X 12/75	410 4460	G-410 FEED ROLL FRAME		52436917	1,746.04
		15 hp MOTOR, U.S. w/ Vari-Drive						
		VARI-DRIVE, w/10 hp MOTOR, U.S., OLD C-LINE PELETIZER						
		MISC. PULL ROLLS			VARIOUS SIZES			
PUMPS, LIQUID								
		R-434, 2"x3"x8½, 150 gpm w/ Mechanical Seal	X 4/72	189 9000	H.O. PUMP		52265574	1,317.71
		IR w/MS for BR3 w/ Mechanical Seal	X 3/66	189 9000	P-104		51946978	3,000.00
		H.O. PUMP,Dean Bros,R-454, 6"x8"x12½",MS(91) w/ Seal	X 7/69	189 9000	R-402 H.O. PUMP		51921213	5,172.13
		CIRC WATER PUMP w/2 hp MOTOR	O 11/78	189 9000	E-1502 CIRC WATER PUMP		52600457	1,269.78
		SUMP PUMP FOR SAND FILTER	O 1/82	189 9000	P-1507, SUMP PUMP		53011414	148.24
		PUMP, Viking Gear, 1" x 1", w/1/2 hp MOTOR	X 7/63	189 9000	D-1310 PUMP		51921204	152.45
		PUMP, Goulds, w/ 1 1/2 hp motor			Old Sand Filter Pump			
BLOWERS								
		DURAFLOW, Model 4504VT, Prod Trans to Silos						
		WATER BATH, for C-Line						
		TRANS BLOWER, Sutorbilt	X 12/88	188 1470	C-14?? BLOWER, ROOTS		55622388	2,713.62
		TRANS BLOWER, Sutorbilt	X 12/88	188 1500	C-14?? BLOWER, SCHWITZER, 4509VB		55622387	3,540.06
FILTERS								
		Whitaker, Model: RC1424-1A	N		S-1502 SAND FILTER			

XI.3

KAZ

AMOCO CHEMICAL COMPANY - TO ANCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA ACQ.	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
GEAR UNITS								
		FORWARDING PUMP VARI-DRIVE, w/7.5 hp MOTOR	X 7/69	197 9990	GEAR DRIVE		52355157	1,272.36
		FORWARDING PUMP VARI-DRIVE & GEARS, w/7.5 hp MOTOR	X 7/69	197 9990	FOR A OR D LINES		52355156	1,272.36
		FORWARDING PUMP VARI-DRIVE & GEARS, w/ 7.5 hp MOTOR		197 9990	FOR C LINE			
		HOLD TANK VARI-DRIVE & GEARS, w/ 7.5 hp MOTOR		197 9990	ALL HOLD TANKS			
		REACTOR FORWARDING DRIVE		197 9990	ALL REACTORS			
		DV VARIDRIVE & GEARS, w/ 7.5 hp MOTOR		197 9990	ALL DEVOLATILIZERS			
		FORWARDING PUMP GEAR BOX, w/GEARS						
		FORWARDING PUMP GEAR BOX, w/o GEARS OR END PLATE						
ROTARY VALVES								
F-1400-EM		ROTARY VALVE MOTOR	X 11/82	215 4180	ROTARY VALVE MOTOR		53086879	123.20
F-1417-EM		F-1417 ROTARY VALVE MOTOR	X 11/82	215 4180	ROTARY VALVE MOTOR, F-1417		53086878	123.20
F-1416B		ROTARY VALVE	X 4/83	410 6050	ROTARY VALVE		53141959	1,686.27
F-1416C		ROTARY VALVE	X 7/84	410 6050	ROTARY VALVE		53241671	1,836.80
		GEAR SPEED REDUCERS (3)			WINSMITH			
SCREENS								
		VIBRATOR FINES SCREEN, THREE (3)	X					
PUMP, VACUUM								
		Leybold	N 10/90	189 5550	VACUUM PUMP, Leybold(J901102012)		55879134	5,256.50
MOTORS								
		50 hp, H.O. PUMP MOTOR	X 7/69	w/P-432	P-432 H.O. PUMP MOTOR			
		50 hp, H.O. PUMP MOTOR			BR 3 H.O. PUMP MOTOR			
		3/4 hp, C-LINE VIBRATING SCREEN MOTOR	X 10/77	w/S-305	SCREEN VIBRATOR W/MOTOR			
		10 hp, A-LINE WATER BATH BLOWER						
		10 hp, A or C-LINE TRANSFER BLOWER (2)			ALLIS-CHALMERS			

K-72

AMOCO CHEMICAL COMPANY - TO ANCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DI ACCW	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		5 hp, FIN FAN MOTOR FOR A,C LINES (2)			ALLIS-CHALMERS			
		5 hp, FIN FAN MOTOR FOR D LINE			LEESON			
		7.5 hp, STYRENE PUMP MOTOR			ALL STYRENE PUMPS			
		3 hp, SPARE						
		1/3 hp, RECLAIM TANK						
		5 hp, C-LINE HOLD TANK			HOT OIL PUMP MOTOR			
		1/4 hp, SPARE						
		1/2 hp, ACE MOTOR (2)			1 WIRH PUMP			
		1/2 hp, SPARE			LEESON			
		3/4 hp, MOTOR w/ GOULDS PUMP						
VALVES								
		FOXBORO HOT OIL CONTROL VALVES, 1" (6)			HOLDING TANK, REACTORS			
		FISHER HOT OIL CONTROL VALVE, 1" (1)			HOLDING TANK, REACTORS			
		FOXBORO COLD OIL CONTOL VALVE, 3"			REACTORS			
		FISHER COLD OIL CONTROL VALVE, 3"			REACTORS			
		2" PLUG VALVES (2)			REACTOR OVERFLOW LINE			
		3" GATE VALVES, 150#			OIL SERVICE			
MISC								
		RELIEF VALVES, set 150#, FOR HEATERS (TWO)						
		PRESSURE REGULATOR, 5 PSI SET PRESSURE (2)			NITROGEN SERVICE			
		A-LINE SHAKER						

KAZ

AMOCO CHEMICAL COMPANY - TO. NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
INSTRUMENTS		TEMPERATURE RECORDERS (5)	X 12/91	400 0320	FOXBORO, STRIP CHART, #124-RE		-	-
		TEMPERATURE RECORDER (1)	X 12/91	400 0320	FOXBORO, STRIP CHART, #124-FE		-	-
		E/P TRANSDUCER (3)	X 12/91	400 0320	TRANSMATION, #412T-J		-	-
		E/P TRANSDUCER (4)	X 12/91	400 0320	TRANSMATION, #610T-31		-	-
		E/P TRANSDUCER (1)	X 12/91	400 0320	TRANSMATION, #712T		-	-
		INSTRUMENT SHELF (1)	X 12/91	400 0320	FOXBORO, #102-4W		-	-
		GRID CHASSIS BOARD CARD	X 12/91	400 0320	METRASCOPE, #70224-126		-	690.00
		MAGNETIC TUNER CARD SET	X 12/91	400 0320	FISHER TYPE CS7001		-	60.00
		POWER SUPPLY	X 12/91	400 0320	METRASCOPE # 735-100-502A		-	570.00
		MULTIPLEXER SCANNER CARD	X 12/91	400 0320	METRASCOPE # 70305-03-C		-	740.00
		MOTHERBOARD DISPLAY ASSEMBLY	X 12/91	400 0320	METRASCOPE # M/S 20D		-	960.00
		PROVOX POWER BOARD	X 12/91	400 0320	FISHER #CP-7202		-	350.00
		PROVOX COMPUTING CONTROLLER ASSEMBLY (3)	X 12/91	400 0320	FISHER #CL 7011X1-A2		-	510.00
		ALARM CARD	X 12/91	400 0320	METRASCOPE #70333-04C		-	690.00
		CLOCK AMPLIFIER BOARD (2)	X 12/91	400 0320	METRASCOPE #70229-86		-	725.00
		DIGITAL DISPLAY CARD	X 12/91	400 0320	METRASCOPE #70529		-	685.00
		PROVOX OPERATOR STATION (9)	X 12/91	400 0320	FISHER # CD 6201X1-A2-B19-C1-D1		-	485.00
		ASSEMBLY UNIT	X 12/91	400 0320	METRASCOPE MS-20D		-	2,464.00
		PROVOX BASE TUNER (2)	X 12/91	400 0320	FISHER # CS 6002		-	-
		TUNER POWER SUPPLY (2)	X 12/91	400 0320	FISHER # CS 6002		-	-
		PROVOX OPERATING STATION CABLE (100')	X 12/91	400 0320	FISHER # LC 27267		-	-
		PROVOX OPERATING STATION BOX (4)	X 12/91	400 0320	FISHER # CL 5201		-	-
		PROVOX CONFIGURING CONTROLLER MODULE	X 12/91	400 0320	FISHER # CL 7001X1-A5		-	-
		PROVOX COMPUTING CONTROLLER MEMORY BOARD	X 12/91	400 0320	FISHER # CL 7002X1-A1		-	-
		PROVOX COMPUTING CONTROLLER MEMORY BOARD	X 12/91	400 0320	FISHER # CL 7002X012-A2		-	-
		SERVICE TRANSFER UNIT CARD	X 12/91	400 0320	FISHER # CS 6201X1-A1		-	-

K-17

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA\ ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		LOOP POWERED ISOLATOR	X 12/91	400 0320	ANALOG DEVICES #2B24B		-	-
		DIGITAL DISPLAY CABINET (3)	X 12/91	400 0320	METRASCOPE MS-20D		-	-
		THERMOCOUPLE JUNCTION BOX (3)	X 12/91	400 0320	METRASCOPE #70337F		-	-

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EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA. ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		EQUIPMENT OUT OF SERVICE AND CONSIDERED SURPLUS						
surp E-1501		COOLING TOWER, 5RD70, RSD	O 5/69	410 3110	5RD70 COOLING TOWER		52116113	2,153.92
surp E-1501-EM		5R70D TOWER FAN MOTOR, 1-1/2 hp	O	w/E-1501	E-1501 FAN MOTOR		w/E-1501	
surp E-1501		R5D70 COOLING TOWER	O 6/88	410 9660	E-1510, R5D70 COOLING TOWER		55534022	3,417.88
surp F-1301		STYRENE METER	O 11/74	400 0320	F-1301 OLD		51990192	839.19
surp F-1302		STYRENE METER	O 11/74	400 0320	F-1302 OLD		51990193	587.26
surp F-1303		STYRENE METER	O 11/74	400 0320	F-1303 OLD		51990194	587.26
surp F-1304		STYRENE METER	O 11/74	400 0320	F-1304 OLD		52715082	1,147.50
surp M-992		MELT FLOW TESTER (OLD) ???	X 5/69	162 6190	FLOW MELT TESTER		52116090	1,102.77
surp M-993		MELT FLOW TESTER	O 9/85	162 6190	FLOW MELT TESTER		53380454	1,500.00
surp		MELT FLOW METER, Flowrator	O 9/87	162 2200	MELT FLOW METER		55383257	4,841.62
		EQUIPMENT SOLD						
sold C-1603		REGRIND BLOWER	X 7/63	188 1000	REGRIND BLOWER		51921183	386.40
sold F-1601		REGRIND ROTARY VALVE	X 7/71	215 4180	REGRIND ROTARY VALVE		52116112	1,213.67
sold G-1601		REGRINDER W/100 HP MOTOR	X 7/71	268 5010	REGRINDER W/MOTOR		52116119	15,094.56
sold S-1601		REGRIND HOPPER MAGNET GRATE	X 7/71	630 5030	REGRIND HOPPER MAGNETS		52116120	359.43
sold G-1601		REGRIND ELECT	X 7/71	176 9410	REGRIND ELECT		51921160	1,427.29
sold C-1508		SMOG HOG	O 3/82	261 4030	SMOG HOG		53023008	9,688.98
sold		PICKUP TRUCK, 1981 CHEV, #1GCCW80A78Z412711	X	906 4200	PICKUP TRUCK, 1981 CHEV		52964836	7,933.00
		EQUIPMENT SENT TO SOUTH CAROLINA						
		EMERGENCY AIR, Survivair	O 12/79	234 7300	EMERGENCY AIR PACK		52715081	1,327.00
		EMERGENCY AIR, Survivair	O 12/79	234 7300	EMERGENCY AIR PACK		w/ABOVE	
		EQUIPMENT SENT TO WILLOW						
VAC PUMP		VACUUM PUMP, Kinney	N 10/90	189 5550	VAC PUMP, Kinney (M63411/C60)		55879133	8,628.38

XI.4

KZ

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
		ASSETS DELETED DUE TO SEPT. 1990 FIRE						
f T-1302		T-1302 PIPING	O 1/72	400 0340	T-1302 PIPING		51921340	1,450.00
f T-1304		T-1304 PIPING	O 1/72	400 0340	T-1304 PIPING		51921339	1,450.00
f T-1308		T-1308 PIPING	X 2/91	400 0340	PIPING FOR T-1308		51921329	812.79
f --1300		COATING	O 8/82	400 0569	COATING		53056569	1,029.62
f T-1402		ELECT	O 12/70	176 9410	T-1402 ELECT		51921152	3,560.29
f T-1403		ELECT	O 12/70	176 9410	T-1403 ELECT		51921153	3,560.29
f T-1404		ELECT	O 12/70	176 9410	T-1404 ELECT		51921161	4,227.00
f T-1405		ELECT	O 12/70	176 9410	T-1405 ELECT		51921162	4,227.00
f T-1406		ELECT	O 5/78	176 9410	T-1406 ELECT		52556327	1,454.13
f 1400		ELECT	X 7/71	176 9410	1400 ELECT		51921154	578.76
f 1400		ELECT	X 7/71	176 9410	1400 ELECT		51921165	693.45
f 1400		ELECT	X 12/82	176 9410	1400 ELECT		53111589	427.37
f 1400		ELECT	X 8/71	176 9410	1400 ELECT		51921155	332.48
f 1400		INSTALL TUBING	O 8/71	215 4191	1400 INSTALL TUBING		51921264	2,438.00
f 1400		TUBING TO SILOS	O 7/71	400 0390	1400 TUBING TO SILOS		52265582	900.00
f 1400		MODIFY TO TUBING	X 7/80	400 0390	1400 TUBE MODIFY			968.00
f 1400		#3MIDIFY	O 10/81	400 0349	#3 MODIFY		52975380	968.00
f 1400		TRUCK RACK TUBING	X 10/72	266 2550	1400 TT RACK TUBE		51921293	907.62
f 1400		TT RACK MODIFY	X 9/81	266 2550	1400 TT RACK MODIFY		52964839	1,300.00
f 1400		TUBING	X 5/73	400 0349	1400 TUBING		51921341	5,483.16
f 1400		SILO INSTRUMENTS	O 2/77	400 0320	1400 INSTRUMENTS		52419271	3,604.20
f 1400		TUBING #7	O 10/82	400 0349	#7 TUBE		53076803	537.50
f 1400		TUBING #8	O 10/82	400 0349	#8 TUBE		53076804	537.50
f 1400		TUBING	O 10/79	400 0349	1400 TUBE		52682044	3,829.21
f D-1601		A & B BLOWDOWN	O 12/77	410 5500	A & B BLOWDOWN	-	52518191	4,050.57
f D-1602		D BLOWDOWN	O 12/77	410 5500	D BLOWDOWN	-	52518192	4,050.56

KAZ

EQUIPMENT NO. SUF	DESCRIPTION OF EQUIPMENT	DA ACQD	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
	ASSETS JUNKED SINCE LAST PROPERTY REPORT						
j C-1507	INSTALL & ELECT	X 12/74	261 3061	DEMIST INSTALL & ELECT		51946984	6,821.29
j 1400	1315 STEPS	O 12/74	410 6070	1315 STEPS		55199552	564.69
j 1400	TANK FARM STEPS	O 7/75	410 6500	TANK FARM STEPS		52436915	585.85
j ??	LAB FUME HOOD	X					
j T-1402	SILO # 2 MAT'L	X 12/70	176 9410	SILO 2 MATL		51921152	3,560.29
j T-1403	SILO # 3 MAT'L	X 12/70	176 9410	SILO 3 MATL		51921153	3,560.29
j T-1404	SILO # 4 MAT'L	X 7/71	176 9410	SILO 4 MATL		51921161	4,227.00
j T-1405	SILO # 5 MAT'L	X 7/71	176 9410	SILO 5 MATL		51921162	4,227.00
j P-124	P-124 VACUUM PUMP	O 8/80	189 9000	P-124 VAC PUMP		52824193	6,100.12
j P-123	VACUUM PUMP, P-123	O 7/71	189 9000	P-123 VAC PUMP		52265575	2,530.00
j P-324	VACUUM PUMP, P-324	O 1/80	189 9001	P-324 VAC PUMP		52715080	3,018.46
j EM-324	VAC PUMP MOTOR	O 1/72	189 9559	P-324 MOTOR		51921244	168.00
j P-323	P-323 VACUUM PUMP	O 12/70	189 9000	P-323 VAC PUMP		52715079	2,217.70
j P-423	P-423 VACUUM PUMP	O 7/69	189 9000	P-423 VAC PUMP		52355151	2,182.95
j P-424	P-424 VACUUM PUMP	O 7/69	189 9000	P-424 VAC PUMP		52355152	2,182.95
j P-231	P-231? PUMP	X 7/63	189 9000	P-231?		51921210	3,000.00
j P-131	P-131 PUMP	X 7/63	189 9000	P-131		51921205	3,506.41
j P-1503	SUMP, CONSOLIDATED, 7.5	X 12/74	189 9000	SUMP PUMP, CONSOLIDATED		52116150	476.20
j G-1601	REGRIND INSTALL	X 7/71	410 4481	REGRIND INSTALL		51921402	7,054.70
j 5800	MOTOR CONTROL PANEL (PLANT)	X 7/71	400 0320	MCC (PLANT)		51921312	2,365.10
j 5800	MOTOR CONTROL PANEL, ELECTRICAL	X 7/71	176 9410	MCC ELECTRIC		51921156	3,725.05
j 5800	MOTOR CONTROL PANEL, ENCLOSURE	X 8/71	798 2025	MCC ENCLOSURE		51921475	846.27
j 5800	MOTOR CONTROL PANEL, MODIFY	X 9/71	400 0320	MCC MODIFY		52964840	2,002.76
j -1300	PIPING FOR 1300 SECTION	X 11/74	400 0340	PIPING		51990197	2,002.70
j	E-1501 ADD	O 9/88	410 9660	E-1501 ADD		55581507	654.28
j M-219S	B-LINE BAGGER w/MOTOR	O 7/63	700 0630	M-219		52265588	2,057.07

KAZ

AMOCO CHEMICAL COMPANY - TO[illegible]NCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	DA ACQU	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
j D-1503		DEMIST DRUM	X 4/82	261 4030	DEMIST DRUM		53029670	
j D-1503		SMOG FILTER WASH TANK	X 2/82				53029670	350.00
j C-1504B		BUFFALO EXHAUSTER W/MOTOR	O 12/74	188 1110	BUFFALO UNIT		52116151	1,049.00
j S-1504		PRE-FILTER	O 7/71	410 4110	S-1504 PRE-FILTER		51921384	230.14
j S-1505		AFTER-FILTER	O 7/71	410 4140	S-1505 AFTER-FILTER		51921385	151.74
j C-1507		BRINKS DEMISTER(SPARE)	O 12/74	261 3060	BRINKS DEMIST(SPARE)		51946983	8,827.33
j C-1507		BRINKS DEMISTER(SPARE)	O 10/78	261 3069	BRINKS DEMIST(SPARE)		52592396	7,133.40
j		G-410 SOUNDPROOFING	O 12/75	410 4469	PELLETIZED SOUND BUF		52436916	7,678.78
j --5200		SOUNDPROOFING WATER STRIPPERS (3)	O 5/73	410 4190	WATER STRIPPER SOUNDPROOFING		51921386	966.67
j-1400		TRUCK RACKOO	O 11/74	266 2550	T-4 TRUCK RACK		52265591	2,429.25
j-1400		AIR ELIMINATORS	O 7/75	400 0329	TANK AIR ELIMINATORS		52436930	1,070.25
j P-1507		LITTLE GIANT SUMP PUMP, 1/3 HP	X 10/85					188.55
j C-1315		CONVEYOR ??? PART OF ZINC SYS	X					
j E-1201 -C		CHILLER,Schreiber, 10 TON	X 7/69	410 4200	A & C LINE CHILLER W/MOTORS		52355174	2,412.XX
j		TELEPHONE, Comdial	O 9/88	266 8900	TELEPHONE, Comdial		55581511	4,007.18
j -1100		COOLING WATER LINES TO PUMPS	O 11/74	408 0900	COOLING WATER TO PUMPS 51990198		52622643	975.10
j		WATER STRIPPER W/MOTOR						
jTO-181		AIR CONDITIONER, YORK, WALL UNIT, #LEH 100 6 B	X 7/68	864 4926	PLANT # LEH 100 6 B		51921094	159.97
jTO-180		AIR CONDITIONER & HEATER COMBINATION	X 6/70	864 4997	PLANT A/C UNIT		51921096	800.00
jTO-215		AIR CONDITIONER, KENMORE	O	864 ??	A/C UNIT, KENMORE			
jTO-216		AIR CONDITIONER, KENMORE	O	864 ??	A/C UNIT, KENMORE			
jTO-107		CHAIR, STEEL CASE SWIVEL # 5501	X 5/72	851 1300	OFFICE CHAIR		51921064	334.00
jTO-113		CHAIR, STRAIGHT BACK ARMLESS TAN	X 7/63	851 1300	OFFICE CHAIR		51921052	29.06
jTO-114		CHAIR, STONE TAN	X 7/63	851 1300	OFFICE CHAIR		51921053	42.75
jTO-152		CHAIR, SWIVEL ARM BLACK	X 5/69	851 1300	OFFICE CHAIR		51921061	58.50
jTO-153		CHAIR, SWIVEL ARM BLACK	X 5/69	851 1300	OFFICE CHAIR		51921062	58.50
jTO-167		CHAIR, HI-BACK SWIVEL ROCKER BLACK	X 5/69	851 1300	PLANT CHAIR		52061554	105.00

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AMOCO CHEMICAL COMPANY - TO ANCE POLYSTYRENE BATCH PLANT

EQUIPMENT NO.	SUF	DESCRIPTION OF EQUIPMENT	D/ ACQ	ASSET LEDGER INFORMATION P C D	SPECIFICATIONS	DWG	ASSET NO	COST
jTO-221		CHAIR, SWIVEL ARM BLUE	X 5/64	851 1300	PLANT OFFICE CHAIR		51921058	39.95
jTO-204		CHAIR, STRAIGHT BACK ARMLESS TAN	X 7/63	851 1300	MAINT OFFICE CHAIR		51921056	29.06
jTO-100		DESK, REGULAR STEEL TAN	X 7/63	851 1800	OFFICE DESK		51921069	151.00
jTO-101		DESK, REGULAR STEEL TAN	X 7/63	851 1800	OFFICE DESK		51921070	151.00
jTO-102		DESK, SECTERTIAL W/RETURN	X 5/72	851 1800	OFFICE DESK		51921078	307.90
jTO-165		DESK, REGULAR STEEL	X 5/63	851 1800	LAB DESK		51921073	84.70
jTO-146		HOLDER, DESK TOP BOOK, TAN	O	851 ????				
jTO-186		TABLE & 4 FOLDING METAL CHAIRS	X 4/72	851 3500	PLANT	-	51921092	57.75
jTO-160		CLOCK, WALL	X 11/69	851 3100	OFFICE		51921106	19.98
jTO-217		CLOCK, WALL, G.E. 6"	X 12/67	851 3100	PLANT, 6" G.E.		51921105	19.95
jTO-543		CLOCK, WALL, SUNBEAM, 8"	X	851 ??	CLOCK, 8" SUNBEAM			
jTO-544		CLOCK, WALL, G.E. 8"	X	851 ??	CLOCK, 8" G.E.			
jTO-545		CLOCK, WALL, G.E. 12"	X	851 ??	CLOCK, 12" G.E.			
jTO-131		CALCULATOR, HERMES, SN # D109791	X 5/72	881 2048	CALCULATOR, HERMES, #D109791		51921101	517.50
jTO-132		CALCULATOR, HERMES, SN # C990707	X 8/80	881 2048	CALCULATOR, HERMES, #C990707		51921100	577.75
jTO-175		CALCULATOR, HERMES, SN # B874398	X 5/69	881 2048	CALCULATOR, HERMES, #B874398		51921099	581.00
jTO-223		MULTIPLIER, VICTOR, MODEL 72-85-54, SN # 4656588	X 12/74	881 2140	VICTOR MULTIPLIER, SN # 4656588		51946975	185.00
jTO-225		CALCULATOR, MONROE, MODEL 1430, SN # E249311	X 12/76	881 2075	CALCULATOR, MONROE, SN # E249311		52395883	362.00
jTO-224		CALCULATOR, MONROE, MODEL 1430, SN # E2558081	X 11/80	881 2048	CALCULATOR, MONROE, SN # E2558081		52865690	148.00
j		CALCULATOR, SHARP	X 1/87	881 2117	CALCULATOR, SHARP, S/N 53151171		55255156	100.01
j		OFFICE, PORTABLE, 8' x 30'	O 11/70	060 6249	PORTABLE OFFICE, 8' x 30'	-	51921027	1,505.00
?TO-127		TYPEWRITER, IBM SELECTRIC, SN # 5463722	X 5/69	871 8082	IBM TYPEWRITER, #5463722		51921111	510.00
?TO-129		TYPEWRITER, IBM SELECTRIC, SN # 4825875	X 5/66	871 8082	IBM TYPEWRITER, #4825875		51921110	505.00
?WS-258		TYPEWRITER, IBM EXECUTIVE, SN # 1316537	X 9/67	871 8082	IBM TYPEWRITER, #1316537		51946977	185.95

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SCHEDULE 3: LIST OF EXCLUDED CONTRACTS

None.

KAZ

SCHEDULE 4: LIST OF EXCLUDED PERMITS

None.

KAZ

SCHEDULE 5

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in the policy form designated on the face page of this report would be as follows:

A 1. PROPERTY TAXES, INCLUDING ANY ASSESSMENTS COLLECTED WITH TAXES, TO BE LEVIED FOR THE FISCAL YEAR 1992-93 WHICH ARE A LIEN NOT YET PAYABLE.

B 2. PROPERTY TAXES FOR THE FISCAL YEAR SHOWN BELOW ARE PAID. FOR PRORATION PURPOSES THE AMOUNTS ARE:

FISCAL YEAR:	1991-1992
1ST INSTALLMENT:	$11,065.67
2ND INSTALLMENT:	$8,176.09
EXEMPTION:	$NONE
CODE AREA:	1519
ASSESSMENT NO:	7351-035-003

C 3. SUPPLEMENTAL TAXES FOR THE FISCAL YEAR 1990-1991, ASSESSED PURSUANT TO THE PROVISIONS OF CHAPTER 3.5 (COMMENCING WITH SECTION 75) OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA.

1ST INSTALLMENT:	$21.03 (PAID)
2ND INSTALLMENT:	$21.03 (PAID)
CODE AREA:	1519
ASSESSMENT NO.:	7351-035-003

D 4. THE LIEN OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO THE PROVISIONS OF CHAPTER 3.5 (COMMENCING WITH SECTION 75) OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA.

E 5. IF REAL PROPERTY TAXES ARE TO BE ADVANCED THROUGH THIS ORDER IN A TIMELY AND EFFICIENT MANNER, THIS OFFICE SHOULD BE SENT THE ORIGINAL TAX BILLS WHICH ARE IN THE POSSESSION OF THE OWNER(S) PRIOR TO THE CLOSE OF THIS TRANSACTION AND/OR FIVE DAYS PRIOR TO THE DUE DATE. THIS GREATLY MINIMIZES MISPOSTINGS AND REDUCES FUTURE COMPLAINTS TO THE ESCROW AND TITLE COMPANY.

SUBESCROW FUNDS WILL BE USED TO PAY ANY TAXES THAT WILL BE ADVANCED THROUGH THIS TRANSACTION. IF NO SUBESCROW IS CONTEMPLATED, THEN PRIOR TO CLOSING, CHICAGO TITLE MUST BE PROVIDED WITH A CHECK FROM THE ESCROW TO PAY THE TAXES. THE CHECK MUST BE MADE PAYABLE TO "LOS ANGELES COUNTY TAX COLLECTOR". ONLY ESCROW CHECKS OR CERTIFIED FUNDS WILL BE ACCEPTED.

F 6. AN EASEMENT OVER PARCELS 1 AND 4 FOR PIPE LINES AND INCIDENTAL PURPOSES, AS GRANTED TO DOMINGUEZ WATER CORPORATION, BY DEED RECORDED IN BOOK 1515 PAGE 265, OFFICIAL RECORDS, AND AS RESERVED BY DEEDS FROM DOMINGUEZ ESTATE COMPANY, RECORDED IN BOOK 781 PAGE 349, OFFICIAL RECORDS, AND FROM MARIA DE LOS REYES DE FRANCES, RECORDED IN BOOK 936 PAGE 287, OFFICIAL

KAZ

SCHEDULE 5
(continued)

RECORDS.

BY DEED FROM DOMINGUEZ WATER CORPORATION, RECORDED SEPTEMBER 14, 1956, IN BOOK 52304 PAGE 49, OFFICIAL RECORDS, THE ABOVE EASEMENT WAS CONFINED TO THE EASTERLY 15 FEET AND THE SOUTHERLY 10 FEET OF SAID LAND.

G 7. COVENANTS, CONDITIONS AND RESTRICTIONS (DELETING THEREFROM ANY RESTRICTIONS BASED ON RACE, COLOR OR CREED) AS SET FORTH IN THE DOCUMENT

RECORDED: IN BOOK 3128 PAGE 351, OFFICIAL RECORDS

H 8. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO:	DOMINGUEZ WATER CORPORATION
PURPOSE:	WATER PIPES
RECORDED:	FEBRUARY 28, 1952 IN BOOK 38362 PAGE 377, OFFICIAL RECORDS
AFFECTS:	THE EAST 10 FEET AND OVER THE SOUTH 10 FEET OF PARCELS 1 AND 4.

I 9. AN EASEMENT OVER PARCELS 2 AND 3 FOR ZANJAS, DITCHES, FLUMES AND CONDUITS, AS PROVIDED FOR IN THE FINAL DECREE OF PARTITION ENTERED IN CASE NO. 3284, OR THE SUPERIOR COURT, IN AND FOR THE COUNTY OF LOS ANGELES.

J 10. THE RIGHT TO DEVELOP AND REMOVE WATER AND CONSTRUCT PUMPING PLANTS; ALSO AN EASEMENT FOR CONDUITS, DITCHES, CANALS AND FOR OTHER INCIDENTAL PURPOSES, AND OTHER RIGHTS AND EASEMENTS, AS CONVEYED TO DOMINGUEZ WATER COMPANY, AS EXCEPTED IN THE DEED FROM DOMINGUEZ ESTATE COMPANY, RECORDED IN BOOK 871 PAGE 349, OFFICIAL RECORDS, AFFECTING PARCELS 2 AND 3.

K 11. AN EASEMENT FOR RIGHT OF ENTRY IN AND TO PARCELS 2 AND 3 AND ANY AND ALL ROADS, STREETS, AVENUES AND ALLEYS BOUNDING ANY PORTION THEREOF FOR CONDUITS AND INCIDENTAL PURPOSES, AS RESERVED IN THE DEED FROM TITLE INSURANCE AND TRUST COMPANY, RECORDED IN BOOK 6697 PAGE 399, OFFICIAL RECORDS.

L 12. COVENANTS, CONDITIONS AND RESTRICTIONS (DELETING THEREFROM ANY RESTRICTIONS BASED ON RACE, COLOR OR CREED) AS SET FORTH IN THE DOCUMENT REFERRED TO IN THE NUMBERED ITEM LAST ABOVE SHOWN.

M SAID COVENANTS, CONDITIONS AND RESTRICTIONS PROVIDE THAT A VIOLATION THEREOF SHALL NOT DEFEAT THE LIEN OF ANY MORTGAGE OR DEED OF TRUST MADE IN GOOD FAITH AND FOR VALUE.

KAZ

SCHEDULE 5
(continued)

N 13. AN EASEMENT FOR STREET PURPOSES TO BE USED IN COMMON WITH OTHERS AFFECTING PARCELS 2 AND 3 AS RESERVED IN THE DEED FROM CHARLES YAKER RECORDED IN BOOK 6759 PAGE 162, OFFICIAL RECORDS, IN THE DEED FROM SAM ALBRUMS, RECORDED IN BOOK 9389 PAGE 84, OFFICIAL RECORDS, AND AS GRANTED TO THE OWNERS OF OTHER PORTIONS OF LOT 6 TRACT NO. 4671, BY VARIOUS DEEDS OF RECORD AND RESERVED BY SAM STARK AND ESTHER STARK, HUSBAND AND WIFE, IN DEEDS RECORDED DECEMBER 2, 1958 IN BOOK D-291 PAGE 840, AND IN BOOK D-291 PAGE 84, OFFICIAL RECORDS.

O 14. AN EASEMENT OVER PARCEL 3 FOR INGRESS AND EGRESS AS GRANTED TO THE [illegible]LHI CORPORATION, A CORPORATION, BY DEED RECORDED DECEMBER 27, 1960 IN BOOK D-1074 PAGE 137, OFFICIAL RECORDS.

P 15. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO:	AMERICAN CHEMSOLV
PURPOSE:	INGRESS AND EGRESS AND FOR LOCATION AND PLACEMENT OF UNDERGROUND UTILITIES AND/OR SEWER LINES
RECORDED:	MAY 4, 1962 AS INSTRUMENT NO. 2001
AFFECTS:	AS DESCRIBED THEREIN.

Q 16. A DOCUMENT ENTITLED "CHATTEL MORTGAGE", EXECUTED BY BRAND PLASTICS CO., ALSO KNOWN AS BRAND PLASTICS COMPANY, A DELAWARE CORPORATION AND AMOCO CHEMICALS CORPORATION, A DELAWARE CORPORATION, SUBJECT TO ALL THE TERMS, PROVISIONS AND CONDITIONS THEREIN CONTAINED, RECORDED JULY 19, 1962 AS INSTRUMENT NO. 492.

R 17. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW, AND ANY OTHER OBLIGATIONS SECURED THEREBY

AMOUNT:	$225,000.00
DATED:	JUNE 26, 1962
TRUSTOR:	BRAND PLASTICS CO., ALSO KNOWN AS BRAND PLASTICS COMPANY, A DELAWARE CORPORATION
TRUSTEE:	TITLE INSURANCE AND TRUST COMPANY, A CALIFORNIA CORPORATION
BENEFICIARY:	AMOCO CHEMICALS CORPORATION, A DELAWARE CORPORATION
RECORDED:	JULY 19, 1962 AS INSTRUMENT NO. 493

S AN AGREEMENT WHICH STATES THAT THIS INSTRUMENT WAS SUBORDINATED

TO:	EASEMENT
RECORDED:	JULY 25, 1968 AS INSTRUMENT NO. 2376
BY AGREEMENT	

KAZ

SCHEDULE 5
(continued)

RECORDED: JULY 3, 1968 AS INSTRUMENT NO. 2038

T 18. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO: SOUTHERN CALIFORNIA GAS COMPANY, A CORPORATION
PURPOSE: THE TRANSPORTATION OF GAS, WITH THE RIGHT OF INGRESS AND EGRESS
RECORDED: SEPTEMBER 21, 1962 AS INSTRUMENT NO. 4395
AFFECTS: THE NORTHERLY 12.5 FEET OF PARCEL 2.

U 19. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO: THE COUNTY OF LOS ANGELES
PURPOSE: SANITARY SEWERS
RECORDED: JULY 25, 1968 AS INSTRUMENT NO. 2376
AFFECTS: THE NORTHERLY 12.5 FEET OF THE EASTERLY 258 FEET OF THE WESTERLY 467 FEET OF LOT 6.

V 20. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: DISTRIBUTING ELECTRICAL ENERGY
RECORDED: SEPTEMBER 8, 1960 AS INSTRUMENT NO. 2889
AFFECTS: AS DESCRIBED THEREIN.

W 21. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES, CONDEMNED BY FINAL DECREE (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

PURPOSE: FEE
CASE NO: C 160691
RECORDED: SEPTEMBER 17, 1976 AS INSTRUMENT NO. 5721
AFFECTS: THE WESTERLY 7 FEET OF PARCEL 3.

X 22. A NOTICE OF VIOLATION

DATED: JUNE 24, 1992
EXECUTED BY: DEPARTMENT OF REGIONAL PLANNING

KAZ

SCHEDULE 5
(continued)

RECORDED: JUNE 24, 1992 AS INSTRUMENT NO. 92-1150421

Y 23. ANY EASEMENTS NOT DISCLOSED BY THOSE PUBLIC RECORDS WHICH IMPART CONSTRUCTIVE NOTICE AND WHICH ARE NOT VISIBLE AND APPARENT FROM AN INSPECTION OF THE SURFACE OF SAID LAND.

Z 24. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS.

AA 25. ANY CLAIM, WHICH ARISES OUT OF THE TRANSACTION VESTING IN THE INSURED THE ESTATE OR INTEREST INSURED BY THIS POLICY, BY REASON OF THE OPERATION OF FEDERAL BANKRUPTCY, STATE INSOLVENCY, OR SIMILAR CREDITORS, RIGHTS LAWS.

KAZ

SCHEDULE 5

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in the policy form designated on the face page of this report would be as follows:

A 1. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 1992-1993.

1ST INSTALLMENT:	$544.27
PENALTY:	$54.42 (DUE AFTER DECEMBER 10)
2ND INSTALLMENT:	$544.26
PENALTY AND COST:	$64.42 (DUE AFTER APRIL 10)
HOMEOWNERS EXEMPTION:	$NONE
CODE AREA:	1519
ASSESSMENT NO:	7351-035-002

B 2. SAID PROPERTY HAS BEEN DECLARED TAX-DEFAULTED FOR NON-PAYMENT OF DELINQUENT TAXES FOR FISCAL YEAR 1988-1989 (AND SUBSEQUENT YEARS, IF ANY)

AMOUNT TO REDEEM:	$5,404.23
IF PAID BY:	NOVEMBER 30, 1992

IF PAYMENT IS TO BE MADE THROUGH THIS TITLE ORDER, IN ORDER TO INSURE THAT PAYMENT IS RECEIVED BY THE TAX COLLECTOR IN A TIMELY MANNER, GOOD FUNDS MUST BE IN POSSESSION OF THIS COMPANY AT LEAST 3 BUSINESS DAYS PRIOR TO THE ABOVE DATE.

C 3. THE LIEN OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO THE PROVISIONS OF CHAPTER 3.5 (COMMENCING WITH SECTION 75) OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA.

D 4. IF REAL PROPERTY TAXES ARE TO BE ADVANCED THROUGH THIS ORDER IN A TIMELY AND EFFICIENT MANNER, THIS OFFICE SHOULD BE SENT THE ORIGINAL TAX BILLS WHICH ARE IN THE POSSESSION OF THE OWNER(S) PRIOR TO THE CLOSE OF THIS TRANSACTION AND/OR FIVE DAYS PRIOR TO THE DUE DATE. THIS GREATLY MINIMIZES MISPOSTINGS AND REDUCES FUTURE COMPLAINTS TO THE ESCROW AND TITLE COMPANY.

SUBESCROW FUNDS WILL BE USED TO PAY ANY TAXES THAT WILL BE ADVANCED THROUGH THIS TRANSACTION. IF NO SUBESCROW IS CONTEMPLATED, THEN PRIOR TO CLOSING, CHICAGO TITLE MUST BE PROVIDED WITH A CHECK FROM THE ESCROW TO PAY THE TAXES. THE CHECK MUST BE MADE PAYABLE TO "LOS ANGELES COUNTY TAX COLLECTOR". ONLY ESCROW CHECKS OR CERTIFIED FUNDS WILL BE ACCEPTED.

E 5. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

KAZ

SCHEDULE 5
(continued)

GRANTED TO: DOMINGUEZ WATER CORPORATION
PURPOSE: PIPE LINES
RECORDED: IN BOOK 1515 PAGE 265, OFFICIAL RECORDS

F AND RESERVED IN THE DEED

EXECUTED BY: DOMINGUEZ ESTATE COMPANY
RECORDED: IN BOOK 871 PAGE 349, OFFICIAL RECORDS

AND RESERVED IN THE DEED

EXECUTED BY: MARIA DE LOS REYES DE FRANCES
RECORDED: IN BOOK 936 PAGE 287, OFFICIAL RECORDS

BY DEED FROM DOMINGUEZ WATER CORPORATION, RECORDED SEPTEMBER 14, 1956 IN BOOK 52304 PAGE 49, OFFICIAL RECORDS, THE ABOVE EASEMENT WAS CONFINED TO THE EASTERLY 15 FEET AND THE SOUTHERLY 10 FEET OF SAID LAND.

G 6. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO: DOMINGUEZ WATER CORPORATION
PURPOSE: WATER PIPES
RECORDED: FEBRUARY 28, 1952 IN BOOK 38362 PAGE 377, OFFICIAL RECORDS
AFFECTS: THE EAST 10 FEET AND OVER THE SOUTH 10 FEET.

H 7. AN EASEMENT FOR LOCATION AND PLACEMENT OF UNDERGROUND UTILITIES AND/OR SEWER LINES AND FOR THE PURPOSES OF LAYING, MAINTAINING, OPERATING AND REMOVING AT ANY TIME A LINE OF PIPE TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS TO EXCAVATE LAND FOR, CONSTRUCT, MAINTAIN, ATTEND AND/OR REMOVE SAID PIPE LINE OR LINES WITH RESPECT TO THE NORTHERLY 5 FEET OF THE SOUTH 3 ACRES OF LOT 5 OF TRACT NO. 4671.

I 8. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO: TITLE INSURANCE AND TRUST COMPANY
PURPOSE: PIPES FOR CONDUCTING WATER FOR IRRIGATION
RECORDED: AUGUST 10, 1927 IN BOOK 6697 PAGE 399, OFFICIAL RECORDS
AFFECTS: PARCEL 2.

KAZ

SCHEDULE 5
(continued)

J 9. COVENANTS, CONDITIONS AND RESTRICTIONS (DELETING THEREFROM ANY RESTRICTIONS BASED ON RACE, COLOR OR CREED) AS SET FORTH IN THE DOCUMENT REFERRED TO IN THE NUMBERED ITEM LAST ABOVE SHOWN.

K 10. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT (NO REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT)

GRANTED TO:	CHARLES YAGER
PURPOSE:	STREET PURPOSES TO BE USED IN COMMON WITH OTHERS
RECORDED:	AUGUST 10, 1927 IN BOOK 6764 PAGE 136, OFFICIAL RECORDS
AFFECTS:	PARCEL 2.

L 11. A NOTICE OF VIOLATION

DATED:	JUNE 24, 1992
EXECUTED BY:	DEPARTMENT OF REGIONAL PLANNING
RECORDED:	JUNE 24, 1992 AS INSTRUMENT NO. 92-1150421

M 12. ANY CLAIM, WHICH ARISES OUT OF THE TRANSACTION VESTING IN THE INSURED THE ESTATE OR INTEREST INSURED BY THIS POLICY, BY REASON OF THE OPERATION OF FEDERAL BANKRUPTCY, STATE INSOLVENCY, OR SIMILAR CREDITORS, RIGHTS LAWS.

N 13. ANY RIGHTS OF THE PARTIES IN POSSESSION OF SAID LAND, BASED ON ANY UNRECORDED LEASE, OR LEASES.
THE COMPANY WILL REQUIRE THAT A FULL COPY OF ANY UNRECORDED LEASE BE SUBMITTED TO US, TOGETHER WITH ALL SUPPLEMENTS, ASSIGNMENTS AND AMENDMENTS, BEFORE ISSUING ANY POLICY OF TITLE INSURANCE.

O 14. MATTERS WHICH MAY BE DISCLOSED BY AN INSPECTION OR BY A SURVEY OF SAID LAND THAT IS SATISFACTORY TO THIS COMPANY, OR BY INQUIRY OF THE PARTIES IN POSSESSION THEREOF.

P 15. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS.

Q NOTE NO. 1: WHEN THIS TITLE ORDER CLOSES AND IF CHICAGO TITLE IS HANDLING LOAN PROCEEDS THROUGH SUB-ESCROW, ALL TITLE CHARGES AND EXPENSES NORMALLY BILLED, WILL BE DEDUCTED FROM THOSE LOAN PROCEEDS (TITLE CHARGES AND EXPENSES WOULD INCLUDE TITLE PREMIUMS, ANY TAX OR BOND ADVANCES, DOCUMENTARY TRANSFER TAX AND RECORDING FEES, ETC.).

R NOTE NO. 2: IF THIS COMPANY IS REQUESTED TO DISBURSE FUNDS IN CONNECTION WITH THIS TRANSACTION, CHAPTER 598, STATUTES OF 1989 MANDATES HOLD

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SCHEDULE 5
(continued)

PERIODS FOR CHECKS DEPOSITED TO ESCROW OR SUB-ESCROW ACCOUNTS. THE MANDATORY HOLD PERIOD FOR CASHIER'S CHECKS, CERTIFIED CHECKS AND TELLER'S CHECKS IS ONE BUSINESS DAY AFTER THE DAY DEPOSITED. OTHER CHECKS REQUIRE A HOLD PERIOD OF FROM THREE TO SEVEN BUSINESS DAYS AFTER THE DAY DEPOSITED. IN THE EVENT THAT THE PARTIES TO THE CONTEMPLATED TRANSACTION WISH TO RECORD PRIOR TO THE TIME THAT THE FUNDS ARE AVAILABLE FOR DISBURSEMENT (AND SUBJECT TO COMPANY APPROVAL), THE COMPANY WILL REQUIRE THE PRIOR WRITTEN CONSENT OF THE PARTIES. UPON REQUEST, A FORM ACCEPTABLE TO THE COMPANY AUTHORIZING SAID EARLY RECORDING MAY BE PROVIDED TO ESCROW FOR EXECUTION.

S NOTE NO. 3: THERE ARE NO CONVEYANCES AFFECTING SAID LAND, RECORDED WITHIN SIX (6) MONTHS OF THE DATE OF THIS REPORT.

T NOTE NO. 4: THE CHARGE FOR A POLICY OF TITLE INSURANCE, WHEN ISSUED THROUGH THIS TITLE ORDER, WILL BE BASED ON THE BASIC (NOT SHORT-TERM) TITLE INSURANCE RATE.

PLATS
NG/HN

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SCHEDULE 6: LIENS AND ENCUMBRANCES ON EQUIPMENT

There are no current liens or encumbrances on any of the Equipment.

KAZ

SCHEDULE 7: LIST OF EMPLOYEES

Doerr, Robert F.
Miller, Gregory L.
Shook, David M.
Doll, Robert E.
English, Nathaniel
Medlock, Jamie R.
Parker, Roosevelt
Saulmon, Billie
Stinson, Donald
Quijano, Philip E.
San, Merri A.
Eldridge, Argle
Bray, Leonard A.
Gomez, Fortino
McCrossan, Frank
Patterson, Robert
Martin, Abrom
Uvaas, Matthew

KAZ

SCHEDULE 8
Groundwater Baseline for Real Property

A. Background

The groundwater has been monitored for the presence of substances, contaminants and other materials (herein referred to as "substances") at the Real Property from six wells for nearly three years. This report describes the methods and results which will comprise the groundwater baseline for the Real Property.

B. Data

Over a three year period from February 1990 to October 1992, six samples were collected from each of six different monitoring wells. Attachment A shows the location of the wells. Reports made to Amoco by its environmental consultant contained tables for 12 substances that were detected at some time during the monitoring period in at least one well. Only 7 of these substances were detected in the final sampling done prior to Closing, October 20, 1992, in any of the wells, i.e.:

1,1-dichloroethene (1, 1 DCE)
1,2-dichloroethene (1, 2 DCE)
trichloroethene (TCE)
tetrachloroethene (PCE)
methylene chloride (M Cl)
chlorobenzene
chloroform

Current data for this baseline analysis is 6 samples for each of the 7 detected substances with single analyses and samples only for most of the wells. Any duplicates were averaged.

C. Sampling Methodology

Groundwater sampling was conducted on the six groundwater monitoring wells located onsite consistent with the methods described in Attachment C.

Groundwater samples were analyzed using EPA method 624 for purgeable compounds.

KAZ

D. Data Analysis Strategy

For each substance and well, six samples were available. The levels of substances found in the groundwater vary from one sample to the next. Some or all of the data points could be nondetect for any measurement and well. Data analysis was done separately for each of the seven detected substances and for each of the six monitoring wells. The Estimated Levels in the following table are the median or 50% value. However, for purposes of the groundwater baseline, the values which are approximately two standard deviations above the Estimated Levels are the Baseline Level for each well. Details of the statistical analysis utilized to determine the Baseline Levels from this data are presented in Attachment B.

Based on pre-Closing sampling, the groundwater baseline is set forth in the final column of the following table:

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Well	Substance	Estimated* Level	Baseline* Level
OW-1	1,1 DCE	nd	nd
	1,2 DCE	nd	nd
	TCE	1.75	2.60
	PCE	0.14	0.39
	M Cl	237	2316.81
	Chlorobenzene	nd	nd
	Chloroform	0.067	0.23
OW-2	1,1 DCE	nd	nd
	1,2 DCE	0.054	0.15
	TCE	3.2	4.09
	PCE	0.52	0.68
	M Cl	0.01	0.43
	Chlorobenzene	nd	nd
	Chloroform	0.031	0.08
OW-3	1,1 DCE	0.008	0.03
	1,2 DCE	0.035	0.09
	TCE	2.36	3.74
	PCE	0.36	0.79
	M Cl	0.017	0.05
	Chlorobenzene	nd	nd
	Chloroform	nd	nd
OW-4	1,1 DCE	0.049	0.08
	1,2 DCE	0.31	0.43
	TCE	4.32	10.02
	PCE	1.37	1.81
	M Cl	nd	nd
	Chlorobenzene	nd	nd
	Chloroform	0.013	0.17
OW-5	1,1 DCE	0.19	0.25
	1,2 DCE	0.77	0.98
	TCE	13.6	24.48
	PCE	5.8	16.32
	M Cl	nd	nd
	Chlorobenzene	nd	nd
	Chloroform	0.04	0.10
OW-6	1,1 DCE	0.03	0.11
	1,2 DCE	0.41	0.91
	TCE	30.3	45.31
	PCE	13.8	20.31
	M Cl	nd	nd
	Chlorobenzene	0.01	0.88
	Chloroform	0.03	0.15

* Concentrations in milligrams per liter (ppm)
nd = not detected

KAZ

E. Additional Groundwater Sampling

Buyer may conduct one additional round of groundwater sampling (one sample from each of the six wells) after Closing and have the data resulting from such sampling become part of the Baseline Level for each well, subject to the following conditions:

1. Any such sampling shall be conducted within two (2) months after Closing, and shall be conducted prior to any release, discharge, disposal or emission of any substance, contaminant or other material into the ground or groundwater after Closing by Buyer or related to Buyer's activities. Data from any samples taken later than two (2) months after Closing, or taken after any release, discharge, disposal or emission of any substance, contaminant or other material into the ground or groundwater after Closing by Buyer or related to Buyer's activities, shall not be part of the Baseline Levels.

2. Buyer shall propose to Amoco an independent environmental contractor or consultant to conduct any such sampling, and subject to Amoco's prior written approval of such contractor or consultant, not to be unreasonably withheld, Buyer shall hire same.

3. The costs of any such sampling and of any such environmental contractor or consultant shall be borne as follows:

a. up to the first $10,000 of any such costs shall be borne by Buyer.
b. up to the next $10,000 of any such costs shall be borne equally by Amoco and Buyer.
c. any such costs in excess of $20,000 shall be borne by Buyer.

4. Any such sampling shall be conducted in accordance with Attachment C.

5. Data resulting from any such sampling shall become part of the groundwater Baseline Levels in accordance with Attachment D.

6. If Buyer does not conduct additional sampling in accordance with the above conditions, then the groundwater baseline shall be as set forth in the final column of the table on the preceding page.

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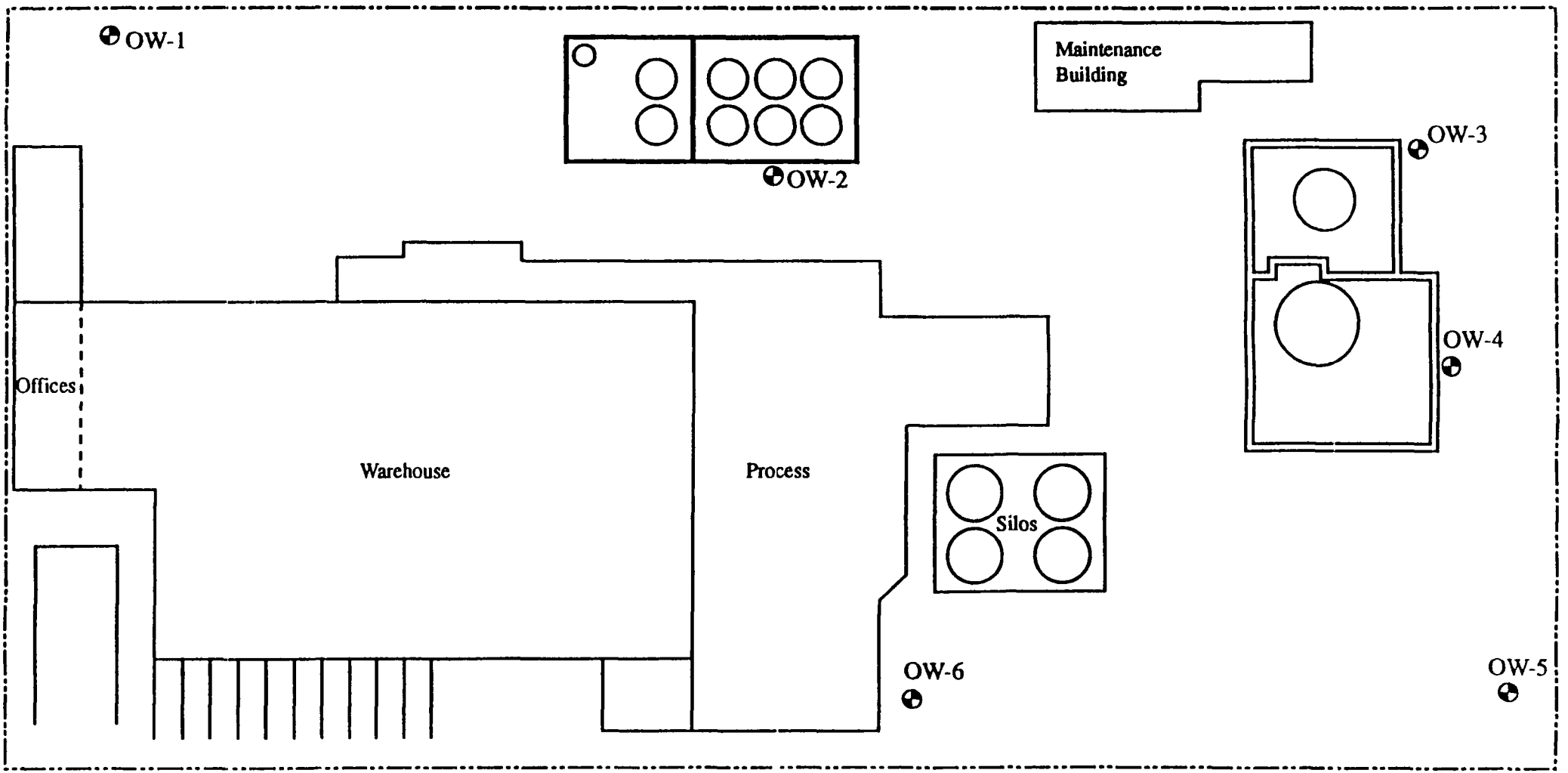

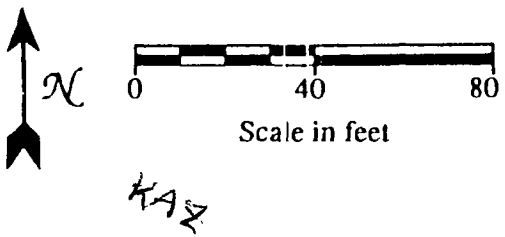

OW-3 Monitoring Well

Monitoring Well Locations

Amoco Chemical Company
Polystyrene Facility
1225 West 196th Street
Torrance, California

May, 1992

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Attachment B

Details of Statistical Analysis

For all data analyses, models are based on the logarithm of the measured substance value with normally distributed errors assumed for the logarithms. This is standard practice in the analysis of groundwater data. The configuration of the data relative to the nondetects led to the following possible situations for reporting the groundwater baseline for any substance and any well.

All Measurements Nondetect

No statistics can be estimated, so an estimated level cannot be determined. The substance is reported as nondetect and the Baseline Level is nondetect.

All But One Measurement Nondetect

As with the preceding case the substance is nondetect, because statistical estimation procedures will not give results unless there are at least two quantifiable values. However, if the quantifiable value is the last sample, then the value for the last sample is reported as both the Estimated Level and the Baseline Level.

Two Quantifiable Samples

For this situation, estimation of the Estimated Level, or 50% point, of the substance and a statement of the Baseline Level (the level that is approximately two standard deviations above the Estimated Level) can both be done using quantiles of the lognormal distribution as fitted to the data.

Three or More Quantifiable Points

If all the samples for a substance are quantifiable, usual straight line curve fitting is done for the log of the substance versus the log of time. If the slope of the line is significant with 95% confidence, then the fitted value for the last sample is reported as the Estimated Level, and the level that is approximately two standard deviations above the Estimated Level is reported as the Baseline Level. If the slope is not significant, the median or 50% point for the data is reported as the Estimated Level of the substance and a normal distribution statistic is used to report the Baseline Level, as for two quantifiable points.

If there are one or more nondetects, then maximum likelihood estimation is used. However, the methods for reporting remain the same, with a lognormal distribution statistic again as the basis for the 50% and the level that is approximately two standard deviations above the Estimated Level reported as the Baseline Level.

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Attachment C

Torrance Sampling Procedures

1. Prior to purging or bailing a well, the depth to water shall be measured to the nearest 0.01 ft., and total depth of the well shall be measured to calculate the volume of water within the well bore.

2. Temperature, electrical conductivity, and Ph shall be measured during the purging process. Each well shall be purged of 5 well volumes or until 3 well volumes have been purged and 3 consecutive physical measurements have stabilized to within 10 percent of one another before sampling.

3. After purging, a recovery period shall be allowed, but sampling shall occur no later than 48 hours after purging.

4. Samples shall be collected using disposable Teflon bailers fitted with controlled flow emptying devices.

5. Samples shall be collected into laboratory clean glass vials having lids with Teflon lined septa and containing hydrochloric acid as a preservative.

6. Samples shall be transferred from the bailer to the vials using the submerged fill technique.

7. Lids shall be replaced on the vials and the vials shall be inverted and visually checked for the presence of air bubbles. Samples containing air shall be uncapped, refilled and rechecked.

8. An equipment blank shall be collected prior to sampling one well by pouring distilled water into a clean bailer and then decanting the water into sample vials.

9. A trip blank shall be provided by the laboratory and shall accompany the sample vials during the sampling event.

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10. Samples not containing air shall have labels affixed which contain the following information: date, sampler's initials, job number, well number, sample number and requested analyses. Appropriately sealed and labeled samples shall be placed in an ice chest chilled to 4°C for transport to the analytical laboratory.

11. Chain-of-custody forms shall be completed in the field and shall accompany the samples to the laboratory.

12. Bailers shall be properly discarded after use at each well.

13. Samples shall be analyzed using EPA method 624 for purgeable compounds for only the seven substances, contaminants or other materials detected in the October 20, 1992 sampling, i.e.:

    - 1,1-dichloroethene (1,1 DCE)
    - 1,2-dichloroethene (1,2 DCE)
    - trichloroethene (TCE)
    - tetrachloroethene (PCE)
    - methylene chloride (M Cl)
    - chlorobenzene
    - chloroform

14. Copies of any sampling reports shall be made immediately available to both parties.

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Attachment D

Data Analysis for Inclusion of an Additional Sampling

This attachment summarizes the methodology through which data from additional samples from wells OW-1 through OW-6 taken pursuant to paragraph E of Schedule 8 shall be added to the data that was used for the statistical analysis that is embodied in the table on page 3 of Schedule 8, to arrive at a Baseline Level for each well. Figure 1 contains the data used in arriving at the table on page 3 of Schedule 8 and the associated data structure. There are two possible types of impact on the data structure from including an additional sample:

Additional Sample is "Nondetect"

The data for the substance will have the same structure, as categorized in Attachment B of Schedule 8, that the substance had for the data analysis that is embodied in the table on page 3 of Schedule 8. The same analysis will be repeated to generate new Estimated Levels and Baseline Levels.

Additional Sample is "Detect"

The data for the substance will have the next structure down the list of structures that are categorized in Attachment B from the structure that the substance had for the data analysis that is embodied in the table on page 3 of Schedule 8. The data analysis appropriate to that structure will be used to determine new Estimated Levels and Baseline Levels.

Mechanics of Data Analysis

Data analysis described in Attachment B is done by programming the application of several procedures in the statistical analysis package, SAS. The computer program is listed in Attachment E. There are two possible analyses types, (1) nondetects and detects mixed, and (2) all results detects. If nondetects and detects are both present, there are two possible data analysis methodologies: (1) trend estimation (as described in Attachment B) feasible, and (2) no trend estimation possible. The three possibilities for data analysis are:

(1) <u>nondetects and detects mixed, no trend estimation</u>
PROC LIFEREG is used to do estimation of lognormal distribution parameters and to calculate quantiles. Quantiles are adjusted to compensate for the small sample size used to estimate the average and standard deviation by reducing the quantile level by the ratio of a normal distribution statistic to the t-statistic to remove the small sample size effect.

(2) <u>nondetects and detects mixed, trend estimation</u>
PROC LIFEREG is used as above except a time variable in days is added to the model.

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(3) all data detects
PROC REG is used to do the trend analysis, and PROC MEANS is used to calculate the estimated level and the standard deviation for use in determining quantiles when trend is not significant.

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Figure 1

Well	Date of Sampling	1,1 DCE	1,2 DCE	TCE	PCE	M Cl	Chloro-benzene	Chloro-form
OW-1	02-01-90	<.08	<.080	1.00	<.080	10	<.080	<.080
OW-1	02-21-90	<1.5	<1.50	2.20	<1.50	190	<1.50	<1.50
OW-1	12-05-90	<1.0	<1.00	2.00	<1.00	320	<1.00	<1.00
OW-1	06-20-91	<5.0	<5.00	<5.00	<5.00	1100	<5.00	<5.00
OW-1	01-16-92	.008	.060	2.20	.190	1000	<.003	.037
OW-1	10-20-92	<.008	<.060	1.70	.290	270	<.003	.230
OW-2	02-01-90	<.004	<.004	.56	.058	<.020	<.004	<.004
OW-2	02-21-90	<.005	.006	1.10	.160	<.025	<.005	<.005
OW-2	12-05-90	<.010	.056	3.00	.420	<.050	<.010	.025
OW-2	06-20-91	<.020	.032	2.70	.400	<.010	<.020	<.020
OW-2	01-16-92	<.003	.031	2.70	.424	.153	<.003	.012
OW-2	10-20-92	<.008	.027	2.30	.380	.400	<.003	.028
OW-3	02-01-90	<.015	.054	1.70	.240	<.075	<.015	<.015
OW-3	02-21-90	.035	.015	3.80	1.100	<.100	<.020	<.020
OW-3	12-05-90	<.020	.073	2.60	.290	<.100	<.020	<.020
OW-3	06-20-91	<.020	<.020	1.90	.270	<.100	<.020	<.020
OW-3	01-16-92	.008	.059	3.20	.430	.007	<.003	.008
OW-3	10-20-92	<.008	.041	1.70	.230	.048	<.003	<.008
OW-4	02-01-90	.017	.064	1.40	.310	<.050	<.010	<.010
OW-4	02-21-90	<.015	.087	3.40	.400	<.075	<.015	<.015
OW-4	12-05-90	.054	.330	7.20	1.600	<.125	<.025	<.025
OW-4	06-20-91	<.050	.360	7.80	1.000	<.250	<.050	<.050
OW-4	01-16-92	.033	.190	5.50	1.300	.005	<.003	.019
OW-4	10-20-92	.044	.210	4.40	.920	<.040	<.003	.023
OW-5	02-01-90	.063	.200	5.80	1.600	<.200	<.040	<.040
OW-5	02-21-90	.114	.380	15.49	5.490	<.400	<.080	<.080
OW-5	12-05-90	<.100	.670	21.00	8.100	<.500	<.100	<.100
OW-5	06-20-91	<.200	.900	15.00	6.600	<1.000	<.200	<.200
OW-5	01-16-92	.150	.560	14.00	5.000	.006	<.003	.034
OW-5	10-20-92	.200	.590	16.00	17.000	<.200	<.003	.110
OW-6	02-01-90	.021	.021	1.90	.780	<.075	<.015	<.015
OW-6	02-21-90	.056	.059	7.80	3.300	<.040	2.800	<.040
OW-6	12-05-90	<.100	.270	27.00	11.000	<.100	<.100	<.100
OW-6	06-20-91	<.200	<.200	22.00	10.000	<1.000	<.200	<.200
OW-6	01-16-92	.130	.300	21.00	9.400	<.005	<.003	.069
OW-6	10-20-92	<.020	.280	21.00	10.000	<.200	.006	.140

Concentrations reported in milligrams per liter (ppm)
<.08 (e.g.) = not detected at or above concentration indicated

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Attachment E

Listing of SAS Program

```
 %LET WELL=6;
 %LET CHEMNUM=  7;
 %let chems=%str(1,1DCE : 1,2DCE : TCE : PCE : MCl :
       Chloro-Benzene : Chloroform);

%macro program; * %datgen;                /* Run ONCE to set up the data
for analysis */ * %TREND;
  %NOTIME; * %NOND; %mend program;

 %let vars=dce11 dce12 tce pce mc chbnz chlor;
 %let chem=%scan(&chems, &chemnum, ":");
 %let var=%scan(&vars, &chemnum, " ");

 options ls=71;
 title1 "Fitting Straight Line to Left Censored Data by PROC LIFEREG";
 title2 "OW-&well for &chem";

 data datain;
   set data607.stark;
   if well="OW&well";
   keep date well &var._1 &var._2;

 proc print data=datain;
   title3 "Input Data File Listing";
 run;

          /*---  Do this part only if trend testing is reasonable ---*/
%macro trend;
 proc lifereg data=datain outest=coeffs;
   model (&var._1, &var._2) = date /
         distribution=lnormal corrb covb;
   output out=preds cdf=cumdist p=quant q=.5,.9,.95
          std=quant_se xbeta=pred_mod;
 title3 "PROC Lifereg Output";
   title4 "Date Effect Version";

 proc print data=coeffs;
   TITLE4 "OUTPUT ESTIMATES DATA SET WITH PARAMETER ESTIMATES ";

 proc print data=preds;
   title4 "Output Data Set Information from PROC Lifereg"; %mend trend;

  /*----   This part does estimation without regard for time   ------*/
```

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```
%macro notime;
 proc lifereg data=datain outest=coeffs;
   model (&var._1, &var._2) = /
         distribution=lnormal corrb covb;
   output out=preds cdf=cumdist p=quant q=.5,.9,.95
          std=quant_se xbeta=pred_mod;
   title4 "No Date Effect Version";

 proc print data=coeffs;
   title4 "Output Estimates Data Set with Parameter Estimates";
;

 proc print data=preds;
   title4 "Output Data Set Information from PROC Lifereg"; %mend notime;

%MACRO NOND; DATA DATAMEAN;
 SET DATAIN;
 LOGVAR=LOG(&VAR._1);
 LOGTIME=LOG(DATE); RUN;

PROC REG DATA=DATAMEAN;
 MODEL LOGVAR=LOGTIME/P R CLM;
 OUTPUT OUT=LOGLOG PRED=LLEVEL STDP=STDERR;
 TITLE4 "NO NONDETECT DATA, TREND VERSION";

DATA LINE;
 SET LOGLOG;
 LEVEL=EXP(LLEVEL);
 U_95=EXP(LLEVEL+(1.645*STDERR)); RUN;

PROC PRINT;
 VAR LEVEL U_95;

PROC MEANS;
 VAR LOGVAR;
 OUTPUT OUT=LOGSTATS MEAN=MU STD=SIGMA;
 TITLE4 "NO NONDETECT DATA, CALCULATE STATISTICS";

DATA RESULTS;
 SET LOGSTATS;
 LEVEL=EXP(MU);
 U_95=EXP(MU+1.645*SIGMA);
 RUN;

PROC PRINT;
 VAR LEVEL U_95;
 TITLE4 "NO NONDETECT DATA, REPORTED RESULTS IF NO TREND";

%MEND NOND;
```

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```
%macro datgen;
  filename indat 'stark data a';
  data datain;
    infile indat firstobs=3;
    informat well $3. _dce11 _dce12 _tce _pce _mc _chbnz _chlor $5.;
    input well date _dce11 _dce12 _tce _pce _mc _chbnz _chlor;
    %do v=1 %to 7;
       %let var=%scan(&vars, &v, " ");
       if substr(_&var, 1, 1)='<' then do;
          &var._1 = .;
          &var._2 = substr(_&var, 2, 4) + 0;
       end;
       else do;
          &var._1 = _&var + 0;
          &var._2 = &var._1;
       end;
    %end;

 proc print u;
   var well date _dce11 _dce12 _tce _pce _mc _chbnz _chlor;

   title3 "Original Data";

 proc print u;
  var well date dce11_1 dce11_2 dce12_1 dce12_2 tce_1 tce_2 pce_1 pce_2;
  title3 "Data as Prepared for PROC LIFEREG";

  proc print u;
   var well date mc_1 mc_2 chbnz_1 chbnz_2 chlor_1 chlor_2;

  data data607.stark;
    set datain;

%mend datgen;

%program;
```

KAZ

SCHEDULE 9: LIST OF MATERIAL CONTRACTS

Polystyrene Agreement made as of December 1, 1991 by and between Amoco and Setco, Incorporated.

Contract between Amoco and Eldon-Rubbermaid for sale and purchase of polystyrene from 1/1/93 - 12/31/93.

Contract between Amoco and Scott Food Service/Wincup for sale and purchase of polystyrene from 7/1/91 - 12/31/93.

Contract between Amoco and Comet California Cutlery for sale and purchase of polystyrene from 1/1/93 - 12/31/93.

Product Supply Agreement (bulk nitrogen) between Union Carbide Corporation and Amoco, dated April 2, 1973.

KAZ

SCHEDULE 10: NOTICES OF VIOLATION

On March 23, 1993, the National Labor Relations Board sent notice to Amoco of the filing of a charge by the International Chemical Workers Union, Local 1, alleging the commission of unfair labor practices in connection with Amoco's Torrance facility.

KAZ

SCHEDULE 11: NOTICES OF REAL PROPERTY EXCEPTIONS

None.

KAZ

SCHEDULE 12: EXCEPTIONS TO ORDINARY COURSE

None.

SCHEDULE 13

SITE ACCESS AND LICENSE AGREEMENT

THIS AGREEMENT is made and entered into by and between Amoco Chemical (hereinafter known as "Owner") whose address is 1225 West 196th Street, Torrance, California, 90502, and the Del Amo Participating Parties (hereinafter known as "Participating Parties"), an unincorporated association, whose address is c/o W.J. Duchie, 511 N. Brookhurst, Anaheim, California, 92803, acting through their agents, employees, contractors and subcontractors, including without limitation Dames & Moore, Inc. whose address is 175 Cremona Drive, Suite A, Goleta, California, 93117.

WITNESSETH:

WHEREAS, Owner holds fee simple title to certain parcel(s) of real property located in Los Angeles County, California, which is described in Schedule A and which is attached and made a part of this Agreement (the "Property"); and

WHEREAS, the Property is located near an area commonly known as the Del Amo Plant Site (hereafter referred to as the "Site"), which is the subject of a Remedial Investigation/ Feasibility Study or Focused Feasibility Study ("RI/FS") being conducted by Participating Parties in connection with the Site; and

WHEREAS, in connection with conducting the RI/FS for the Site, the Environmental Protection Agency ("EPA") has required that certain investigations, including without limitation, soil borings and sampling, the monitoring of the surface and ground water, and other similar surveys or engineering studies, must be conducted on the Site and nearby including the Property (Activities"); and

WHEREAS, the Del Amo Participating Parties and Dames & Moore and their subcontractors have been authorized to conduct certain RI/FS activities pursuant to an Administrative Order on Consent, U.S.E.P.A. Docket No. 92-13, (the "AOC") with the EPA.

KAZ

NOW, THEREFORE, in consideration of the mutual obligations, representations, and promises contained in this Agreement, Owner and Participating Parties hereby agree as follows:

1. Owner hereby grants Participating Parties a temporary license to enter upon the Property for purposes of conducting the work tasks required under the RI/FS or Work Plan (the "Work Plans") and the AOC including any modifications thereto to be conducted on the Property as described in the mutually agreed upon workplan specific to the property set forth in Schedule B which is attached and made a part of this Agreement. The license to enter shall continue in force until the work specified in Schedule B is completed.

2. In connection with conducting the Activities, Owner hereby agrees that Participating Parties may bring onto the property such equipment or machinery as may be reasonably necessary to conduct the RI/FS and to take surface and subsurface soil and water samples required by the Work Plans and may install wells as may be required under the Work Plans or the AOC and identified in Schedule B.

3. Participating Parties shall conduct the Activities required by the Work Plan and Schedule B at the Property during normal business hours and without interference with Owner's business or the businesses of Owner's lessees. Participating Parties shall give Owner at least five days notice prior (ten days for sampling) to conducting any activities on the Property, including locations and times at which the activities will take place, except that Participating Parties may take samples not previously anticipated when unexpected circumstances occur in the course of work pursuant to Schedule B. In all cases, Owner shall be entitled to a split sample of all samples taken on Owner's Property. Participating Parties shall require all personnel involved in activities at the Property to sign in with Owner's security personnel, if any, when entering the Property and to sign out when leaving the Property. Participating Parties' personnel authorized to have access to the Property under this Agreement shall include EPA and the State and their employees and authorized representatives for purposes of conducting oversight of Participating Parties' activities in accordance with the requirements of the AOC.

KAZ

4. Participating Parties agree to maintain its equipment and other materials in an orderly manner while they are located on the Property and to remove all debris, trash, equipment, waste and other materials used or caused by Participating Parties when each activity on the Property is completed. Upon completion of each activity on the Property, Participating Parties shall leave the Property in the same condition as before the activity began, to the extent possible, except for any monitoring wells or other items that are required by the Work Plan and Schedule B to remain in place for an extended period of time. Wells no longer required by the Work Plan and Schedule B shall be properly plugged and abandoned in accordance with applicable regulations.

5. Participating Parties agree to indemnify, save and hold Owner harmless against all losses, costs, expenses and damages suffered or incurred by Owner, Owner's lessees and the officers, directors, employees and agents of Owner and of Owner's lessees caused by the negligence or wrongful conduct of Participating Parties, their contractors, or subcontractors, employees and agents in performing activities on the property, including any of the work set forth in Schedule B.

6. The Participating Parties shall, during the term of this Agreement and at all times during which access is available to them, require all contractors or subcontractors performing the Activities described in this Agreement, and their employees and agents, to maintain insurance with the following coverage:

Workman's Compensation with statutory limits,

Automobile Liability with $1,000,000 single limit or equivalent, and

Comprehensive General Liability, including contractor liability covering contractor's obligations set forth in Paragraph 5., with $1,000,000 single limit or equivalent;

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and shall, upon request, furnish to Owner prior to entering onto the Property policies or certificates of insurance evidencing such coverage.

7. Owner and any lessees, licensees or agents or Owner agree not to prohibit, interfere with or obstruct such entry or Activities upon the Property, and not to cause or permit interference or obstruction by others.

8. Owner agrees that the temporary license to enter hereby granted Participating Parties is binding upon both itself and any present or future lessees, occupants or owners of the Property and that Owner will make any grant of rights to such lessees, occupants or owners subject to Participating Parties' license to enter.

9. Participating Parties agree that entry upon the property shall be limited to the extent necessary or desirable for the performance of the Activities undertaken by Participating Parties for the purposes expressed in this Agreement.

10. This Agreement is intended and shall be construed as a temporary license to enter and conduct the Activities upon the Property and not as a grant of easement or any other interest in the Property.

11. This Agreement shall be binding upon the parties to this Agreement and their respective successors, representatives, heirs and assigns.

12. The terms of this Agreement shall be construed pursuant to the laws of the State of California.

13. Owner shall be furnished at no cost with copies of all raw data and all reports concerning Owner's Property including any sampling or analytical data generated by Activities on the Property at the time such data and reports are generated.

14. Owner may designate part or all of its polystyrene manufacturing process as confidential-trade secret, and access may be denied to Participating Parties or access may be granted pursuant to a written confidentiality agreement, at the option of Owner.

KAZ

IN WITNESS HEREOF, the parties have executed this Agreement on the date set forth below their respective signatures.

OWNER:
AMOCO CHEMICAL COMPANY

By: Ronald G. Hanim

DATE:
9/16/92

PARTICIPATING PARTIES:

DATE:
8/31/92

SCHEDULE A

The Property is further described as:

Amoco to provide legal description.

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SCHEDULE B

WORK PLAN FOR AMOCO TORRANCE PLANT

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TABLE OF EXHIBITS

Exhibit A	Special Warranty Deed
Exhibit B	Bill of Sale
Exhibit C	Assignment and Assumption Agreement
Exhibit D	Trademark Consent
Exhibit E	Technology License
Exhibit F	Styrene Supply Agreement
Exhibit G	Employee Assignment Agreement
Exhibit H	Technical Services Agreement
Exhibit I	Security Agreement
Exhibit J	Guaranty
Exhibit K	Guaranty
Exhibit L	Opinion of Counsel
Exhibit M	Amoco Board of Directors Resolutions
Exhibit N	Opinion of Counsel
Exhibit O	Buyer Board of Directors Resolutions

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EXHIBIT A

Order No.
Escrow No.
Loan No.

HEN RECORDED MAIL TO:

SPACE ABOVE THIS LINE FOR RECORDER'S USE

MAIL TAX STATEMENTS TO:

DOCUMENTARY TRANSFER TAX $.....

.... Computer on the consideration or value of property conveyed; OR
.... Computed on the consideration or value less liens or encumbrances remaining at time of sale.

Signature of Declarant or Agent determining tax -- Firm Name

SPECIAL WARRANTY DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

a corporation organized under the laws of the State of , does hereby

GRANT to

the real property in the City of , State of California, described as
County of

PARCEL 1:

The easterly 258 feet of the westerly 467 feet of the south 3 acres of Lot 5 of Tract No. 4671, in the county of Los Angeles, state of California, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

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PARCEL 2:

The northerly 12-1/2 feet of the easterly 258 feet of the westerly 467 feet of Lot 6 of Tract No. 4671, in the county of Los Angeles, state of California, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

RESERVING therefrom an easement for ingress and egress and for location and placement of underground utilities and/or sewer lines over that portion of Parcel 2, hereinabove described, included within the lines of Parcel 3 hereinafter described.

PARCEL 3:

A nonexclusive easement for ingress and egress for the location and placement of underground utilities and/or sewer lines over the northerly 25 feet of the westerly 467 feet of Lot 6 of Tract No. 4671, in the county of Los Angeles, state of California, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county, as created by that certain agreement dated April 17, 1962 and recorded concurrently herewith.

PARCEL 4:

The easterly 160.30 feet of the southerly 3 acres of lot 5 of Tract No. 4671, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

PARCEL 5:

An easement for roadway, ingress and egress purposes over the northerly 25 feet of the westerly 25 feet of the easterly 160.30 feet of lot 6 of Tract No. 4671, as per map recorded in book 56 pages 30 and 31 of Maps, in the office of the county recorder of said county.

This deed is executed and delivered subject to the following:

1. (i) All easements, covenants, conditions, assignments, restrictions, mechanics liens, and reservations of records; (ii) all building, zoning, and other applicable ordinances and regulations of any municipal, county, state or federal authority having jurisdiction on the Premises which are not violated by the existing structures; (iii) the lien for real property taxes for the year in which conveyance occurs provided they are due or payable; (iv) all encroachments, overlaps, and other matters which would be disclosed by an accurate current survey; (v) minor title defects or liens consisting of minor survey exceptions and other unrecorded easements or rights of way or other restrictions as to the use of the Premises provided the same does not render title unmarketable; (vi) such facts as would be revealed by an inspection of the Premises; and (vii) the general or standard printed exceptions and exclusions usually contained in commitments for title insurance.

2. Grantor specifically makes no warranty or representation as to the condition of the Land or its fitness for any particular purpose, or its environmental condition or freedom from hazardous waste, flammable, explosive or toxic materials. Grantee has made its own inspection of the Land and relies solely upon the results of said inspection without any reliance whatsoever on any acts or representations of Grantor, its employees or agents whatsoever. Accordingly, Grantee expressly releases Grantor from all claims of every kind or nature arising by reason of, or in connection with, the ownership, possession, handling or use of said land and agrees to defend, indemnify and hold Grantor harmless from and against any and all claims, demands, causes of action, losses, damages, costs or expenses of any kind whatsoever, (including without limitation, attorneys' fees) by any person, arising from or in any way connected with the ownership, possession, handling or use of the Land, including claims for which Grantor is held strictly liable and/or claims for which Grantor is held partly or wholly at fault.

KAZ

Dated _____

_____

STATE OF CALIFORNIA]
COUNTY OF] ss.
]
_____]

By _____
President

On _____
before me, the undersigned, a Notary Public in and for said State, personally appeared _____
_____
known to me to be the _____
President, and _____
known to me to be the _____
Secretary of the corporation that executed the within instrument, and known to me to be the persons who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

By _____
Secretary

WITNESS my hand and official seal.

Signature _____

(This area for official notarial seal)

EXHIBIT B

BILL OF SALE

BILL OF SALE, dated _____, 1993 from AMOCO CHEMICAL COMPANY, a Delaware corporation (the "Seller"), to AMERICAN POLYSTYRENE CORPORATION, a California corporation (the "Buyer").

W I T N E S S E T H:

WHEREAS, pursuant to the Agreement for Sale and Purchase of Assets, made _____, 1993 (the "Sale Agreement"), between the Seller and the Buyer, the Seller has agreed to sell, assign, transfer and deliver to the Buyer, and the Buyer has agreed to purchase, acquire and accept, certain assets of the Seller described in Section 1.1(b) and (c) of the Sale Agreement (the "Purchased Assets");

WHEREAS, the Seller is executing and delivering this Bill of Sale to the Buyer for the purpose of selling, assigning, transferring and conveying to, and vesting in, the Buyer all of Seller's right, title and interest in all of the Purchased Assets, subject to the security interest in Inventories (as such term is defined in the Sale Agreement) provided for in the security agreement executed and delivered pursuant to Section 4.3(d) of the Sale Agreement (the "Security Agreement");

WHEREAS, simultaneously with such sale and pursuant to due authorization, the Buyer has paid the amount contemplated by Section 4.2 of the Sale Agreement; and

WHEREAS, Amoco is being granted a security interest in the Inventories pursuant to the Security Agreement, in order to secure any payment required by Buyer under Section 4.3 of the Sale Agreement for Working Capital;

NOW, THEREFORE, in consideration of the premises and the sum of Ten Dollars ($10) and other good and valuable consideration, receipt of which is hereby acknowledged, the Seller by these presents does bargain and sell, assign,

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transfer, convey and deliver to, and vest in, the Buyer, its successors and assigns forever, all of the Seller's right, title and interest, legal and equitable, in and to the Purchased Assets, subject to the liens and encumbrances listed in Schedule 6 of the Sale Agreement, and subject to the security interest in Inventories provided for in the Security Agreement:

(a) the Equipment as described in Section 1.1(b) of the Sale Agreement; and

(b) the Working Capital as described in Section 1.1(c) of the Sale Agreement.

PROVIDED, HOWEVER, that there shall be excluded from the Purchased Assets sold, assigned, transferred and delivered to the Buyer under this Bill of Sale, all assets and properties described as Excluded Assets in Section 1.2 of the Sale Agreement.

TO HAVE AND TO HOLD all such Purchased Assets unto the Buyer, its successors and assigns, forever.

This Bill of Sale is an instrument of transfer contemplated by, and is executed pursuant to, the Sale Agreement, and nothing contained herein shall be deemed to modify any of the provisions of the Sale Agreement or any rights or obligations of the parties under the Sale Agreement.

Seller for itself, its successors and assigns, hereby covenants and agrees that, at reasonable times and from time to time forthwith upon the reasonable request of the Buyer, the Seller will do, execute, acknowledge and deliver or cause to be done, executed, acknowledged and delivered, all such further acts, deeds, instruments, transfers and assurances as may be reasonably requested by the Buyer in order to assign, transfer, set over, convey, assure and confirm unto, and vest in, the Buyer, its successor and assigns, any or all of the Purchased Assets assigned to the Buyer, subject to the aforementioned liens, encumbrances and security interest.

This Bill of Sale is executed by the Seller and shall be binding upon the Seller, its successors and assigns, for the uses and purposes above set forth and

KAZ

referred to, as of the date hereof.

IN WITNESS WHEREOF, the Seller has caused this Bill of Sale to be executed by its duly authorized officer on the day and year first above written.

(SEAL) AMOCO CHEMICAL COMPANY

Attest: _____ By: _____

Title: _____ Title: _____

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EXHIBIT C

ASSIGNMENT AND ASSUMPTION AGREEMENT

THIS AGREEMENT is made this ___ day of _____, 1993, by and between AMOCO CHEMICAL COMPANY, a corporation organized and existing under the laws of the State of Delaware, having its principal office at 200 East Randolph Drive, Chicago, Illinois 60601 (hereinafter referred to as "Assignor") and AMERICAN POLYSTYRENE CORPORATION, a corporation organized and existing under the laws of the State of California, having its principal office at 3061 Maria Street, Rancho Dominguez, California 90221 (hereinafter referred to as the "Assignee").

W I T N E S S E T H:

WHEREAS, Assignor and Assignee have entered into an Agreement for Sale and Purchase of Assets, dated _____, 1993, relating to the purchase by Assignee of certain assets of Assignor (the "Sale Agreement");

WHEREAS, pursuant to the Sale Agreement, those Contracts and Permits of Assignor described in Section 1.1(d) and (e) of the Sale Agreement are to be assigned to and assumed by Assignee;

WHEREAS, Assignor, to the extent it is legally and contractually able to do so, wishes to assign all of its rights and obligations as will arise under such Contracts and Permits to Assignee, and Assignee is willing to accept and assume from Assignor all such rights and obligations;

NOW, THEREFORE, for and in consideration of the mutual covenants, and subject to the terms and conditions contained herein, the parties hereto agree as follows:

1. Assigned Contracts

For purposes of this Agreement, the term "Assigned Contracts" shall mean all Contracts as described in Section 1.1(d) of the Sale Agreement.

2. Assigned Permits

For purposes of this Agreement, the term "Assigned Permits" shall

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mean all Permits as described in Section 1.1(e) of the Sale Agreement.

3. Assignment and Assumption

(a) Subject to the terms, covenants, conditions, and provisions of the Assigned Contracts and Assigned Permits, and to the extent it is legally and contractually able to do so, Assignor hereby sells, transfers, sets over and assigns unto Assignee all of Assignor's rights, privileges, duties, and obligations under the Assigned Contracts and Assigned Permits.

(b) Assignee hereby accepts the assignment by Assignor set forth in (a) above and assumes all rights, duties, liabilities and obligations of Assignor under the Assigned Contracts and Assigned Permits pertaining to the period on and after the date hereof and agrees to perform and comply with all terms and conditions of the Assigned Contracts and Assigned Permits, including without limitation, payment of all amounts hereafter becoming due thereunder, and performance of all obligations hereafter to be performed thereunder, and Assignor shall have no further duty or obligation therein, except as provided in paragraph 4 hereof or in the Sale Agreement.

4. Subsequent Action

Subject to the provisions of Section 1.5 of the Sale Agreement, Assignor shall, from time to time at Assignee's request, use its reasonable efforts for a period of six (6) months from the date hereof to assist Assignee in securing the consent of any third parties which may be required to effect or perfect the assignment to Assignee of Assignor's rights in or under the Assigned Contracts and Assigned Permits; provided, however, that Assignor shall not be obligated to pay any consideration therefor to the party from whom the consent or waiver is requested.

5. Relationship With Sale Agreement

(a) The representations, warranties, covenants and limitations

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contained in the Sale Agreement and affecting the Assigned Contracts and Assigned Permits shall apply with equal effect under this Agreement, it being understood that "Amoco" in the Sale Agreement is "Assignor" herein and "Buyer" in the Sale Agreement is "Assignee" herein; and

(b) Assignor ("Amoco" in the Sale Agreement) and Assignee ("Buyer" in the Sale Agreement) agree to allocate liabilities between themselves as set forth in Article V of the Sale Agreement and indemnify each other and hold each other harmless as set forth in Article X of the Sale Agreement for Claims (as defined in Article V of the Sale Agreement) asserted in connection with or arising out of the Assigned Contracts and Assigned Permits.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first above written.

AMOCO CHEMICAL COMPANY

By:_____

Title:_____

AMERICAN POLYSTYRENE CORPORATION

By:_____

Title:_____

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EXHIBIT D

April ____, 1993

President
American Polystyrene Corporation
3061 Maria Street
Rancho Dominguez, California 90221

Dear Sir:

In accordance with, and in consideration of your execution of, the Agreement for Sale and Purchase of Assets (the "Agreement") executed on _____ by and between Amoco Chemical Company, an affiliate of Amoco Oil Company, and American Polystyrene Corporation (Buyer), Amoco Oil Company (owner of the AMOCO name and logo) hereby extends its consent to Buyer for a period not to exceed ninety (90) days from the date of closing of the Agreement, for Buyer to use the AMOCO name and logo for the sole purpose of exhausting inventories purchased by Buyer under the Agreement which bear such name and/or logo.

Very truly yours,

Robert J. Rauscher
Vice President Marketing

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Exhibit E

LICENSE AGREEMENT

UNDER PATENT RIGHTS AND TECHNICAL INFORMATION

IN CONNECTION WITH THE SALE OF AMOCO CHEMICAL COMPANY'S TORRANCE, CALIFORNIA POLYSTYRENE PLANT

BETWEEN

AMOCO CORPORATION
(a Corporation of Indiana)

AND

COMPANY

(a Corporation of ----------)

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AGREEMENT INDEX

ARTICLE I--Definitions 2

ARTICLE II--Grants 3

ARTICLE III--Confidentiality 4

ARTICLE IV--Liabilities 5

ARTICLE ARTICLE V--Termination 6

ARTICLE ARTICLE VI--Addresses 7

ARTICLE VII--Miscellaneous 8

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LICENSE AGREEMENT

This Agreement made effective _____, by and between Amoco Corporation (hereinafter "AMOCO"), a corporation of Indiana, having a principal place of business at Chicago, Illinois, and ---------- (hereinafter "COMPANY"), a corporation of ----------., having a principal place of business at ----------.

WITNESSETH:

WHEREAS, AMOCO holds all right, title and interest in patents and technical information based on developments of its Affiliate, Amoco Chemical Company ("Amoco Chemical"), relating to polystyrene produced by bulk, batch-mode polymerization of styrene monomer as embodied in Amoco Chemical's Torrance, California Polystyrene Unit;

WHEREAS, Amoco Chemical has entered into an Agreement For Sale and Purchase of Assets relating to the Torrance, California Polystyrene Plant with COMPANY (the "Sale and Purchase Agreement").

WHEREAS, COMPANY will require a right and license from AMOCO under such patents and technical information to operate the Assets transferred to COMPANY pursuant to the Sale and Purchase Agreement;

WHEREAS, AMOCO is willing to grant such right and license subject to the terms and conditions contained herein;

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, the parties hereto agree as follows:

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ARTICLE I--Definitions

For the purposes hereof, unless otherwise defined herein, terms defined in the Sale and Purchase Agreement shall have the same meanings herein, however, the following terms have the meanings set forth:

1.01 "Patent Rights" means United States and foreign Letters Patent, together with United States and foreign patent applications pending at the date of Closing, owned or controlled by AMOCO (in the sense of having an unrestricted right to grant licenses) necessary to manufacture, use and sell polystyrene produced by bulk, batch-mode polymerization of styrene monomer in Amoco Chemical's Torrance, California Polystyrene Plant (the "Plant") as of Closing. Known Patent Rights are listed in Attachment D-1 hereto, which is made a part hereof.

1.02 "Technical Information" means technical information reduced to writing and existing at the Plant as of Closing, including processes, formulations, techniques and drawings, owned or controlled by AMOCO (in the sense of having an unrestricted right to grant licenses) as provided to COMPANY under pursuant to the Sale and Purchase Agreement, which relates directly to manufacture of poystyrene by bulk, batch-mode polymerization of styrene monomer at the Plant.

1.03 "Licensed Polystyrene" means polystyrene manufactured by COMPANY using any of Patent Rights or Technical Information at the Real Property.

1.04 "Affiliate" means any company of which AMOCO now or hereafter owns or controls, directly or indirectly, fifty percent (50%) or more of the stock having the right to vote for directors thereof.

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ARTICLE II--Grants

Subject to the terms and conditions set forth in this Agreement, AMOCO grants to COMPANY a paid-up, royalty-free, nonexclusive right and license under Patent Rights and Technical Information to manufacture Licensed Polystyrene at the Real Property, and to use and sell Licensed Polystyrene worldwide.

KAZ

ARTICLE III--Confidentiality

3.01 COMPANY shall treat as confidential all Technical Information made available to it and shall not, without prior written consent of AMOCO, disclose to any third party any Technical Information; COMPANY shall limit access to Technical Information to those of its employees reasonably requiring the same for the purposes of this Agreement, and shall not use Technical Information for any purpose other than as expressly authorized by this Agreement. The obligations of this Paragraph 3.01 shall expire ten (10) years from the date of this License Agreement.

3.02 Nothing contained herein shall in any way restrict or impair COMPANY's right to use, disclose or otherwise deal with any information or data which (a) at the time of the disclosure is generally available to the public or thereafter becomes generally available to the public by publication or otherwise through no act of COMPANY; (b) COMPANY can show was in its possession prior to the time of the disclosure to it and was not acquired directly or indirectly from AMOCO or any AMOCO Affiliate; (c) is independently made available as a matter of lawful right to COMPANY by a third party; or (d) is developed by employees of COMPANY not having access to the Technical Information.

3.03 Anything to the contrary in this Article III notwithstanding, COMPANY may disclose Technical Information to third parties in the normal course of business, provided, that such disclosure is subject to a confidentiality obligation coextensive to Paragraph 3.01, hereof.

KAZ

ARTICLE IV--Liabilities

4.01 AMOCO represents that it is the owner of Patent Rights and Technical Information and has the right to grant the rights and licenses described herein. AMOCO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE SUBJECT MATTER OF THIS AGREEMENT.

4.02 AMOCO makes no warranty with respect to the validity of Patent Rights. COMPANY agrees that AMOCO shall not be liable for any loss or damage incurred by COMPANY or its customers as a result of any claim that COMPANY's or its customers' operations using Patent Rights or Technical Information infringes any patent or other property right of any third party.

4.03 AMOCO, its Affiliates, and their respective officers, agents, servants or employees, shall not be liable for any loss, damage, injury or other casualty of whatsoever kind, or by whomsoever caused (irrespective of negligence or fault, whether sole, concurrent, active, passive, comparative, strict, contractual or vicarious of AMOCO), to the person or property of anyone, including COMPANY or any of its customers, arising out of or resulting from COMPANY's or its customers' manufacture, use or sale of Licensed Polystyrene; COMPANY agrees for itself, its customers, its successors and assigns, to indemnify and hold harmless AMOCO, its Affiliates, and their respective officers, agents, servants and employees, from and against all claims, counterclaims, demands, liabilities, suits, actions, losses, costs and expenses (including all reasonable expenses and attorney's fees incurred by or imposed on AMOCO, its Affiliates, and their respective officers, agents, servants or employees, in connection therewith) for such loss, damage, injury or other casualty.

KAZ

ARTICLE ARTICLE V--Termination

5.01 Unless previously terminated in accordance with Paragraphs 5.02 or 5.03 hereof, this Agreement shall continue in full force until the expiration of Patent Rights, or twenty (20) years from the date of this License Agreement, whichever is later.

5.02 COMPANY may terminate this Agreement with respect to Patent Rights upon sixty (60) days' prior written notice to AMOCO. After such termination, COMPANY shall have no rights under Patent Rights. Termination pursuant to this Paragraph 5.02 shall not relieve COMPANY of any other obligation or liability arising from any acts or omissions committed prior to the effective date of such termination.

5.03 If COMPANY is in default as to any obligation hereunder, and fails to remedy such default within sixty (60) days after receipt of written notice thereof from AMOCO specifying the nature of such default, AMOCO may terminate this Agreement by delivering written notice to COMPANY of termination; such termination shall not relieve COMPANY of any other obligation or liability arising from any acts or omissions committed prior to the effective date of such termination.

KAZ

ARTICLE ARTICLE VI--Addresses

Unless otherwise specified in writing, the mailing addresses of the parties hereto are as follows:

AMOCO:	Amoco Corporation Patents and Licensing Department Mail Code 1905 Post Office Box 87703 200 East Randolph Drive Chicago, Illinois 60680-0703 Fax: (312) 856-4972
COMPANY:	Company ---------- ----------

Notices hereunder shall be deemed to have been duly given and served ten (10) days after the mailing thereof by Registered or Certified Mail, postpaid, to the party entitled thereto at its above address, or at such other address as it may from time to time designate in writing to the other party.

KAZ

ARTICLE VII--Miscellaneous

7.01 The making, execution and delivery of this Agreement by COMPANY have been induced by no representations, statements, warranties or agreements by the parties hereof other than those expressed herein. This Agreement embodies the entire understanding of the parties and there are no further or other agreements or understandings, written or oral, in effect between the parties relating to the subject matter hereof.

7.02 Waiver of a breach of this Agreement or the failure of AMOCO to exercise any right under this Agreement shall in no event constitute a waiver as to any future breach, whether similar or dissimilar in nature, or as to the exercise of any future right under this Agreement.

7.03 This Agreement may be amended or modified only by an instrument of equal formality signed by the duly authorized representatives of the respective parties hereto.

7.04 COMPANY shall not, without the prior written consent of AMOCO, assign or transfer its rights or obligations hereunder to a third party, except to a successor to substantially the whole of its business and assets relating to the subject matter of this Agreement. Any assignement made contrary to this paragraph is null and void.

7.05 The titles of each Article in this Agreement are for the convenience of the parties and are not intended to modify the terms and conditions contained therein.

7.06 Nothing contained in this Agreement shall be construed to grant COMPANY any rights or licenses other than expressly stated herein.

7.07 This Agreement shall be construed and the legal relations between the parties determined in accordance with the laws of the State of Illinois, U.S.A., excluding any choice of law rules which may direct the application of the laws of any other jurisdiction.

KAZ

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed in their respective corporate names by their duly authorized representatives as of the date and year first written above.

AMOCO CORPORATION

By _____
Joseph H. Ballway, Jr.
General Manager
Patents and Licensing Department

COMPANY

By _____

Title _____

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Attachment E-1

Known Amoco Patent Rights

NONE

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EXHIBIT F

Amoco Chemical Company
200 East Randolph Drive
Chicago, Illinois 60601

Contract between Amoco Chemical Company herein called Seller and

AMERICAN POLYSTYRENE CORPORATION

hereinafter called Buyer.

Seller agrees to sell and Buyer to buy the following material under the conditions herein specified

Period: From April 1, 1993 To December 31, 1994 and from calendar year to calendar year thereafter provided, however, that either party may terminate this agreement by giving the other party one-hundred eighty (180) days written notice prior to the end of 1994 or any calendar year thereafter.

Material: Styrene Monomer.

Quantity: Minimum Annual rate of twenty million pounds.

Maximum 100% of Buyer's requirements.

Quality: As per specifications in Exhibit A, attached.

Price: Monthly price formula per Exhibit B, attached.

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F.O.B.: Seller's shipping point.
Seller will prepay and add to Buyer's account freight for shipment of Product to Buyer's facility at Torrance, CA. Seller will use its best efforts to obtain the lowest freight rates in shipping Product for Buyer's account.
It is Seller's intention to continue to ship styrene for Buyer out of Rexene's Odessa, TX Plant, but from time to time this option may not be available due to reasons beyond Seller's control.

Terms. Net 30 days from invoice date.

Shipments: and Containers: Tank Car.

OTHER: Terminal Proposal-Seller will retain access to Torrance Plant for use as a terminal for supplying tank trucks of styrene monomer for quantities up to 500,000 pounds/month.

Terms shall be per Exhibit C, attached.

Deliveries: Buyer will give Seller reasonable notice covering shipments Seller is not required to deliver in any month more than monthly quantity specified or (if no monthly quantity is specified), more than the pro rata amount of the maximum quantity In the event of failure of Buyer to take such quantities they may, at Seller's option, be cancelled in whole or in part Seller is not required to deliver any quantities for which Buyer has not given shipping instructions

Conditions: The conditions on the reverse side form a part of this contract unless changed in writing

	Seller		Buyer	
	Amoco Chemical Company			
Signed	By	Title	By	Title

AC-3392 (7-89)

Conditions of Sale

Price – The price(s) herein specified may be revised for any thirty (30) day period by written notice from Seller dispatched not less than fifteen (15) days prior to the date on which any such period commences. In the absence of such written notice from Seller to Buyer, the price then in effect shall continue in effect until such notice is given.

2 **Offer to Meet Lower Price** – If Buyer receives a bona fide offer, in writing, for Buyer to purchase material from a U.S. manufacturer of material other than Buyer or an affiliate of Buyer, at a volume at least equivalent to the minimum annual purchase requirement hereunder, for material of equal grade and quality as that to be supplied hereunder, to be effective for a period at least as long as the then remaining term hereunder at terms comparable to those contained herein, at a price lower than the price in effect hereunder, and if Buyer furnishes satisfactory written evidence of such lower price offer, Seller shall either meet such price on the same quantity of material offered or allow Buyer to purchase the material offered and deduct the quantity purchased from Buyer's minimum purchase and Seller's maximum supply obligations set forth herein.

3 **Credit of Buyer** – If, in Seller's judgment, Buyer's credit shall become impaired at any time, Seller shall have the right to discontinue or make deliveries except for cash until such time as Buyer's credit has been reestablished to Seller's satisfaction. Seller may at any time revise the stated credit terms whenever it deems such action advisable to protect its interest.

4 **Payment Terms** – Any delinquent or overdue invoices shall be subject to a finance charge of one and one-half percent (1½%) per month or the maximum rate allowed by law, whichever is less.

5 **Taxes** – Any tax or other Governmental charge upon the sale and/or shipment of the material(s) herein specified now imposed by Federal, State or Local authorities, or hereafter becoming effective within the life of this contract, shall be added to the price herein provided and shall be paid by Buyer.

6 **Delivery Terms** – The term "f.o.b. shipping point" means that after Seller tenders delivery of the material to a common carrier at Seller's shipping point, title to the material and risk of loss shall pass to Buyer.

7 **Risk of Loss** – As to material(s) to be delivered f.o.b. Seller's plant, title and risk of loss shall pass to the Buyer, and Buyer shall become the sole owner and take possession of such materials when they are loaded into cars or other conveyances at the point of origin. Unless Seller specifically agrees otherwise, Buyer will pay the freight or other delivery charges, inspection fees, if any, and all other charges levied or imposed on the material after the loading is completed. If the Seller prepays such charges on Buyer's request or for Buyer, Buyer will reimburse Seller.

8 **Weights** – Seller's or railroad weights (or Seller's measurements in case of material sold by volume) taken at shipping points, as stated in invoice, shall control unless proved to be in error.

9 **Warranties-Claims** – The Seller warrants that the goods furnished hereunder shall meet the specifications stated herein. NO OTHER WARRANTY WHETHER EXPRESS OR ARISING BY OPERATION OF LAW OR FROM ANY COURSE OF DEALING OR TRADE USAGE OR OTHERWISE IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL EXIST in connection with sale, resale or use of any of the Seller's products. Seller shall in no event be liable for loss of profits or for consequential damages resulting from the sale, resale, or use of any of Seller's products whether or not claimed to be due to the Seller's negligence. Buyer assumes all risk whatsoever as to the result of the use of the material(s) purchased, whether used singly or in combination with other substances. No claim of any kind, whether as to materials delivered or for non-delivery of material(s) shall be greater in amount than the purchase price of the material(s), in respect of which such damages are claimed, and failure to give notice of claim within sixty (60) days from the date of delivery or the date fixed for delivery, respectively, shall constitute a waiver by Buyer of all claims of any kind arising as a result of such delivery or non-delivery.

10 **Assignment** – This contract is not assignable by Buyer except with the written consent of Seller.

11 **Force Majeure** – In case performance of any terms or provisions hereof shall be delayed or prevented because of compliance with any law, decree, request or order of any governmental agency or authority, either local, state or federal, or because of riots, war, public disturbances, strikes, lockouts, differences with workmen, fires, floods, acts of God, accidents of navigation, breakdown or failure of transportation or transportation facilities, failure of or interference with the manufacture, receiving, handling, delivery, or consumption of the material covered hereby, inability to obtain raw materials, fuel, power, labor, containers or transportation facilities, or commercial impracticability, or for any other reason (whether or not of the same class or kind as herein set forth) which is not within the control of the party whose performance is interfered with and which by the exercise of reasonable diligence said party is unable to prevent, the party so suffering may at its option suspend deliveries or receipts during the period such cause continues, and no liability shall attach against either party on account thereof. In the event of a Force Majeure affecting Buyer, Buyer shall apportion its purchases among its contract suppliers of material, including its own departments and affiliates, on an equitable basis. In the event of a Force Majeure affecting Seller, Seller may apportion its available supply of such material among its contract purchasers including its own departments and divisions on an equitable basis without incurring liability for failure to perform this contract. The provision of this paragraph shall not be available to either party which fails to use reasonable diligence to remedy the situation and remove the cause in an adequate manner and with all reasonable dispatch. The requirement that any Force Majeure be remedied with all reasonable dispatch shall not require the settlement of strikes or labor controversies by acceding to the demands of the opposing party or parties.

12 **Entire Contract** – This contract constitutes the full understanding of the parties, and a complete and an exclusive statement of the terms of their agreement. All representations, offers, and undertakings of the parties made prior to the effective date hereof, whether oral or in writing, are merged herein. No conditions, understandings, or agreements purporting to modify or vary the terms of this contract shall be binding unless hereafter made in writing and signed by an authorized representative of each party. No requirement stated herein that an item be in writing may be waived except by means of a written instrument issued by the party making the waiver. The acknowledgement or acceptance by a party of the purchase orders, shipping instructions, or sales acknowledgement forms containing terms or conditions at variance with or in addition to those set forth herein shall not in any event be deemed to modify or vary the terms of this contract.

Authorized Signer – This contract is binding upon Seller only when it is signed by an officer of authorized representative of Seller in its principal office at Chicago, Illinois.

14 **Savings Provisions** – If any provisions hereof is, or becomes, violative of any law, or rule, order or regulation issued thereunder, Seller shall have the right, upon notice to Buyer, to cancel such provision, without effect upon the other provisions, or to cancel further deliveries in their entirety.

15 **Compliance With Federal Laws** – Seller states that all goods delivered under this contract will have been produced in compliance with the requirements of the Fair Labor Standards Act of 1938, as amended. Seller further states that the material sold hereunder is produced in accordance with applicable provisions of Executive Order 11246 dated September 24, 1965, which is incorporated herein by reference.

16 **Waiver** – Waiver by either party of any breach, or failure to enforce any of the terms and conditions of the contract at any time, shall not in any way affect, limit or waive the right of that party thereafter to enforce the contract and compel strict compliance with every term and condition thereof.

17 **Applicable State Law** – THE CONSTRUCTION OF THIS CONTRACT and the rights and obligations of the parties hereunder SHALL BE GOVERNED BY THE LAWS OF THE STATE OF ILLINOIS, excluding any choice of law rules which may direct the application of the laws of any other jurisdiction.

18 **Material Safety Data Sheet** – Seller has provided to Buyer and Buyer hereby acknowledges receipt of Seller's current Material Safety Data Sheet concerning material.

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EXHIBIT A

STYRENE MONOMER SPECIFICATIONS

PROPERTY	SPECIFICATION	TEST METHOD
Purity, Wt. % min.	99.6	ASTM D-3799
Color, APHA Platinum-Cobalt	10 max.	ASTM D-1209
Polymer, ppm	10 max.	ASTM D-2121
Sulfur, ppm (as Sulfur)	25 max.	ASTM D-3961
Chlorides, ppm (as Chlorine)	50 max.	Amoco Method
Peroxides, ppm (as Hydrogen Peroxide)	100 max.	ASTM D-2340
Aldehydes, ppm (as Benzaldehyde)	200 max.	ASTM D-2119
Suspended Matter	Nil, bright and clear	Visual Inspection
Inhibitor, Tertiary Butyl Catechol, ppm	10 min. 15 max.	ASTM D-2120
Specific Gravity, 20/20°C	0.9070 min. 0.9080 max.	ASTM D-891
Benzene, ppm	1 max.	ASTM D-5135

Additional inhibitor is available upon request, at target level ± 5 ppm.

** UPDATE 12-28-92

KAZ

EXHIBIT B

MONTHLY PRICE FORMULA

The monthly styrene price, in cents per pound, shall be determined as follows:

Styrene Price = 0.50* (Domestic Contract Price) + 0.50* (Domestic Spot Price)

WHERE:

Domestic Contract Price = The predominant US domestic contract price, F.O.B. Gulf Coast, as agreed upon by Seller and Buyer, no later than five (5) working days after the start of each month unless mutually agreed by both parties that the price has not been determined. If agreement on the domestic contract price is not reached during this time period, the price shall be the net transaction price as published in the first issue of Monomer's Market Report published by CMAI after the start of the month less 1 cents per pound. In the event that a range of prices is published, the average of the range will be used. In the event said publication ceases to be published or the publisher significantly changes the basis on which such prices are computed, the parties agree to meet and, in good faith, negotiate a mutually agreed reference.

Domestic Spot Price = The predominant domestic spot price, F.O.B. Gulf Coast, as agreed upon by Seller and Buyer no later than five (5) working days after the start of each month.

KAZ

EXHIBIT C

SERVICE AGREEMENT

THIS AGREEMENT, made and entered into as of _____ _____, 1993 by and between AMOCO CHEMICAL COMPANY, a Delaware corporation with a place of business at 200 East Randolph Drive, Chicago, Illinois 60601 (hereinafter called "Amoco"), and AMERICAN POLYSTYRENE CORPORATION, a California corporation with a place of business at _____ (hereinafter called "Buyer"):

WITNESSETH:

WHEREAS, Amoco contemplates the sale of Styrene meeting the specifications attached hereto (hereafter called "Styrene") and is desirous of having Buyer receive styrene and to store Styrene for Amoco; and

WHEREAS, Buyer is acquiring from Amoco and will operate certain bulk storage facilities in Torrance, California, which are suitable for the receipt of said Styrene and the storing and shipping of Styrene, and is willing to provide such facilities for Amoco's use;

NOW, THEREFORE, the parties hereto agree as follows:

(1) FACILITIES. Buyer agrees to provide the receiving, storing, and shipping facilities required to perform the operations contemplated hereunder. Said facilities are described in Schedule "A" annexed hereto and made a part hereof. Buyer shall furnish personnel for the operation of the said facilities.

(2) OPERATIONS. Amoco will deliver, or cause to be delivered, tank cars, or tank trucks of Styrene to Buyer's facilities for receiving, storing, and/or shipping by Buyer and Buyer will in compliance with applicable State, Federal and local laws, receive, store, and/or ship the Styrene in accordance with written orders and instructions given by Amoco to Buyer.

Buyer shall complete receiving and shipping documents as supplied by Amoco covering receipts and deliveries effected by Buyer at the direction of Amoco, and Buyer shall forward to Amoco, properly executed copies of the receiving and shipping documents.

(3) TERM OF AGREEMENT. This Agreement is effective _____ _____, 1993 and shall continue for a period of two (2) years and from year to year thereafter, subject to either party's right to terminate at the end of any contract year upon having given three hundred sixty (360) days prior written notice.

KAZ

(4) CHARGES. For all services performed by Buyer for Amoco hereunder, Amoco shall pay Buyer in accordance with the schedule of charges outlined in Schedule "B", Rates and Payments, attached hereto and made a part hereof.

(5) TITLE. Amoco will deliver Styrene to Buyer both (1) for sale to Buyer pursuant to the Styrene Sales Agreement of even date herewith, and (2) for storage by Buyer pursuant to this Agreement. With each delivery, Amoco shall designate what portion of the delivery is for sale to Buyer and what portion is for storage for Amoco. Title to Styrene sold to Buyer by Amoco shall be governed by the Styrene Sales Agreement. Title to Styrene delivered by Amoco to Buyer for storage shall remain in Amoco. Buyer may, however, commingle Amoco's Styrene with other styrene held by Buyer.

(6) INDEPENDENT CONTRACTOR. Buyer is an independent contractor, and Buyer shall use its own discretion and shall have complete and authoritative control over the work and its employees as to the schedules and other details of doing the work and shall assume all the rights, obligations and liabilities applicable to it as such independent contractor.

(7) PRODUCT LIABILITY. So long as Amoco's Styrene is in Buyer's hands or situated at Buyer's facilities, Buyer shall be responsible and liable for loss, contamination or damage to Amoco's Styrene.

(8) GENERAL LIABILITY. Each party shall be responsible for liabilities, losses, damages or claims for personal injury or damage to property arising in connection with Styrene to the extent attributable to the Styrene while it is in the possession of or under the control of said party, and said party shall indemnify and hold the other harmless against any such liabilities, losses, damages or claims.

(9) PRODUCT LOSSES. Buyer shall be entitled to a handling loss allowance of 1/2 of 1% of Styrene and inhibitors. Handling losses in excess of this amount as determined by an annual physical inventory conducted jointly by Amoco and Buyer or their designated representatives shall be reimbursed by Buyer to Amoco on the basis of Amoco's then current market price for Styrene or inhibitors F.O.B. Buyer's terminal. Overages and shortages shall be averaged against each other for each annual inventory period; all aggregate overages shall be credited to Amoco.

(10) INSURANCE COVERAGE. Buyer is to provide and shall carry the following insurance during the term of this Agreement:

A. Statutory Workmen's Compensation in compliance with the Workmen's Compensation Laws of the State of California.

K-72

B. Comprehensive General Liability Insurance including Contractual Liability Coverage with a minimum combined single limit of $1,000,000 each occurrence for Bodily Injury or Property Damage.

(11) DEFAULT OF EITHER PARTY. If either party shall fail to perform any of its obligations hereunder, then, the other party may give written notice thereof to the party in default. If, within thirty (30) days after receipt of said notice, the party does not remove and remedy the default, and diligently prosecute such action so that the default is cured, then the party not in default may forthwith cancel this Agreement without any further obligation and shall have the right to collect any amounts due it hereunder.

(12) MEASUREMENT AND INSPECTION. The quantity of Styrene received or shipped by truck transports by Buyer shall be determined on the basis of weigh tickets on a Certified Scale designated by Buyer.

(13) INVENTORY. Buyer shall furnish Amoco with a monthly physical inventory covering the Styrene held in storage for Amoco by Buyer. The representatives of Amoco have the right at reasonable intervals to conduct inventories of Amoco's Styrene in the terminal.

(14) FORCE MAJEURE. Neither party shall be responsible for any delays, losses, damages or failure of performance of any of its obligations under this Agreement, where such delays, losses, damages or failures are due to Force Majeure (events beyond the reasonable control of the party affected). If any such delays, losses, damages or failures of performance should occur, then the obligations of the parties hereto shall be suspended for the period during which performance is prevented by such delay, loss, damage or failure of performance.

(15) MAINTENANCE AND TAXES. Buyer shall maintain all its facilities to be employed hereunder in a good and tenantable condition of maintenance and repair and in compliance with all applicable laws. Buyer shall be responsible for the payment of all property taxes with respect to such facilities. Amoco shall pay all taxes, assessments and fees (including any charges assessed in lieu thereof) that may be assessed against Amoco's Styrene at the terminal.

(16) AMENDMENTS. The entire agreement of the parties in respect hereof is contained herein. No alterations or modifications hereof shall be effective unless in writing, signed by the parties hereto.

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(17) ASSIGNMENT. This Agreement shall be assignable to any successor corporation of Buyer owning the Torrance, California Facility or of Amoco.

(18) NOTICES. All notices required or permitted by this contract shall be deemed to have been properly given when delivered personally or sent by certified mail to the parties hereto at the respective address set forth herein or at such other address as may be furnished by either party to the other in writing.

WITNESS the due execution hereof the date first above written.

AMOCO CHEMICAL COMPANY

By _____

AMERICAN POLYSTYRENE CORPORATION

By _____
Name _____
Title _____

KAZ

SCHEDULE "A"

FACILITIES

1. One (1) 31,000 gallon steel storage tank, unlined, with fire suppression system.

2. One (1) 49,000 gallon steel storage tank, unlined, with fire suppression system.

3. Three (3) tank car unloading stations with magnetic strainers.

4. One (1) transport loading station.

5. Pumps and loading lines capable of loading transports at 150 G.P.M..

6. All of the above are dedicated to the Torrance facility, but are not dedicated to Amoco's exclusive use.

KAZ

SCHEDULE "B"

RATES

1. Charges: Charge covers receipt, storage, reloading onto outbound tanktrucks and testing. Amoco will pay to Buyer a handling fee of $0.0025 (one-fourth of one cent) per pound of Styrene for all Styrene monomer that Amoco withdraws from Buyer's Styrene storage facility for resale to Amoco customers. As Amoco will also be delivering Styrene to this facility for consumption by Buyer, no fee will be payable upon Amoco's delivery to Buyer, only on Buyer's return delivery of Styrene to Amoco from storage.

2. Weighing Charges: Charge covers weighing trucks on a certified scale designated by Buyer.

3. Payment: Payment shall be made by Amoco to Buyer for the foregoing within thirty (30) days of receipt of monthly invoice.

KAZ

EXHIBIT G

EMPLOYEE ASSIGNMENT AGREEMENT

THIS AGREEMENT is made this ____ day of _____, 1993, by and between Amoco Chemical Company (hereinafter called "Amoco"), a corporation organized and existing under the laws of the State of Delaware, and American Polystyrene Corporation (hereinafter called "Buyer"), a corporation organized and existing under the laws of the State of California.

W I T N E S S E T H:

WHEREAS, Amoco and Buyer have entered into an Agreement for Sale and Purchase of Assets (the "Sale Agreement") dated as of the ____ day of ____, 1993, providing for the transfer by Amoco and the acquisition by Buyer of certain assets of Amoco; and

WHEREAS, pursuant to Section 3.4 of the Sale Agreement, Buyer and Amoco are to enter into an agreement, in the form annexed to the Sale Agreement as Exhibit "G", covering the assignment by Amoco to Buyer, for a period not to exceed fourteen (14) calendar days, of a certain person whose services are requested by Buyer to assist in the transition to Buyer's operation of the Assets (as such term is defined in the Sale Agreement) acquired by Buyer under the Sale Agreement; and

WHEREAS, this Agreement is the agreement to be entered into by Buyer and Amoco pursuant to Section 3.4 of the Sale Agreement; and

KAZ

WHEREAS, the person whose services are requested by Buyer is an employee of Amoco working, prior to Closing, at the Real Property (as such term is defined in the Sale Agreement), and but for this Agreement such person would be reassigned by Amoco as of Closing to another location;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein contained, Amoco and Buyer hereby agree as follows:

ARTICLE 1 - CONDITIONS OF ASSIGNMENT

1.01 Assignment. Amoco will assign exclusively to Buyer Jeffrey J. Campbell ("Employee"), subject, however, to the limitations herein set forth.

1.02 Continued Employment Conditions. Buyer agrees that the Employee shall continue at all times to be an employee of Amoco or its affiliates and shall remain subject to and benefit from the terms of his employment with Amoco. In addition, such Employee shall continue to be eligible for participation in all Amoco benefit plans and shall continue to receive his salary and/or other compensation from Amoco. Employee shall be ineligible for participation in any employee benefit programs of Buyer.

1.03 Facilities. Buyer will provide the Employee with all secretarial and clerical services, office space and equipment and other facilities required by such individual for such period of time as such individual is assigned to Buyer.

1.04 Length of Assignment. The Employee's assignment hereunder shall commence as of the Closing Date and shall continue for a maximum period of fourteen (14) calendar days.

KAZ

Provided, however, the assignment hereunder of Employee may be terminated by Buyer on two (2) days' written notice for just cause, or on five (5) days' written notice upon any good faith determination of lack of need or unsuitability for the assignment.

ARTICLE II - COMPENSATION AND PAYMENT

2.01 Expense Accounts. Buyer shall reimburse the Employee directly for any business expenses (including, by way of example and not by way of limitation, travel and related costs) and other business outlays undertaken by such individual in the course of his or her assignment to Buyer, all in accordance with the practices and procedures followed by Buyer with respect to its own employees.

2.02 Responsibility. The work to be performed by Employee during the period of his assignment shall be under the sole direction and control of Buyer.

ARTICLE III - REPRESENTATIONS, WARRANTIES AND INDEMNITIES

3.01 Representations and Warranties of Buyer. Buyer hereby represents and warrants to Amoco that the facilities and conditions of employment provided by Buyer to the Employee will comply in all material respects with the applicable requirements of the Occupational Health and Safety Act, as amended, and Buyer will provide Amoco with all information necessary to maintain compliance in all respects with the Fair Labor Standards Act, as amended, as well as all applicable regulations and orders issued pursuant thereto.

Buyer represents and warrants that the duties and services, positions, privileges and obligations of Employee, as well as the facilities and services provided to them pursuant to Section 1.04 above, will be commensurate with those to which they would

KAZ

otherwise be entitled from, and with which they would otherwise be provided by, Amoco.

3.02 Disclaimer of Amoco. There are no express warranties by Amoco hereunder, and no warranties shall be implied under this Agreement or at law or in equity, with respect to the subject matter hereof. By way of example and not by way of limitation, Amoco does not warrant the quality or competence of Employee or that the assignment of such Employee will permit Buyer to achieve any specific or general results, nor shall Amoco have any liability whatsoever for the acts, omissions and/or other performance of such Employee, including without limitation any negligence, ordinary or gross, or intentional wrongs of such Employee, while such Employee is assigned to Buyer. Buyer agrees that it has requested the services of Employee, that it has not relied in any way on Amoco in requesting such services, and provided Amoco complies with Sections 1.01, 1.04 and 4.02, it expressly releases Amoco from any liability under this Agreement, whether for negligence or otherwise. In no event shall Amoco be liable for special, indirect, incidental, consequential or punitive damages, whether or not resulting from Amoco's or the Employee's negligence.

3.03 Indemnity by Buyer. Buyer shall defend, indemnify and hold Amoco harmless from and against all claims, losses and liabilities (including costs and expenses incidental thereto) which may be asserted against or incurred by Amoco in connection with acts, omissions and/or other performance of Employee while assigned to Buyer. For purposes of this Section 3.03, the term "Amoco" shall be deemed to include Amoco, its subsidiaries and affiliated companies, its officers, directors, employees and agents and the officers, directors, employees and agents of its subsidiaries and affiliated companies.

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3.04 Survival of Indemnity. The indemnity obligation set forth in this Article III shall survive termination or expiration of this Agreement.

ARTICLE IV - TERM AND TERMINATION

4.01 Term. The term of this Agreement shall commence on the Closing Date described in the Sale Agreement and shall expire coterminous with the termination of the assignment of Employee, unless sooner terminated in accordance with Section 4.02 below.

4.02 Termination. Either party may terminate this Agreement by written notice to the other party hereto, and without liability to said other party, in the event that said other party:

(a) fails to perform, keep or fulfill any of the other covenants, undertakings, obligations or conditions of this Agreement, the Sale Agreement or any of the ancillary agreements or instruments referred to in Articles III, IV and VIII of the Sale Agreement, and fails to remedy such default within five (5) days after written notice of same; or

(b) is guilty of a breach of warranty or material misrepresentation hereunder.

4.03 Settlement of Accounts. Within ten (10) days after the expiration or termination of this Agreement for any cause whatsoever, all accounts due and owing as between the parties shall become due and payable.

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ARTICLE V - MISCELLANEOUS

5.01 Force Majeure. Neither party shall be liable to the other party hereto for its failure or delay in performing its obligations hereunder (other than its obligations to pay money) due to any contingency beyond such party's reasonable control, including, without limitation, acts of God, fires, floods, wars, acts of war, sabotage, terrorism accidents, labor disputes or shortages, governmental laws, ordinances, rules or regulations (whether valid or invalid), inability to obtain power, material, equipment or transportation and any other similar contingency.

5.02 Relationship of the Parties. Nothing in this Agreement shall create or be deemed to create a partnership, joint venture, agency, landlord-tenant or any other relationship between the parties except as may be expressly set forth in this Agreement.

5.03 Notices. (a) Notices under this Agreement shall be given in writing and delivered:

If to Amoco to:	Amoco Chemical Company Attn.: Vice President and General Manager, Olefins and Polymers 200 East Randolph Drive Chicago, Illinois 60601
If to Buyer to:	American Polystyrene Corporation Attn: President 3061 Maria Street Rancho Dominguez, California

or to such other address or individual as may be designated by such party.

(b) Notices shall be deemed to have been given:

(1) On the next succeeding business day if the notice has been delivered by hand or sent by facsimile; or

KAZ

(2) On the next succeeding business day following receipt of a notice sent by registered or certified U.S. mail, return receipt requested, as evidenced by the return receipt card properly endorsed by the receiving party.

5.05 Assignments. Neither party may assign or otherwise transfer its rights or delegate or otherwise transfer its obligations hereunder without the prior written consent of the other party hereto.

5.06 Entire Agreement; Waiver; Amendments. This Agreement, together with the Sale Agreement and all Exhibits and Schedules thereto, constitutes the entire agreement of the parties with respect to the subject matter hereof, supersedes all prior writings and understandings with respect thereto, and may not be modified or amended except by a writing duly executed by authorized representatives of the respective parties. No change in, modification of, addition to or waiver of any of the terms and conditions of this Agreement shall be effected by the acknowledgment or acceptance of requests containing additional or different terms and conditions. No waiver of any of the provisions hereof shall be effective unless in writing and signed by the party against whom asserted and no waiver made shall bind either party to a waiver of any succeeding breach of the same or any other provisions hereof.

5.07 Governing Law. This Agreement and the rights and obligations of the parties hereunder shall be governed by and construed in accordance with the laws of the State of Illinois, excluding any choice of law rules which may direct the application of the laws of any other jurisdiction.

5.08 Headings and Captions. The headings and captions to the Articles and Sections of this Agreement have been inserted for

KAZ

convenience of reference only and shall not affect or be deemed to affect the construction of this Agreement.

IN WITNESS WHEREOF, Amoco and Buyer have caused this Agreement to be duly executed by officers thereunto duly authorized, all as of the day and year first above written.

AMOCO CHEMICAL COMPANY

By: _____

Title: _____

AMERICAN POLYSTYRENE CORPORATION

By: _____

Title: _____

EXHIBITG

KAZ

EXHIBIT H

TECHNICAL SERVICES AGREEMENT

This Agreement is made this _____ day of _____,1993, by and between Amoco Chemical Company, a corporation organized and existing under the laws of Delaware (hereinafter called "Amoco"), and ---------- , a corporation organized and existing under the laws of ---------- (hereinafter called "Buyer").

WITNESSETH:

WHEREAS, Amoco and Buyer have entered into an Agreement for Sale and Purchase of Assets, dated _____,1993, relating to the purchase by Buyer of certain assets of Amoco (the "Sale Agreement");

WHEREAS, Pursuant to Section 3.5 of the Sale Agreement, Amoco agreed to provide certain technical services to Buyer for a limited time after Closing; and

WHEREAS, Amoco is willing to provide such services subject to the terms and conditions contained herein;

NOW, THEREFORE, in consideration of the premises and mutual covenants and agreements contained herein, and in consideration of the undertakings of Amoco in the Sale Agreement the parties hereto agree as follows:

1. In accordance with the terms and conditions contained in this Technical Services Agreement, Amoco will provide to Buyer routine analytical services listed in Attachment H-1 for three (3) months following Closing.

2. For the purposes of this Technical Services Agreement, the term Samples means portions of polystyrene produced at the Real Property, which are suitable for testing for composition and physical properties.

3. Amoco will accept Samples from Buyer up to three (3) months after Closing. Such Samples must be delivered to Amoco's analytical services laboratory located at 150 West Warrenville Road, Naperville, Illinois 60563-8460, shipping prepaid, in accordance with all applicable governmental transportation regulations. All Samples must be contained in

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glass bottles and sealed with a lid in a secure manner. All Samples must be identified as "Torrance Polystyrene Test Samples" and directed to the attention of _____. In respect of each Sample sent to Amoco hereunder, Buyer must state which analytical service or services listed in Attachment H-1 Amoco is to perform, and Buyer must supply a sufficient amount of Sample to perform each such service requested as identified in Attachment H-1.

4. Amoco will conduct such routine analyses in accordance with Amoco's established laboratory techniques and will report results from such analyses in a timely manner to Buyer in accordance with Amoco's established procedures for routine service.

5. Within ten (10) days after receipt of such results, Buyer will pay Amoco in accordance with the schedule of charges listed in Attachment H-1. Overdue payments will be charged a fee of $1^1/2\%$ per month.

6. Analytical services provided hereunder may be performed by Amoco or an affiliate of Amoco.

7. AMOCO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE SUBJECT MATTER OF THIS AGREEMENT. All analytical services provided to Buyer by Amoco hereunder are without warranty of any kind including, without limitation, any warranty regarding the accuracy of results or other data provided to Buyer. As to any service provided hereunder, Amoco's entire liability is limited strictly to the amount paid by Buyer for that service.

8. For the purposes of this Technical Services Agreement, the term "Amoco Group" means one or more of the following: Amoco, its affiliates, and the directors, officers, agents, employees, and servants of Amoco or its affiliates and the term "Claim" means any loss, damage, claim, injury or other casualty of whatsoever kind or by whomsoever caused (irrespective of negligence or fault, whether sole, concurrent, active, passive, comparative strict, contractual or vicarious).

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9. The Amoco Group shall not be liable for any Claim arising out of or resulting from the use or application by Buyer of the services provided hereunder; and Buyer agrees for itself, its successors and assigns, to indemnify, defend, and hold the Amoco Group harmless from and against any and all Claims asserted against, incurred or required to be paid by the Amoco Group arising out of or resulting from the use or application by Buyer of the services provided hereunder, or the use or sale of products from the Plant, except for Claims arising solely from the willful misconduct of the Amoco Group, and the Amoco Group shall in no event be liable for any damages consequential to such Claims.

10. The making, execution and delivery of this Technical Services Agreement by Buyer have been induced by no representations, statements, warranties or agreements by the parties hereof other than those expressed herein. This Technical Services Agreement together with the Sale Agreement embody the entire understanding of the parties, and there are no further or other agreements or understandings, written or oral, in effect between the parties, relating to the subject matter hereof.

11. Waiver of a breach of this Technical Services Agreement or the failure of Amoco to exercise any right under this Agreement shall in no event constitute a waiver as to any future breach, whether similar or dissimilar in nature, or as to the exercise of any future right under this Technical Services Agreement.

12. This Technical Services Agreement may be amended or modified only by an instrument of equal formality signed by the duly authorized representatives of the respective parties hereto.

13. This Technical Services Agreement shall be construed and the legal relations between the parties determined in accordance with the laws of the State of Illinois, U.S.A., excluding any choice of law rules which may direct the application of the laws of any other jurisdiction.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed in their respective corporate names by their duly authorized representatives as of the date and year first written above.

AMOCO CHEMICAL COMPANY

By _____

BUYER

By _____

Title_____

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Attachment H-1

Routine Analytical Services and Charges

Services	Test Method	Required Sample Size	Charge
Tensile Properties	ASTM D638	3 lbs*	$500
Flexural Properties	ASTM D790	3 lbs*	$500
Heat Deflection	ASTM D648	3 lbs*	$500
Vicat	ASTM D1525	3 lbs*	$500
Molecular Weight (GPC)	SRE 4-3	10 grams	$500
Residual Monomer	AC-256	10 grams	$125
Dimers, Trimers	AC-325	10 grams	$300
Mineral Oil	AC-817	10 grams	$300
Zn Stearate Content	AC-08190	10 grams	$125
External Wax Content	AC-9930	50 grams	$500
Density	ASTM D792	10 grams	$125
Hardness	ASTM D785	3 lbs	$500
Rheology	SRE 3-3	100 grams	$500

*If all four test services are to be made, a total five-pound sample is required.

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EXHIBIT I

SECURITY AGREEMENT

This Security Agreement ("Agreement") is made this _____ day of _____, 1993, by and between Amoco Chemical Company, a corporation organized and existing under the laws of Delaware (hereinafter called "Amoco"), and American Polystyrene Corporation, a corporation organized and existing under the laws of California (hereinafter called "Buyer").

W I T N E S S E T H:

WHEREAS, Amoco and Buyer have entered into an Agreement for Sale and Purchase of Assets, dated _____, 1993, relating to the purchase by Buyer of certain assets of Amoco (the "Sale Agreement");

WHEREAS, under the Sale Agreement, Amoco's interest in the Working Capital will be transferred to Buyer as of Closing (as such terms are defined in the Sale Agreement), but if there is a positive Working Capital, pursuant to Section 4.3 of the Sale Agreement, Buyer will have to pay Amoco after Closing an amount for such Working Capital;

WHEREAS, pursuant to the same Section 4.3 of the Sale Agreement, Buyer is to execute and deliver to Amoco at least

KA-1

five (5) business days prior to Closing an agreement pursuant to which Buyer shall grant to Amoco a security interest in the Inventories (as such term is defined in the Sale Agreement), and in all other raw materials, work in process, finished goods, packaging supplies, materials and supplies, and accounts receivable, in which Buyer acquires any interest, whether before or after Closing, in order to secure any payment required by Buyer under Section 4.3(b) of the Sale Agreement for the Working Capital;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein contained, and in consideration of the undertakings of Amoco in the Sale Agreement, the parties hereto agree as follows:

1. Simultaneous with transfer to Buyer of Amoco's interest in the Inventories under the Sale Agreement, Buyer does hereby grant to Amoco a security interest in and to all of the Inventories under Article 9 of the Uniform Commercial Code. Buyer also does hereby grant to Amoco a security interest under such Article 9 in and to any and all other raw materials, work in process, finished goods, packaging supplies, materials and supplies, and accounts receivable, in which Buyer now has any interest or in which Buyer hereafter acquires any interest, whether before or after Closing, related to Buyer's business operations at the Real Property

KAZ

(as such term is defined in the Sale Agreement). The security interests granted hereunder (hereinafter referred to as the "Security Interest") shall also attach to all proceeds and products of the property described above and to all additions and accessions thereto and substitutions thereof. All such property described above, along with all proceeds and products thereof, and all additions and accessions thereto and substitutions thereof, is hereinafter called the "Collateral".

2. This Agreement is given, and the Security Interest is hereby granted:

A. To secure any payment for the Working Capital which may be required by Buyer under Section 4.3 of the Sale Agreement, and all costs, expenses, advances and liabilities which may be incurred by Amoco in the collection of such payment or in the protection, maintenance or liquidation of the Security Interest, including interest at the maximum rate allowed by law;

B. To secure the payment and the full, complete and faithful performance of each and every obligation, covenant, promise and agreement herein contained; and

C. To secure the payment of any and all loss or damage which Amoco may sustain by reason of any defaults on the part of Buyer under this Agreement.

3. Buyer does hereby agree as follows:

A. To prepare and deliver to Amoco, upon notice given by Amoco from time to time, a full inventory listing, as

KAZ

of the date such notice is given, of all items then constituting Collateral and such other information as Amoco may request with respect to purchases or sales or other acquisitions or dispositions of Collateral. Each such inventory shall be certified as being true and complete by a duly authorized officer of Buyer;

B. To properly care for and keep the Collateral in good condition and repair and not to commit any waste or permit any deterioration thereof. Amoco may examine and inspect the Collateral, wherever located, at any reasonable time or times;

C. To provide and maintain in force, at all times, fire and other types of insurance as may be required by Amoco, each in an amount satisfactory to and with loss payable to Amoco, and at Amoco's request to deliver the policy or policies to Amoco together with written evidence showing payment of the premium therefor. The policies for such insurance shall be for a term and in form and content and issued by such companies as may be satisfactory to Amoco, and at Amoco's request shall remain in possession of Amoco as further security. The amount collected under any fire or other insurance policy may be applied by Amoco upon any indebtedness secured hereby and in such order as Amoco may determine, or, at the option of Amoco, any part or all of such amount may, without reducing the indebtedness secured hereby, either be used to replace or restore the Collateral covered by

KAZ

this Agreement to a condition satisfactory to Amoco, or be released to Buyer. Such application or release shall not cure or waive any default hereunder;

D. To appear in and defend any action or proceeding, affecting or purporting to affect the security of this Agreement or the Collateral, and pay all costs and expenses thereof and all costs and expenses in any such action or proceeding in which Amoco may appear;

E. To pay before delinquent all taxes and assessments affecting the Collateral and all costs or penalties thereon;

F. Not to permit the creation of any security interest, lien, encumbrance, charge or levy on or against the Collateral, in whole or in part, without first obtaining the written consent of Amoco; and

G. Buyer at least five (5) business days before Closing under the Sale Agreement shall execute and deliver to Amoco such financing statements or other instruments as Amoco requests to evidence, perfect and continue the Security Interest granted hereunder.

4. Buyer represents and warrants to Amoco the following:

A. Except for sales from inventory in the ordinary course of Buyer's business, the Collateral has not been and will not be sold, encumbered, hypothecated or otherwise transferred, in whole or in part, and no person or entity

KAZ

holds any interest, claim or demand, in law, equity or otherwise, that is prior or superior to the Security Interest or that in any manner may interfere with the exercise of the rights and remedies of Amoco hereunder; and

B. Buyer has full right, power and authority to enter into and perform its obligations under this Agreement and to grant the Security Interest. Neither the execution and performance of this Agreement nor the grant of the Security Interest will constitute a default under any other agreement or commitment to which Buyer is a party or by which Buyer is bound.

5. Amoco may, but need not, perform any act required of Buyer and may, but need not, pay, purchase, contest or compromise any claim, debt, lien, charge or encumbrance which in the judgment of Amoco may affect or appear to affect the security of this Agreement and may, but need not, discharge taxes, liens, security interests or other encumbrances at any time levied or placed on the Collateral and make any payment for insurance on the Collateral and for maintenance or preservation of the Collateral; all sums so expended shall be immediately paid by Buyer upon demand by Amoco with interest from date of demand at the maximum rate allowed by law.

6. Should Buyer fail or refuse to make any payment or do any act which it is obligated to make or do at any time and in any manner herein provided or provided in the Sale Agreement, or should Buyer default in the true and faithful

KAZ

performance of any covenant or condition hereof or thereof, or in the event any warranty, representation or statement made or furnished to Amoco by or on behalf of Buyer herein or therein shall be false in any material respect when made or furnished, then Amoco, at its sole discretion, may declare all sums secured hereby immediately due without demand upon or notice to Buyer, and may:

A. Take immediate possession of the Collateral, and Buyer agrees upon demand to surrender possession thereof to Amoco peaceably and that Amoco may employ any and all means reasonably necessary within its sole discretion to gain possession of the Collateral, and Amoco, its successors and assigns, agents, servants, attorneys and employees are hereby released from any causes or causes of action, claims, demands, obligations or liabilities whatsoever claimed to exist by reason of taking possession and/or removal of the Collateral; and

B. Sell and dispose of all or any portion of the Collateral as a unit or in parcels, at public or private sale, with or without having the Collateral at the place of sale, or, without removal of the Collateral, upon the premises of Buyer, and upon the terms and in such manner as Amoco may determine. Upon the sale of the Collateral, Amoco may apply, in any order that it deems appropriate, the proceeds of such sale to the unpaid indebtedness, accrued but unpaid interest and other charges secured hereby, as well as all other

KAZ

obligations of every class and character owed by Buyer to Amoco and secured by virtue of the provisions hereof, together with all costs incurred by Amoco and all charges of making such sale, including, among others, all expenses of repossession, storage, preparation for sale, advertising, sale of the Collateral and reasonable attorneys' fees and expenses; Amoco or its agents, successors or assigns may purchase all or any part of the Collateral at any such sale; and any and all unexpired insurance shall inure to the benefit of and pass to the purchaser of the Collateral at any sale held hereunder.

7. In addition to any rights or remedies provided herein, Amoco may have and exercise all other rights and remedies as provided for by law, including those provided by Article 9 of the Uniform Commercial Code, and shall have the right to enforce one or more remedies hereunder successively or concurrently and any such action shall not estop or prevent Amoco from pursuing any further remedy which it may have hereunder or by law.

8. Provided that Buyer is not in default hereunder, Buyer may from time to time sell or otherwise dispose of, free of the lien of this Security Agreement, any part of the inventories included in the Collateral in the ordinary course of business without the prior written consent of Amoco. Provided that Buyer is not in default hereunder, Buyer may also from time to time collect, for the benefit of Amoco, sums due on accounts receivable included in the Collateral.

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9. No default shall be waived by Amoco except in writing and no waiver of any default shall operate as a waiver of any other default or the same default on a future occasion.

10. Buyer agrees that Amoco shall not be liable to Buyer or to any other person or persons for injury or damage that may result to any person or property by reason of the use or condition of the Collateral or any part thereof, and Buyer further agrees to defend, indemnify and keep Amoco free and harmless from and against any and all costs, damages, losses, expenses, claims or liability arising out of or connected with, directly or indirectly, the use, management or condition of the Collateral.

11. Buyer shall not conduct business under any other name than that given above, nor shall it change or reorganize the type of business entity under which it does business without first obtaining Amoco's prior written consent, which consent shall not be unreasonably withheld. Buyer agrees that, in the event of any such change of name or business, it shall execute, deliver and file all documents, instruments and agreements required by Amoco to preserve and protect the Security Interest and Amoco's other rights hereunder.

12. With reference to any of the parties to this Agreement, the use of the singular number shall include the plural, the use of the plural shall include the singular number, the use of the masculine gender shall include the feminine gender, and the use of the feminine gender shall

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include the masculine gender and shall be so construed as applicable to and including a corporation, partnership or other entity that may be a party or parties hereto.

13. This Agreement and the terms, conditions, covenants and agreements hereof are intended to and shall inure to the benefit of and extend to and include the successors and assigns of Amoco and shall be binding upon the successors and assigns of Buyer.

14. The person who shall execute this Security Agreement on behalf of Buyer does hereby represent and warrant to Amoco that he was and is authorized, directed and empowered to execute this Agreement for and on behalf of and in the name of Buyer.

15. The security interest granted under this Agreement shall terminate only upon payment in full of all amounts due to Amoco or upon the mutual written agreement of the parties hereto, whichever earlier occurs.

16. Wherever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

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17. This Agreement constitutes the full understanding of the parties and a complete and exclusive statement of the terms of their agreement with respect to the subject matter hereof. No amendment, modification, or waiver of any provision of this Agreement, and no understanding, course of dealing, or usage of trade purporting to modify, explain or supplement the terms of this Agreement, shall be effective unless in writing signed by both parties, and specifically stating that it is an amendment, modification or waiver of this Agreement. No requirement stated herein that an item be in writing may be waived except by means of a written instrument issued by the party making the waiver. No modification shall be effected by the acknowledgement or acceptance of purchase orders, shipping instructions, or other forms containing terms or conditions at variance with or in addition to those set forth herein. Any waiver by either party of any provision or condition of this Agreement or any right or remedy shall not be construed or deemed to be a waiver of any other provision or condition of this Agreement, nor a waiver of a subsequent breach of the same provision of condition, nor a waiver of any other right or remedy.

18. This Agreement shall be governed by the laws of the State of California, excluding any choice of law rules which may direct application of the laws of any other jurisdiction.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first above written.

AMOCO CHEMICAL COMPANY

By: _____

Title: _____

AMERICAN POLYSTYRENE CORPORATION

By: _____

Title: _____

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EXHIBIT J

GUARANTY

This Guaranty is made this _____ day of _____, 1993, by SMP Inc., a corporation organized and existing under the laws of the Philippines (hereinafter called "Guarantor"), for the benefit of Amoco Chemical Company, a corporation organized and existing under the laws of Delaware (hereinafter called "Amoco").

W I T N E S S E T H:

WHEREAS, Amoco and American Polystyrene Corporation ("Buyer") have entered into an Agreement for Sale and Purchase of Assets, dated _____, 1993, relating to the purchase by Buyer of certain assets of Amoco (the "Sale Agreement");

WHEREAS, Amoco was willing to enter into the Sale Agreement with Buyer only on the condition that the performance of Buyer's obligations under the Sale Agreement was guaranteed by Guarantor;

WHEREAS, execution and delivery of this Guaranty by Guarantor is a condition precedent to Amoco closing the transactions under the Sale Agreement;

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WHEREAS, Guarantor, because of its relationship to Buyer, desired Amoco to enter into the Sale Agreement with Buyer and desires Amoco to close the transactions under the Sale Agreement;

NOW, THEREFORE, in consideration of Amoco entering into the Sale Agreement, and in order to induce Amoco to close the transactions under the Sale Agreement, the Guarantor hereby represents and warrants to, and agrees with, Amoco as follows:

1. Guarantor absolutely, unconditionally and irrevocably guarantees to Amoco the due and punctual performance of each and every responsibility and obligation of Buyer under the Sale Agreement (including the responsibilities and obligations of Buyer under the agreements under Article III and Sections 1.5 and 4.3(d) of the Sale Agreement, and exhibits and schedules to the Sale Agreement, all collectively referred to herein as the "Ancillary Obligations"); provided, however, that Guarantor's aforementioned guaranty obligation, with respect to Buyer's obligations under Section 5.5(e) of the Sale Agreement, (i) shall only apply to the extent that a release, discharge, disposal or emission of, or exposure to, hazardous waste, hazardous substances, pollutants, contaminants, materials, products or by-products, is caused by Buyer or occurs in connection with Buyer's operations or

KAZ

business, and (ii) shall be limited to a maximum amount of one million dollars ($1,000,000.00).

2. This Guaranty shall be a continuing guaranty and shall remain in full force and effect for as long as Buyer has obligations and responsibilities under the Sale Agreement (including the Ancillary Obligations), except with respect to Buyer's obligations under Section 5.5(e) of the Sale Agreement, this Guaranty shall remain in force and effect only for five (5) years after the Closing Date (as such term is defined in the Sale Agreement). No delay in exercising or failure to exercise any right hereunder on the part of Amoco shall operate as a waiver of such right, nor shall any single or partial exercise of any right by Amoco preclude any other or further exercise of rights. Guarantor's obligations under this Guaranty shall not be diminished, limited, reduced or affected by any failure of Amoco to exercise or delay in exercising any rights Amoco may have under the Sale Agreement against Buyer, and shall not be conditioned upon or require a prior exercise by Amoco of rights against the Buyer. Guarantor waives notice of acceptance.

3. Amoco may claim under this Guaranty by notice in

KAZ

writing, sent by mail delivery service or facsimile, to the following address:

Chemtex Print U.S.A., Inc.
Attn: President
3061 Maria Street
Rancho Dominguez, CA 90221
Facsimile No.: (310) 631-1673

Upon written notice pursuant to the foregoing by Amoco of any default by Buyer in the performance of any responsibility or obligation under the Sale Agreement (including the Ancillary Obligations), regardless of the reason for the default, the Guarantor shall immediately cure such default and perform the obligation or responsibility in question.

4. The Guarantor represents and warrants that the execution, delivery and performance of this Guaranty by it has been duly authorized by all requisite corporate action and will not violate any provision of law, any order of any court or other agency of government, the charter or by-laws of the Guarantor, any provision of any indenture, agreement or other instrument to which the Guarantor is a party, or by which it or any of its properties or assets are bound, or be in conflict with, result in a breach of or constitute (after due notice or lapse of time or both) a default under any such indenture, agreement or other instrument, or result in the

KAZ

creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of its properties or assets.

5. The Guarantor represents and warrants that it is a corporation duly organized, validly existing and is in good standing under the laws of the jurisdiction of its incorporation.

6. The Guarantor represents and warrants that this Guaranty is a valid and binding obligation of the Guarantor, enforceable in accordance with its terms subject, as to the enforcement of remedies, to applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to the enforcement of creditors' rights generally.

7. The Guarantor represents and warrants that its obligations under this Guaranty will, upon demand for performance by Amoco pursuant to paragraph 3 hereof, constitute direct, unconditional and general obligations of the Guarantor and rank in right of payment (without taking into account any security or collateral for other indebtedness) equal or prior to all indebtedness and liabilities for borrowed money, or other obligations arising out of the extension of credit, of the Guarantor.

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8. The Guarantor represents and warrants that no authorization, order, approval or consent or other action of any governmental authority is legally required for the execution and delivery of this Guaranty or for the carrying out of the provisions hereof.

9. The Guarantor represents and warrants that there are no actions, suits or proceedings pending or threatened against or affecting the Guarantor or any of its property at law or in equity or before any Federal, state, municipal or other governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign (other than actions, suits or proceedings that, in the opinion of counsel to the Guarantor, are without merit) which involve or affect this Guaranty, or which, if adversely determined, would materially impair the ability of the Guarantor to perform its obligations under the Guaranty.

10. The Guarantor represents and warrants that it has heretofore furnished a consolidated statement of income and a consolidated statement of changes in financial condition for the twelve-month period ended December 31, 1992 and a consolidated balance sheet as at the end of such year, all the foregoing reported upon by the independent public accountants of the Guarantor.

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11. The Guarantor represents and warrants that the financial statements referred to in paragraph 10 were prepared in accordance with generally accepted accounting principles and present fairly the financial condition and results of operations of the Guarantor as of the date and for the period indicated.

12. The Guarantor represents and warrants that it has filed or caused to be filed all Federal, state and local tax returns which, to the knowledge of the Guarantor, are required to be filed and has paid or caused to be paid all material taxes as shown on such returns or on any assessment received by it or by any of them to the extent that such taxes have become due, except taxes the validity of which is being contested in good faith by appropriate proceedings and with respect to which the Guarantor shall have set aside on its books adequate reserves.

13. This Guaranty shall be deemed to have been made and given in Chicago, Illinois, U.S.A., and shall be governed by the laws of the State of Illinois, U.S.A., excluding any choice of law rules which may direct the application of the laws of any other jurisdiction. The Guarantor agrees that Amoco may enforce this Guaranty in, and that any and all disputes arising out of or in connection with this Guaranty shall be submitted to, either the state courts

KA2

or the federal courts located in the State of California, U.S.A. The Guarantor hereby irrevocably submits to the nonexclusive jurisdiction of such courts in respect of this Guaranty and in connection with any suit, action or proceeding filed or brought by Amoco arising out of or in connection with this Guaranty. For such purpose the Guarantor hereby irrevocably designates Chemtex Print U.S.A., Inc., with offices on the date hereof at 3061 Maria Street, Rancho Dominguez, California 90221, or failing it, Jonathan G. Gabriel, with offices on the date hereof at 21900 Burbank Boulevard, Suite 200, Woodland Hills, California 91367-6407, or failing him, CT Corporation System, with offices on the date hereof at 818 West Seventh Street, Los Angeles, California 90017, as its nonexclusive agent to accept and receive for and on behalf of it service of any process which may be served in any suit, action or proceeding filed or brought by Amoco in either the state or federal courts in California and agrees that the failure of the process agent to give any notice of any such service or process to it shall not impair or affect the validity of such service or of any judgment based thereon. The Guarantor hereby irrevocably waives, to the fullest extent permitted by law, any objection which it may now or hereafter have to the laying of venue of any such suit, action or proceeding brought in any such court and any claim that any such suit, action or proceeding filed or brought in such a court has been brought in an inconvenient

KAZ

herein contained shall preclude Amoco from bringing a suit, action or proceeding in respect hereof in any other country or place where the Guarantor may be found or located.

14. This Guaranty may not be changed, waived, discharged or terminated orally, but only by an instrument in writing signed by both parties.

15. In case any one or more of the provisions in this Guaranty should be or become invalid, illegal or unenforceable in any respect, such provision or provisions shall be ineffective to the extent of such invalidity, illegality or unenforceability only, and the validity, legality and enforceability of the remainder of such provision or provisions and of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

16. This Guaranty shall be binding upon the undersigned, and upon the heirs, legal representatives, successors and assigns of the undersigned, and shall inure to the benefit of Amoco, its successors, legal representatives and assigns.

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IN WITNESS WHEREOF, Guarantor has caused this Guaranty to be executed by its duly authorized representative as of the day and year first above written.

SMP INC.

By: _____

Title: _____

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EXHIBIT K

GUARANTY

This Guaranty is made this _____ day of _____, 1993, by Chemtex Print U.S.A., Inc., a corporation organized and existing under the laws of California (hereinafter called "Guarantor"), for the benefit of Amoco Chemical Company, a corporation organized and existing under the laws of Delaware (hereinafter called "Amoco").

W I T N E S S E T H:

WHEREAS, Amoco and American Polystyrene Corporation ("Buyer") have entered into an Agreement for Sale and Purchase of Assets, dated _____, 1993, relating to the purchase by Buyer of certain assets of Amoco (the "Sale Agreement");

WHEREAS, Amoco was willing to enter into the Sale Agreement with Buyer only on the condition that the performance of Buyer's obligations under Section 4.3 of the Sale Agreement was guaranteed by Guarantor;

WHEREAS, execution and delivery of this Guaranty by Guarantor is a condition precedent to Amoco closing the transactions under the Sale Agreement;

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WHEREAS, Guarantor, because of its relationship to Buyer, desired Amoco to enter into the Sale Agreement with Buyer and desires Amoco to close the transactions under the Sale Agreement;

NOW, THEREFORE, in consideration of Amoco entering into the Sale Agreement, and in order to induce Amoco to close the transactions under the Sale Agreement, the Guarantor hereby represents and warrants to, and agrees with, Amoco as follows:

1. Guarantor absolutely, unconditionally and irrevocably guarantees to Amoco the due and punctual performance of each and every responsibility and obligation of Buyer under Section 4.3 of the Sale Agreement (including the responsibilities and obligations of Buyer under the agreement referred to in Section 4.3(d) of the Sale Agreement).

2. This Guaranty shall be a continuing guaranty and shall remain in full force and effect for as long as Buyer has obligations and responsibilities under Section 4.3 of the Sale Agreement (including responsibilities and obligations of Buyer under the agreement referred to in Section 4.3(d) of the Sale Agreement). No delay in exercising or failure to exercise any right hereunder on the part of Amoco shall operate as a waiver of such right, nor shall any single or partial exercise of any right by Amoco preclude any other or further exercise of

KAZ

rights. Guarantor's obligations under this Guaranty shall not be diminished, limited, reduced or affected by any failure of Amoco to exercise or delay in exercising any rights Amoco may have under the Sale Agreement against Buyer, and shall not be conditioned upon or require a prior exercise by Amoco of rights against the Buyer. Guarantor waives notice of acceptance.

3. Amoco may claim under this Guaranty by notice in writing, sent by mail delivery service or facsimile, to the following address:

Chemtex Print U.S.A., Inc.
Attn: President
3061 Maria Street
Rancho Diminguez, CA 90221
Facsimile No.: (310) 631-1673

Upon written notice pursuant to the foregoing by Amoco of any default by Buyer in the performance of any responsibility or obligation under Section 4.3 of the Sale Agreement (including the responsibilities and obligations under the agreement referred to in Section 4.3(d) of the Sale Agreement), regardless of the reason for the default, the Guarantor shall immediately cure such default and perform the obligation or responsibility in question.

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4. The Guarantor represents and warrants that the execution, delivery and performance of this Guaranty by it has been duly authorized by all requisite corporate action and will not violate any provision of law, any order of any court or other agency of government, the charter or by-laws of the Guarantor, any provision of any indenture, agreement or other instrument to which the Guarantor is a party, or by which it or any of its properties or assets are bound, or be in conflict with, result in a breach of or constitute (after due notice or lapse of time or both) a default under any such indenture, agreement or other instrument, or result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of its properties or assets.

5. The Guarantor represents and warrants that it is a corporation duly organized, validly existing and is in good standing under the laws of the jurisdiction of its incorporation.

6. The Guarantor represents and warrants that this Guaranty is a valid and binding obligation of the Guarantor, enforceable in accordance with its terms subject, as to the enforcement of remedies, to applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to the enforcement of creditors' rights generally.

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7. The Guarantor represents and warrants that its obligations under this Guaranty will, upon demand for performance by Amoco pursuant to paragraph 3 hereof, constitute direct, unconditional and general obligations of the Guarantor and rank in right of payment (without taking into account any security or collateral for other indebtedness) equal or prior to all indebtedness and liabilities for borrowed money, or other obligations arising out of the extension of credit, of the Guarantor.

8. The Guarantor represents and warrants that no authorization, order, approval or consent or other action of any governmental authority is legally required for the execution and delivery of this Guaranty or for the carrying out of the provisions hereof.

9. The Guarantor represents and warrants that there are no actions, suits or proceedings pending or threatened against or affecting the Guarantor or any of its property at law or in equity or before any Federal, state, municipal or other governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign (other than actions, suits or proceedings that, in the opinion of counsel to the Guarantor, are without merit) which involve or affect this Guaranty, or which, if adversely determined, would materially

KAZ

impair the ability of the Guarantor to perform its obligations under the Guaranty.

10. The Guarantor represents and warrants that it has heretofore furnished a consolidated statement of income and a consolidated statement of changes in financial condition for the twelve-month period ended December 31, 1992 and a consolidated balance sheet as at the end of such year, all the foregoing reported upon by the independent public accountants of the Guarantor.

11. The Guarantor represents and warrants that the financial statements referred to in paragraph 10 were prepared in accordance with generally accepted accounting principles and present fairly the financial condition and results of operations of the Guarantor as of the date and for the period indicated.

12. The Guarantor represents and warrants that it has filed or caused to be filed all Federal, state and local tax returns which, to the knowledge of the Guarantor, are required to be filed and has paid or caused to be paid all material taxes as shown on such returns or on any assessment received by it or by any of them to the extent that such taxes have become due, except taxes the validity of which is being contested in good faith by appropriate proceedings and with

KAZ

respect to which the Guarantor shall have set aside on its books adequate reserves.

13. This Guaranty shall be governed by the laws of the State of Illinois, excluding any choice of law rules which may direct the application of the laws of any other jurisdiction.

14. This Guaranty may not be changed, waived, discharged or terminated orally, but only by an instrument in writing signed by both parties.

15. In case any one or more of the provisions in this Guaranty should be or become invalid, illegal or unenforceable in any respect, such provision or provisions shall be ineffective to the extent of such invalidity, illegality or unenforceability only, and the validity, legality and enforceability of the remainder of such provision or provisions and of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

16. This Guaranty shall be binding upon the undersigned, and upon the heirs, legal representatives, successors and assigns of the undersigned, and shall inure to the benefit of Amoco, its successors, legal representatives and assigns.

KAZ

IN WITNESS WHEREOF, Guarantor has caused this Guaranty to be executed by its duly authorized representative as of the day and year first above written.

CHEMTEX PRINT U.S.A., INC.

By: _____

Title: _____

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EXHIBIT L

OPINION OF COUNSEL

Amoco Chemical Company
200 East Randolph Drive
Chicago, Illinois

Guaranty ("Guaranty") of SMP Inc. ("Guarantor") to Amoco Chemical Company pursuant to Section 8.1(f) of the Agreement for Sale and Purchase of Assets ("Agreement") by and between Amoco Chemical Company and American Polystyrene Corporation

Gentlemen:

I am counsel for Guarantor and am familiar with the business and legal affairs of Guarantor. This opinion is furnished to you pursuant to Section 8.1(f) of the above Agreement. I have reviewed the Agreement and the Guaranty, together with the corporate minute book, certificate of incorporation, by-laws, certificate of public officials and such other corporate and other documents of Guarantor, and reviewed such questions of law, as I have deemed appropriate for rendering this opinion.

I am of the opinion that:

1. Guarantor is a corporation duly organized, validly existing and in good standing under the laws of the Philippines.

2. Guarantor has the corporate power and authority to enter into and perform the Guaranty. The execution, delivery and performance of the Guaranty has been duly and validly authorized by all necessary corporate action on the part of the Guarantor.

3. The Guaranty constitutes a legal, valid, and binding obligation of Guarantor, enforceable against Guarantor in accordance with its terms, except as such enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally and by equitable principles (whether or not any action to enforce the Guaranty is brought at law or in equity).

Very truly yours,

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EXHIBIT M

I, E. C. MARSHALL, HEREBY CERTIFY that I am Secretary of Amoco Chemical Company, a Delaware corporation, that as such officer I have custody of the corporate seal and corporate records of said corporation; that the following is a true and correct copy of a resolution duly adopted by the Board of Directors of said corporation on _____, 1993, and that, as of the date hereof, said resolution is in full force and effect and has not been amended or rescinded.

RESOLVED: That the Company should enter into an agreement with SMG Industries, Inc. (hereinafter "SMG") pursuant to which SMG would purchase the Company's Torrance, California plant for the manufacture and sale of polystyrene and certain related assets, including certain land, buildings and improvements, machinery, equipment and inventory, related contract rights, and would assume certain obligations related to such assets, of such business, all in accordance with the terms and conditions set forth in the Agreement for Sale and Purchase of Assets by and between SMG and the Company (hereinafter referred to as the "Agreement"); and further

RESOLVED: That any officer of this Company, or R. M. Lerner, acting individually should be and they are hereby authorized to execute and deliver the aforementioned Agreement in the name and on behalf of the Company, in substantially the form submitted to this Board of Directors and filed with the records of the Company, with such changes therein and additions thereto as shall be approved by the person executing and delivering same, such approval to be conclusively evidenced by said execution and delivery; and further

RESOLVED: That the Company should consummate the transaction described in the Agreement, and to that end, the proper officers, employees and representatives of the Company, and R. M. Lerner, acting individually should be and they are hereby authorized to execute, transfer, and deliver all documents, convey property, grant easements, receive funds, and take any and all actions in the name and on the behalf of the Company which they individually deem necessary or desirable in connection with the aforesaid purchase of assets, including but not limited to all actions required or permitted pursuant to the Agreement, and to execute, transfer, and deliver such instruments, certificates, documents, agreements and papers on behalf of the Company which are referred to in the Agreement, including the Schedules and Exhibits thereto, or which they deem appropriate to carry out the intent of the foregoing resolutions, or to further any of the matters or transactions referred to or in contemplated by the documents approved or authorized by the foregoing resolutions.

KAZ

I FURTHER CERTIFY that each of the below-named persons has been duly elected, has duly qualified, and on the date hereof is an officer of Amoco Chemical Company, holding the office below set opposite his or her name.

Vice President	T. W. Longmire
Vice President	S. K. Welch
Secretary	E. C. Marshall
Assistant Secretary	K. A. Zigterman

IN WITNESS WHEREOF, I have executed these presents as of the ____ day of _____, 1993.

_____
Secretary

KAZ

EXHIBIT N

OPINION OF COUNSEL

American Polystyrene Corporation
3061 Maria Street
Rancho Dominguez, California

Agreement for Sale and Purchase of Assets ("Agreement") by and between Amoco Chemical Company ("Seller") and American Polystyrene Corporation ("Buyer")

Gentlemen:

I am in-house counsel with Amoco Corporation, the ultimate parent of Seller, and am an Assistant Secretary of Seller. I have represented Seller in connection with the above Agreement and the transactions contemplated thereby. This opinion is furnished to you pursuant to Section 9.2 of the Agreement. I have reviewed the Agreement, the various exhibits and schedules thereto, and all of the agreements and documents being executed and delivered by Seller in connection with the Agreement (collectively, the "Transaction Documents"), and made such inquiries regarding the corporate minute book, certificate of incorporation, by-laws, certificate of public officials and such other corporate and other documents of Seller, and reviewed such questions of law, as I have deemed appropriate for rendering this opinion.

I am of the opinion that:

1. Seller is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware.

2. Seller has the corporate power and authority to enter into and perform the Agreement and Transaction Documents. The execution, delivery and performance of the Agreement and the Transaction Documents have been duly authorized by all requisite corporate action on the part of the Seller.

3. Each of the Agreement and the Transaction Documents constitutes a valid and legally binding obligation of Seller, enforceable against Seller in accordance with their respective terms except as the enforcement thereof may be limited by applicable bankruptcy, insolvency, rearrangement, reorganization, moratorium or similar debtor relief legislation affecting the rights of creditors generally from time to time in effect and except that specific performance is an equitable remedy and is discretionary.

Very truly yours,

KAZ

2148746

COST SHARING AND PARTICIPATION AGREEMENT

This Cost Sharing and Participation Agreement ("Agreement") is entered into as of this 27th day of November, 2006, between Atlantic Richfield Company ("Atlantic Richfield"), for itself and Amoco Chemical Company ("Amoco") and American Polystyrene Corporation, ("American Polystyrene") (hereinafter referred to individually as "Party" and collectively as "Parties"). The terms "Party" and "Parties" shall include subsidiaries, successors and assigns of the signatories to this Agreement.

RECITALS

WHEREAS, Amoco formerly owned and operated a polystyrene plant located at 1225 W. 196th Street in Torrance, California (the "Site"); and

WHEREAS, in 1993, American Polystyrene purchased the Site from Amoco and has operated the plant to date; and,

WHEREAS, in late 2003 and early 2004, the Los Angeles Regional Water Quality Control Board (LARWQCB) issued a California Water Code Section 13267 Order for Subsurface Investigation of Unauthorized Discharges (Order) to American Polystyrene and Amoco, respectively, seeking, among other things, documents and sampling of the groundwater beneath the Site; and

WHEREAS, on March 1, 2006, the LARWQCB issued to American Polystyrene and Atlantic Richfield another Order seeking continued groundwater sampling as well as additional soil, soil vapor and groundwater investigation at the Site; and

WHEREAS, the Parties desire to work cooperatively with each other to conduct the requested work and to respond to certain future agency requests for further investigation, and to allocate the costs thereof; and,

WHEREAS, American Polystyrene has conducted seven quarters of groundwater sampling, for which Atlantic Richfield intends to reimburse American Polystyrene its allocable share; and,

WHEREAS, Atlantic Richfield and American Polystyrene have jointly agreed upon and Atlantic Richfield has paid for the Work Plan requested in the LARWQCB March 1, 2006 letter, for which American Polystyrene intends to reimburse Atlantic Richfield its allocable share; and,

WHEREAS, the Parties recognize that they may be requested at some later date to participate in remedial or cleanup activities not contemplated or authorized under this Agreement; that amendment of this Agreement or formulation of an additional agreement may

then become desirable; but that in executing this Agreement, no Party is thereby obligated to participate in future activities beyond those set forth in this Agreement; and

WHEREAS a dispute has arisen between the Parties as to, amongst other things, the interpretation of and circumstances surrounding the Agreement pursuant to which the American Polystyrene Corporation purchased the Site in 1993.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the Parties mutually agree that:

1. Cost Allocation

A. The Parties have agreed, by way of settlement and compromise and to further the public interest, without admitting any liability either individually or collectively, to finance the "Shared Costs" in the manner set forth in Paragraph 1.C. of this Agreement.

B. "Shared Costs" must be incurred pursuant to a budget and a statement of work approved in advance by each of the Parties (collectively "SOW"). Shared Costs are defined as the costs, fees and expenses associated with the implementation of the SOW, (which shall relate solely to the costs required to comply with the LARWQCB investigation requirements) including costs associated with design, engineering and supervision, as well as costs associated with obtaining any permits, licenses or authorizations that may be required for the planning and implementation of the work described in the SOW, or any other activities agreed to by the Parties (collectively, "SOW Activities"), notwithstanding that these permits, licenses or authorizations are issued to a single Party or in a single Party's name; provided, however, that "Shared Costs" shall not include (i) "operator overhead" and/or fees and costs incurred by the Project Manager ("Project Manager's Costs"), pursuant to the SOW Activities, in carrying out the project management duties as defined in Paragraph 4 of this Agreement or otherwise; (ii) the costs of any litigation related to the Site, the legal fees incurred by any Party in planning and implementing the above-enumerated Shared Costs or those costs and time accrued or fees incurred independently by any Party on its own behalf for purposes of participating in, preparing, negotiating, executing or performing this Agreement or any future SOW; (iii) any other fees or costs proposed as Shared Costs but not agreed upon by each of the Parties, all of which shall be "Excluded Costs" and shall not be deemed Shared Costs.

C. Shared Costs shall be allocated between the Parties as follows:

American Polystyrene	50%
Atlantic Richfield	50%

The Parties agree that this cost allocation applies only to this Agreement and shall not be used under any circumstances as evidence in any proceeding, except in the context of dispute resolution under this Agreement as provided in Paragraph 6, in a proceeding to enforce the terms of this Agreement, or as otherwise set forth herein.

Either Party has the right to request a reallocation for future activities related to the Site. Any agreed-upon reallocation shall be memorialized pursuant to a written amendment to this Agreement. However, all Shared Costs for SOW Activities approved by both Parties prior to such request shall be borne by the Parties according to the above percentage allocation.

D. American Polystyrene has incurred approximately $44,232.60 in past costs for groundwater sampling at the Site ("Past Costs 1"). Subject to review and approval of the invoices for the Past Costs 1, Atlantic Richfield agrees to reimburse American Polystyrene for 50% of the Past Costs 1. Atlantic Richfield shall reimburse American Polystyrene within sixty (60) days after the Effective Date of this Agreement or forty-five (45) days after the date on which the invoices for the Past Costs 1 have been received, whichever date is later.

E. Atlantic Richfield has incurred $3,197.84 to date in past costs for preparation of the Site Investigation Work Plan ("Past Costs 2"). Subject to review and approval of the invoices for the Past Costs 2, American Polystyrene agrees to reimburse Atlantic Richfield for 50% of the Past Costs 2. American Polystyrene shall reimburse Atlantic Richfield within sixty (60) days after the Effective Date of this Agreement or forty-five (45) days after the date on which the invoices for the Past Costs 2 have been received, whichever date is later.

2. Payment of Shared Costs

A. The Project Manager, as defined in Paragraph 3 below, is authorized to enter into a contract with one environmental consultant ("Consultant"), approved by each of the Parties, on behalf of and for the benefit of the Parties for purposes of implementing the SOW Activities (the "Consultant Contract"). The terms of the Consultant Contract shall be reviewed and approved by the Parties before the Project Manager enters into said contract. The Consultant shall maintain policies of liability insurance, including

professional liability and workers' compensation, with coverage and terms acceptable to the Parties. Each such policy shall name each Party as an additional insured relative to the Consultant's site-related activities and performance.

B. Consultant charges are part of the Shared Costs; the Parties agree to make payment to the Consultant severally, and not jointly and severally, in accordance with the allocation formula set forth in Paragraph 1.C. above, unless otherwise agreed to by the Parties, within sixty (60) days of receipt of the Consultant's invoice from the Project Manager. Each invoice or request will be accompanied by a delineation of the amount due from each Party. The Parties may conduct audits with reasonable notice to the Consultant and Project Manager on the calculation and accounting of costs and expenses and supporting documentation. Any disputed costs will be resolved with the Consultant and Project Manager, as appropriate, and adjustments, if necessary, made accordingly.

3. **Project Manager**

Carl Benninger, of American Polystyrene Corporation, will act as the Project Manager, with powers and duties as follows:

A. To oversee and coordinate the day-to-day implementation of the SOW Activities, including the Consultant's activities;

B. To represent the Parties in dealings with contractors, subcontractors, landowners and any governmental entity, in the course of and related to performance of the SOW Activities, with the understanding that any commitments or changes with respect to the SOW Activities require the review and approval of the Parties;

C. To coordinate the dissemination of information to the Parties relating to the SOW Activities;

D. To obtain any necessary permits or governmental authorizations for the SOW Activities on behalf of and for the benefit of the Parties;

E. To oversee development and implementation of the SOW Activities;

F. To halt performance of the SOW Activities for good cause, with subsequent immediate notice to and consultation with Kyle Christie, Atlantic Richfield Company Environmental Business Manager, or his successor at Atlantic Richfield Company (ARC EBM); and

G. To maintain suitable records and accounts of all activities under this Agreement, which shall promptly be made available to either Party upon reasonable request.

4. Cooperation by the Parties

A. The Parties agree to cooperate in and support the planning and implementation of the SOW Activities.

B. Notwithstanding the duties and obligations of the Project Manager as set forth in Paragraph 3 above, the Parties shall jointly review and approve all submissions to any governmental entity, including without limitation letters and contractual deliverables prepared by the Consultant pursuant to the SOW Activities, prior to finalization and submission to any government agency. Similarly, the Parties shall jointly review and approve any permit applications and supporting documentation prior to finalization and submission to any governmental entity. The Project Manager, or the Consultant at the Project Manager's direction, shall provide drafts of the documents described in this Paragraph in sufficient time for the ARC EBM to review and comment on same before submission to any governmental entity.

C. The Project Manager, or the Consultant at the Project Manager's direction, shall give the ARC EBM notice of any meeting with any governmental entity regarding the Site within a reasonable time so as to allow sufficient time for the ARC EBM to attend such meeting, if it so chooses. Should the ARC EBM be unable or choose not to attend, the Project Manager, or the Consultant at the Project Manager's direction, shall promptly inform the ARC EBM of the discussions held at the meeting. Furthermore, the Project Manager shall inform the ARC EBM of any other pertinent contact(s) with any governmental agency concerning the Site.

D. Each of the Parties has the right to have representatives on-site to observe any of the SOW Activities. The Project Manager, or the Consultant at the Project Manager's direction, shall give the ARC EBM notice of any significant tasks or work at the site performed pursuant to the SOW Activities within a reasonable time so as to allow sufficient time for him to attend and observe such activity, if it so chooses.

E. The Project Manager, or the Consultant at the Project Manager's direction, shall provide Atlantic Richfield with any and all data generated from the SOW Activities as soon as such data is available.

5. Decision Making

Except as otherwise set forth herein, the Parties agree that, as to all decisions to be made by the Parties with respect to the SOW Activities under this Agreement and the attendant Shared Costs, the Parties shall strive to make such decisions by consensus. If consensus is not reached as to any of the SOW Activities, however, it is agreed and understood that the funding, if any, of such Activities shall be classified as "Excluded Costs", as defined in Paragraph 1.B. above.

6. Dispute Resolution

A. The Parties shall in good faith attempt to resolve any dispute between them arising from or related to the interpretation or the performance of this Agreement. In the event a dispute between the Parties cannot be resolved informally by the Parties within thirty (30) days of written notice of the dispute, dispute resolution shall proceed in accordance with this Paragraph.

B. In the first instance, and except as otherwise set forth herein, all disputes between the Parties shall be presented to a mutually agreed-upon mediator for non-binding facilitation and dispute resolution. The costs of the mediator shall be borne equally by the Parties. These dispute resolution proceedings shall be confidential, afforded the protections authorized by California Evidence Code §§1115 et seq. and treated as offers of and negotiations for compromise for purposes of Rule 408 of the Federal Rules of Civil Procedure and §§1152 et seq. of the California Evidence Code. Furthermore, any and all communications, negotiations or settlement discussions by and between the Parties, including without limitation any evidence of anything said or admissions made or any documents exchanged for the purpose of, in the course of, or pursuant to a mediation shall not be admissible or subject to discovery in any other proceeding and shall be afforded the protections set forth in California Evidence Code §§ 1115, et seq.

C. In the event resort to the procedures set out in this Paragraph is unsuccessful in resolving disputes between the Parties, either Party may seek any available relief from an appropriate court of law. The substantially prevailing party in such a dispute has the right to recover actual and reasonable attorneys' fees incurred in the dispute.

7. No Admission of Liability

The Parties understand and agree that any statements, provisions, terms and recitals contained herein and any activities undertaken pursuant to this Agreement shall not constitute an admission or admissions, and the Parties reserve the right to contest any statements, provisions, facts, terms and recitals contained or alleged in any claims, actions, causes of action, controversies, and disputes. The Parties have entered into this Agreement for no other purpose than to share the costs of the activities undertaken. The fact they have entered into this Agreement does not mean that agree that they are in any way ultimately responsible for any damage, environmental or otherwise, to the Site.

8. No Agency or Fiduciary Duty

Nothing contained in this Agreement shall be deemed to constitute any Party the partner or joint venturer of the other. Neither Party shall owe a fiduciary duty to the other Party. Also, except as expressly provided herein, nothing in this Agreement shall be deemed to constitute any Party the agent or legal representative of the other.

9. Miscellaneous

A. Effective Date and Termination

This Agreement shall be effective as of the date set forth above. This Agreement shall terminate upon the earlier of (a) satisfactory completion of the work contemplated by the SOW Activities, including termination of all permits and obligations associated with the SOW Activities; or (b) written agreement of both of the Parties. Notwithstanding the foregoing, either Party may terminate this Agreement at any time by giving thirty (30) days prior written notice to the other Party; however, each Party shall be responsible for any Shared Costs for SOW Activities approved prior to termination.

B. Shared Information and Confidentiality

Each Party agrees to maintain, as against those not parties to this Agreement, the privileged nature and confidentiality of all written and non-written communications between the Parties, including without limitation this Agreement. The Parties agree to share with each other all technical data collected or generated in the performance of this Agreement. Each Party shall designate as confidential any of its own documents containing confidential information which are shared with the other Party and shall treat any such information it receives from the other as confidential.

Given the joint interest of the Parties and the possibility of additional activities and litigation with respect to the Site, it is intended that the sharing of any information pursuant to this Paragraph will not defeat, and shall be deemed shared pursuant to, the attorney-client privilege, work product privilege and joint-defense privilege; and the Parties shall assert such privileges in the event a non-party to this Agreement seeks such information. The obligations of the Parties under this Paragraph to maintain as confidential any shared information shall survive the termination of this Agreement.

C. Notices

All notices given to any Party hereunder shall be in writing and be deemed to have been given when delivered personally or when deposited in the United States mail, postage prepaid, or submitted by facsimile, addressed to the following, unless otherwise amended:

If to Atlantic Richfield:

Kyle Christie
Environmental Business Manager
Remediation Management
Atlantic Richfield Company
6 Centerpointe Drive, # 6-161
La Palma, CA 90623
Telephone: (714) 670-5303
Fax: (714) 228-6749

Deborah Perfetti Felt, Esq.
Atlantic Richfield Company
6 Centerpointe Drive, # 6-548
La Palma, CA 90623
Telephone: (714) 228-6531
Fax: (714) 228-6570

If to American Polystyrene:

Carl Benninger
The American Polystyrene Corporation
1225 W. 196th Street
Torrance, California 90502
Tel. (310) 329 6379
Fax. (310) 329 9191

Jonathan C. Capp, Esq.
4317 Silver Spring Way
Oceanside, CA 92057
Tel. (760) 231 6498
Fax. (760) 231 6272

D. **Amendment and Waiver**

This Agreement may only be amended by written agreement signed by a duly authorized representative of each Party. The failure of either Party to enforce at any time any of the provisions of this Agreement shall in no way be construed to be a waiver of any such provision, nor in any way to affect the validity or enforceability of this Agreement or any portion hereof.

E. **Scope of the Agreement**

This Agreement shall not be construed so as to impose upon either Party any obligation to undertake or fund any activity with respect to the Site or its environs, other than in accordance with the provisions of this Agreement.

F. **Successors and Assigns and Third Parties to the Agreement**

This Agreement shall be binding upon and inure to the benefit of only the Parties and their respective successors and assigns. It extends no rights or benefits to any third party not a signatory to this Agreement.

G. **No Assignment**

No Party shall assign its rights or benefits under this Agreement without the prior written consent of the other Party.

H. **Interpretation**

The Parties have jointly drafted this Agreement, and both Parties agree that any and all rules of construction to the effect that ambiguity is construed against the drafting party shall be inapplicable in any dispute concerning this document. This Agreement shall be construed in accordance with and governed by the laws of the State of California.

I. **Entire Agreement**

This Agreement constitutes the entire agreement and understanding of the Parties with respect to the matters addressed herein. Each of the Parties acknowledges that this Agreement supersedes all prior negotiations, proposed agreements, and prior agreements concerning the matters addressed herein. Each of the Parties acknowledges that no Party or representative, agent, or attorney for a Party has made any representation or warranty to influence the execution of this Agreement that is not expressly contained in this Agreement and each of the Parties acknowledges that it has not executed this Agreement in reliance upon any such representation or warranty.

J. **Severability of Agreement**

The provisions of this Agreement are severable. If any portion of this Agreement is held to be unenforceable or invalid, the remaining provisions shall remain in full force and effect to the extent consistent with the overall purposes of this Agreement.

K. **Authority**

The Parties and each of them warrant that they have the authority to enter into this Agreement without the need to obtain any other approvals subsequent to the execution of this Agreement.

L. **Multiple Counterparts/execution by facsimile**

This Agreement may be executed by facsimile and in counterparts, which together shall constitute one and the same instrument.

WHEREFORE, the Parties hereby accept the foregoing by executing this Cost Sharing and Participation Agreement.

ATLANTIC RICHFIELD COMPANY

By: 11/27/06
Title: ENVIRONMENTAL BUSINESS MANAGER

AMERICAN POLYSTYRENE CORPORATION

By: Carolyn Tan
Title: general mgr.

2148746

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

December 16, 2004

Mr. John Geroch
Regional Water Quality Control Board; Los Angeles Region
320 W. 4th Street
Los Angeles, CA 90013

RE: **American Polystyrene Corporation**
1225 W. 196th Street
Torrance, CA 90502
W&A Project No.: APC-04-071
RWQCB File: SLIC #214

Subject: **4th Quarter 2004, Groundwater Monitoring and Status Report**

Mr. Geroch:

Winefield & Associates performed the groundwater monitoring for the subject site during the 4th Quarter 2004. Attached is a report of the results obtained with a status up-date for the site.

In your letter of July 20, 2004, you had requested that American Polystyrene (APC) submit isoconcentration figures for 10 compounds with this report. Seven of those eleven compounds were reported as "non-detect" by the laboratory. As requested in our letter dated August 30, 2004 we have submitted isoconcentration figures for only those compounds detected in the groundwater samples by the laboratory.

Additionally, APC again requests that their facility be removed from further groundwater monitoring requirements. The compounds identified in the groundwater, cis 1,2 DCE, TCE, and PCE are compounds that are not used by APC, nor are they compounds that would be associated with the processes used by APC. The compounds identified are also not compounds that would have been used in the past operations at the site, prior to ownership and operation by APC. It is unfortunate for APC that there facility is above the midst of a Superfund plume; however, the groundwater results clearly indicate that they are not contributors, and therefore they should not be required to incur the financial burden for monitoring the plume. Again, we respectfully request that APC be removed from all further groundwater monitoring, assessment, and/or remediation requirements.

110 PINE AVENUE, SUITE 900 • LONG BEACH • CALIFORNIA • 90802 • PHONE 562 495 5777 • FAX 562 495 5877

If you have any questions, or require any additional information, please contact me at 562.495.5777.

Sincerely,

Andre LaMontagne
Senior Geologist

Attachment 4th Quarter 2004 report

cc: Mr. Carl Benninger, American Polystyrene Corporation

American Polystyrene Corporation
Quarterly Monitoring and Status Report
4th Quarter 2004

Site Name:	American Polystyrene
Site Location:	1225 W. 196th Street, Torrance, CA
Client Contact/Phone No.:	Mr. Carl Benninger, 310.329.6379
Primary Consultant/Contact/Phone No.:	Winefield & Associates, Inc. Andre LaMontagne 562-495-5777
Sampling Contractor/Contact/Phone No.:	Winefield & Associates, Inc. A. LaMontagne/ 562-495-5777
Lead Agency:	RWQCB: Los Angeles Region
Lead Agency Contact/Phone:	Mr. John Geroch, 213.576.6737
Lead Agency File Number:	SLIC #214
Other Regulatory Agencies/cc's:	None

WORK PERFORMED THIS QUARTER (4th Quarter 2004)

- On November 1, 2004, W&A, gauged, purged, and sampled the following groundwater monitoring wells:

XOW-1	XOW -3	XOW -5
XOW -2	XOW -4	XOW -6

WORK PROPOSED FOR NEXT QUARTER (1st Quarter 2005)

- Perform quarterly groundwater monitoring and sampling. The following wells will be gauged, purged and sampled:

XOW -1	XOW -3	XOW -5
XOW -2	XOW -4	XOW -6

Summary of Unusual Activity: None.

Agency Directive Requirements: Quarterly groundwater monitoring, sampling, and reporting.

REVIEWED AND APPROVED BY:

Matt Winefield, PE, CSP
Principal Consultant

Date: 12/16/04

REGISTERED PROFESSIONAL ENGINEER
MATTHEW WINEFIELD
No. CO49885
Exp. 9/30/06
CIVIL
STATE OF CALIFORNIA

APPENDICES:

Appendix 1: Groundwater Elevation Contour Map (**Figure 1**)
TCE Isoconcentration Contour (**Figure 2**)
PCE Isoconcentration Contour (**Figure 3**)
1, 1-DCA Isoconcentration Contour (**Figure 4**)
1,1-DCE Isoconcentration Contour (**Figure 5**)
1,2-DCE Isoconcentration Contour (**Figure 6**)
Appendix 2: Groundwater Analyses and Gauging Results (**Table 1**)
Historical Groundwater Analyses and Gauging Results (**Table 2**)
Appendix 3: Groundwater Monitoring and Sampling Field Data Sheets
Appendix 4: Laboratory Report and Chain of Custody Record
Appendix 5: Groundwater Monitoring Procedures

DISTRIBUTION LIST:

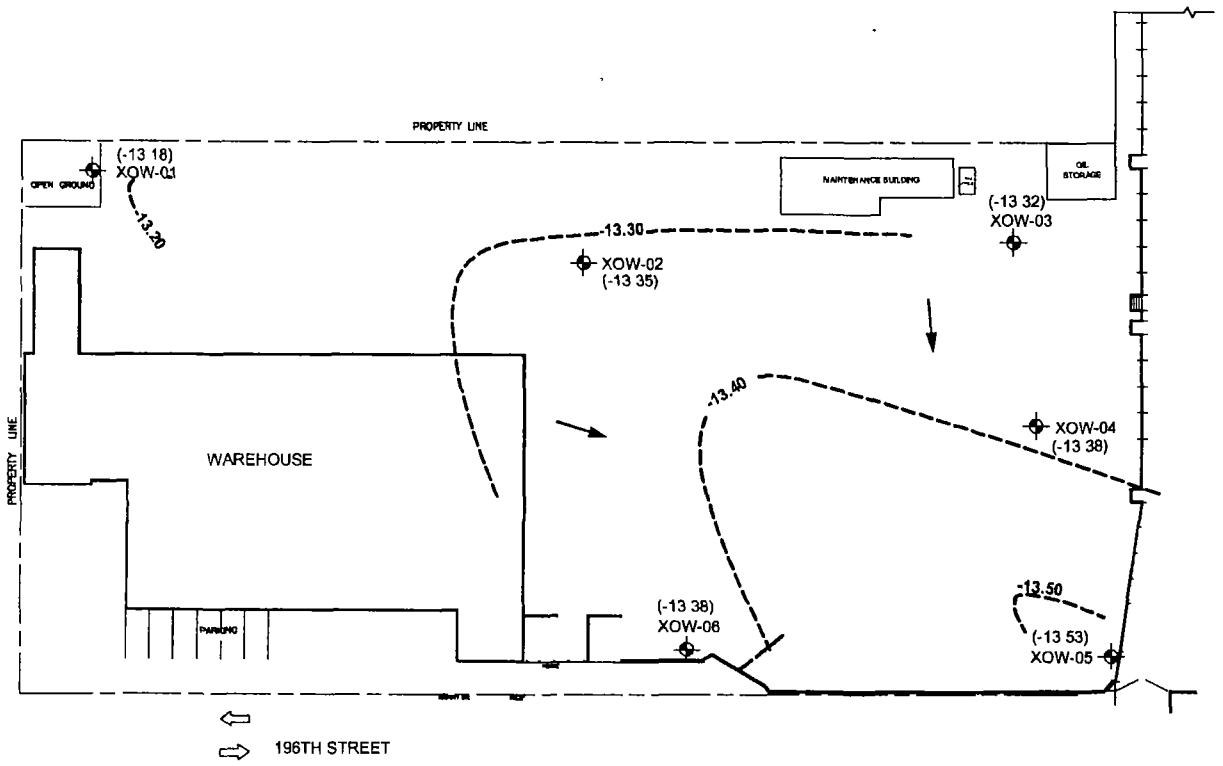
Mr. Carl Benninger/Ms. Carolyn Tan, American Polystyrene Corporation

MONITORING RESULTS FOR 4th Quarter 2004

Current Phase of Project	Groundwater Monitoring,	(Assessment, Remed., etc.)
Frequency of GW Monitoring/Sampling:	Quarterly	(Quarterly, etc.)
Wells Monitored/Sampled this Quarter:	XOW -1 XOW -2 XOW -3 XOW -4 XOW -5 XOW -6	
Depth to Groundwater:	57.12 to 59.73	(range in feet)
Groundwater Flow Direction/Magnitude:	South and southeast 0.001-0.002	(ft/ft)
Flow/Gradient Consistent w/Previous Quarters:	yes	(Yes/No)
1,1 DCE Concentration Range	ND to 29.2	(µg/L)
trans 1,2 DCE Concentration Range	ND to 5.46	(µg/L)
1,1 DCA Concentration Range	ND to 5.81	(µg/L)
cis 1,2 DCE Concentration Range:	ND to 121	(µg/L)
TCE Concentration Range:	874 to 10,800	(µg/L)
PCE Concentration Range:	232 to 3,400	(well)
Free Product Present/Wells:	no	(Yes/No)
Wells and/or Surface Waters within 2,000 ft.:	Unknown	(Name/ID)
Radius & Their Respective Directions:	n.a..	(Distance and Direction)
Current Remediation Methods:	n.a.	(VES, Prod. Rem., etc.)
LPH Recovered this Quarter:	n.a.	(gallons)
Gallons of GW Purged this Quarter:	100	(gallons)
Disposal/Recycling Facility:	Managed directly by APC	(Name and Location)

Appendix 1

Groundwater Elevation Contour Map (Figure 1)
TCE Isoconcentration Contour (Figure 2)
PCE Isoconcentration Contour (Figure 3)
1, 1-DCA Isoconcentration Contour (Figure 4)
1,1-DCE Isoconcentration Contour (Figure 5)
1,2-DCE Isoconcentration Contour (Figure 6)



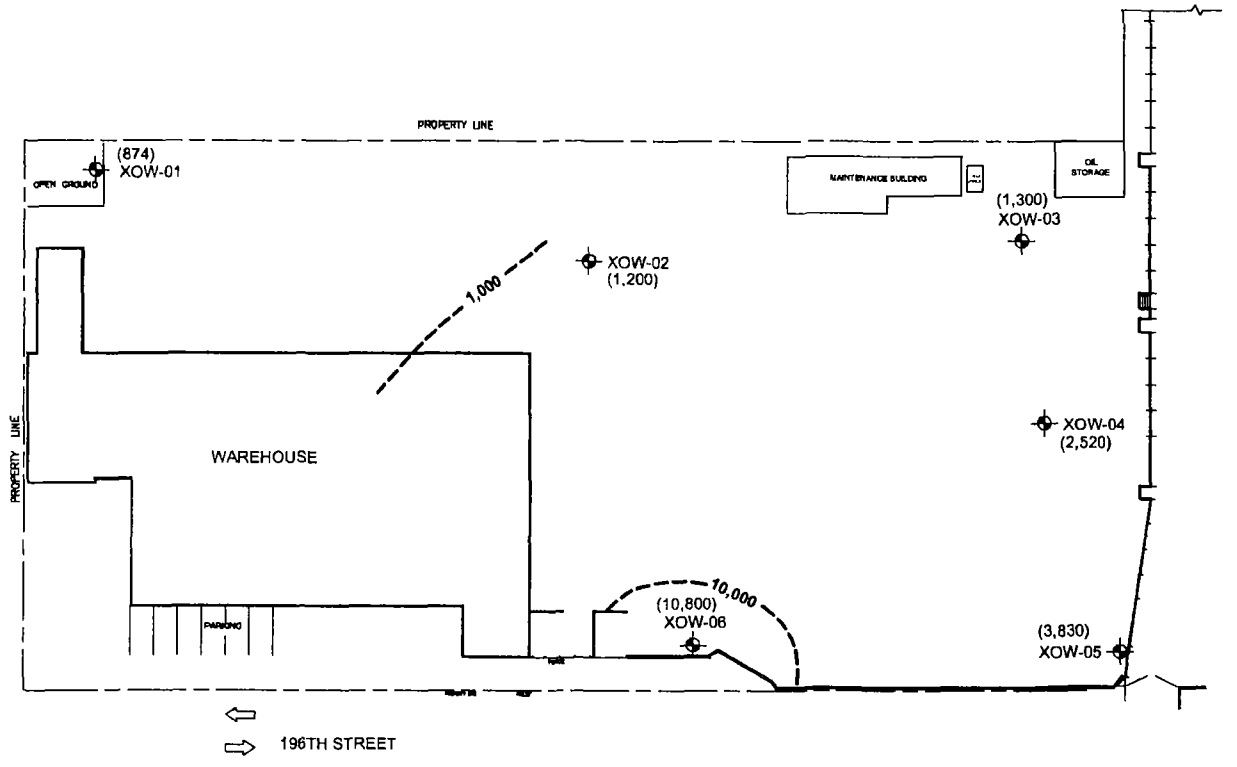
LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(-13 11)	GROUNDWATER ELEVATION (ft MSL) MEASURED NOVEMBER 1, 2004
-13.30	GROUNDWATER ELEVATION CONTOUR (ft MSL)
	APPARENT GROUNDWATER FLOW DIRECTION

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER GRADIENT MAP 4TH QUARTER 2004
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W 196TH STREET TORRANCE, CALIFORNIA
JOB NO. APC-04-071	DATE 11/15/2004
FIGURE NO	1



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(1290)	TRICHLOROETHENE (TCE) CONCENTRATION (µg/l)
1,000	TCE ISO-CONCENTRATION CONTOUR

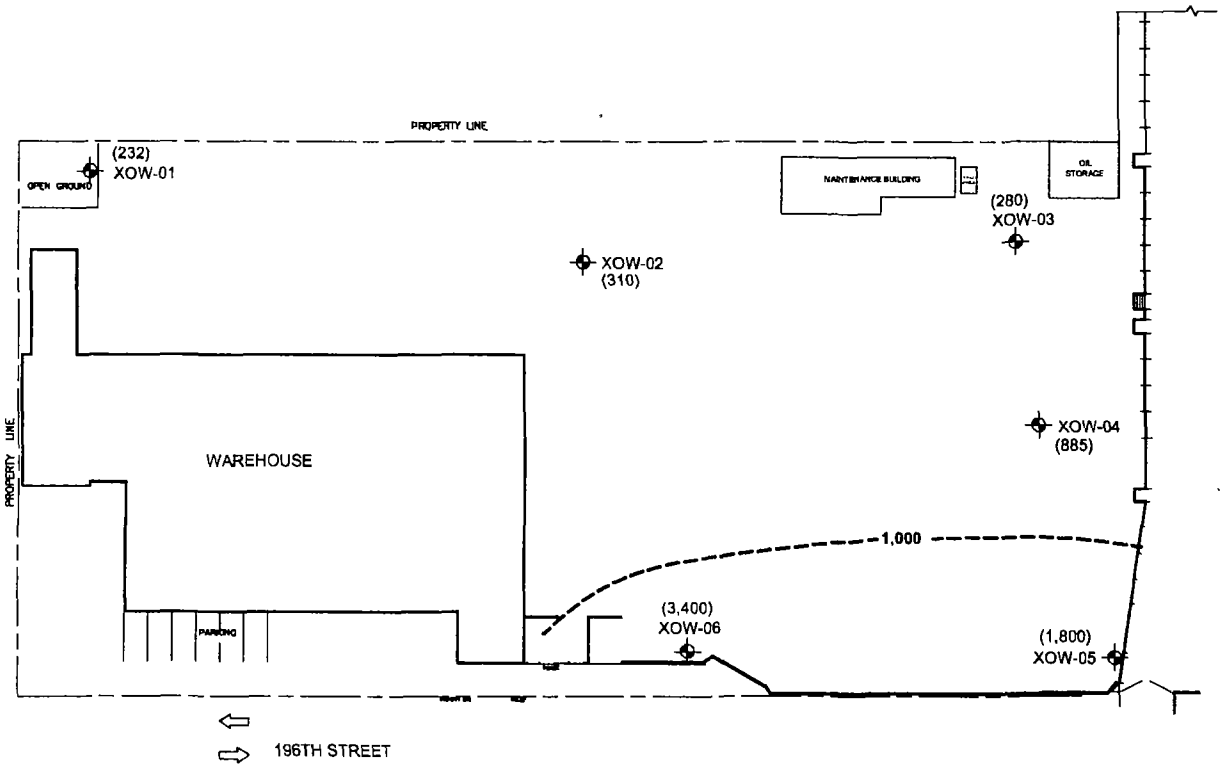
N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER SAMPLE ANALYSES MAP FOR TRICHLOROETHENE 4TH QUARTER 2004
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W 196TH STREET TORRANCE, CALIFORNIA

JOB NO.	DATE	FIGURE NO
APC-04-071	11/15/2004	2



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(62)	TETRACHLOROETHENE (PCE) CONCENTRATION (µg/l)
1,000	PCE ISO-CONCETRATION CONTOUR

0 40

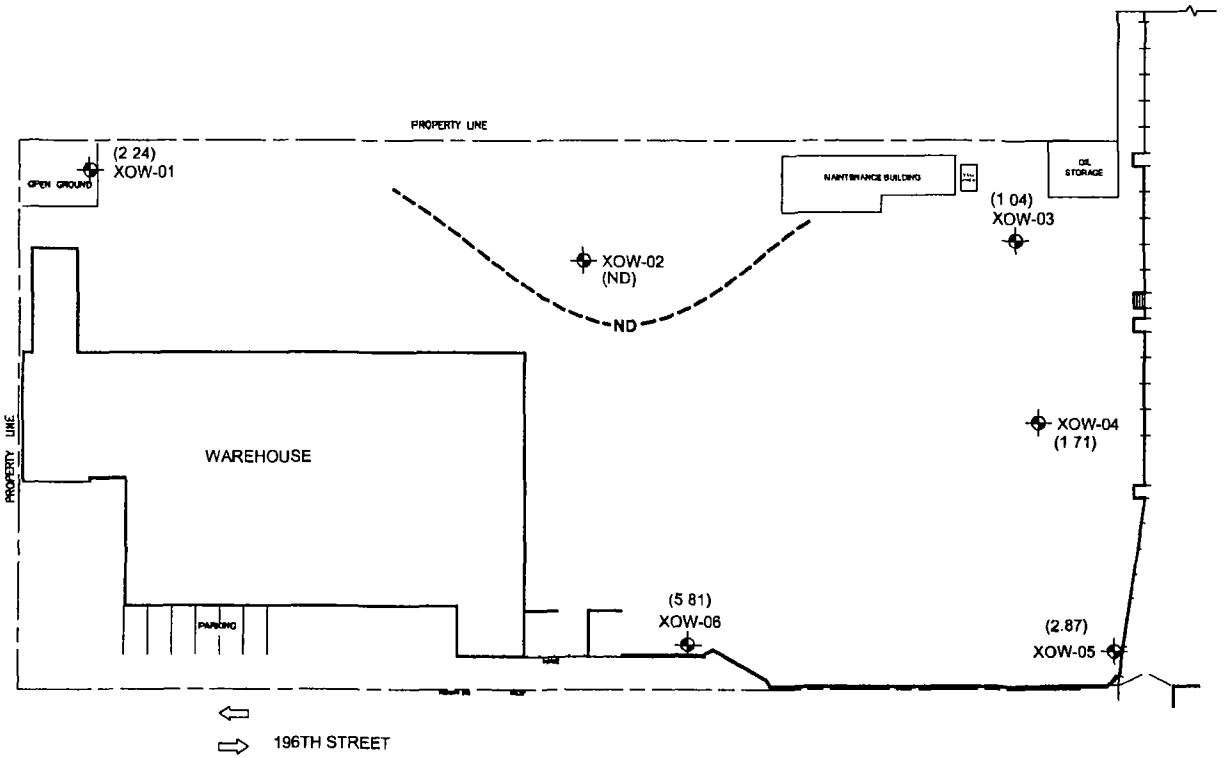
WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION: GROUNDWATER SAMPLE ANALYSES MAP FOR TETRACHLOROETHENE 4TH QUARTER 2004

PROJECT: AMERICAN POLYSTYRENE CORPORATION
TORRANCE, CALIFORNIA

LOCATION: 1225 W 196TH STREET
TORRANCE, CALIFORNIA

JOB NO.	DATE	FIGURE NO
APC-04-071	11/15/2004	3



LEGEND

XOW-01 GROUNDWATER MONITORING WELL

(ND) 1,1-DICHLOROETHANE (1,1-DCA) CONCENTRATION (µg/l)

ND = NOT DETECTED

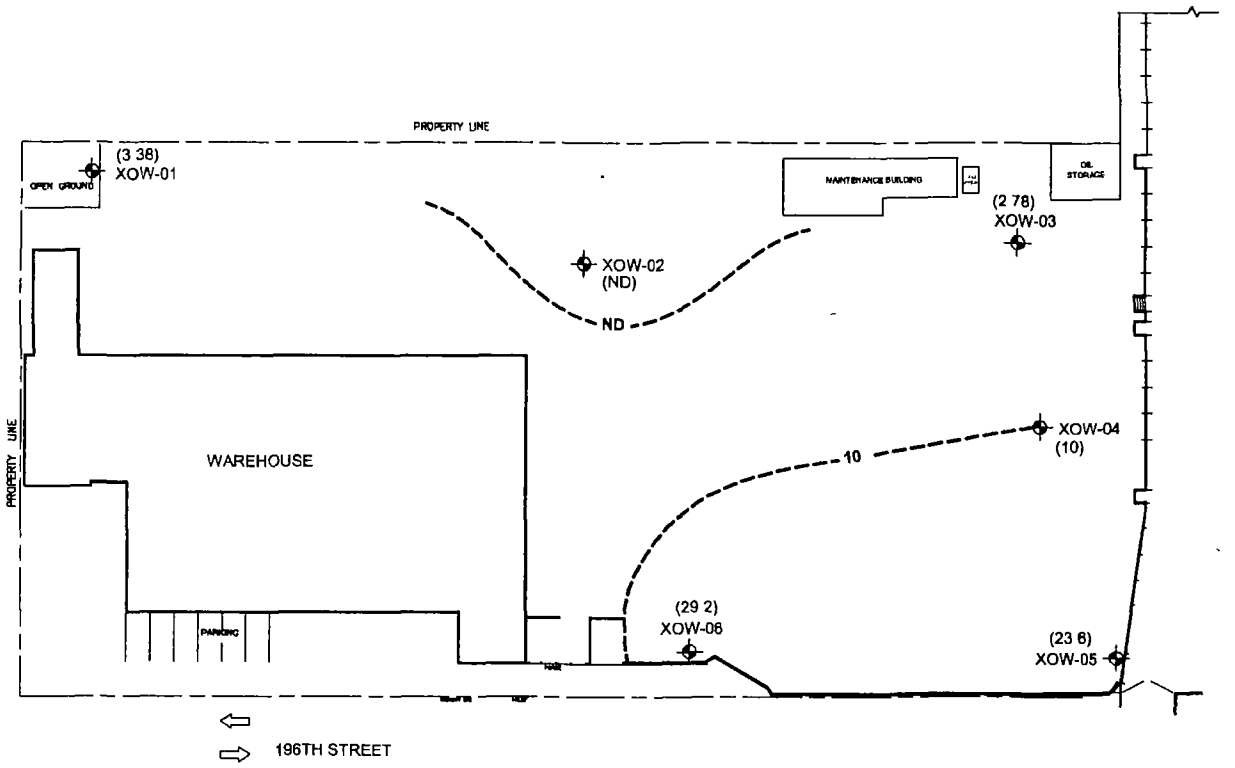
N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER SAMPLE ANALYSES MAP FOR 1,1-DICHLOROETHANE 4TH QUARTER 2004
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W 196TH STREET TORRANCE, CALIFORNIA

JOB NO.	DATE	FIGURE NO
APC-04-071	11/15/2004	4



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(ND)	1,1-DICHLOROETHENE (1,1-DCE) CONCENTRATION (µg/l)
10	1,1-DCE ISO-CONCENTRATION CONTOUR

ND = NOT DETECTED

0 40

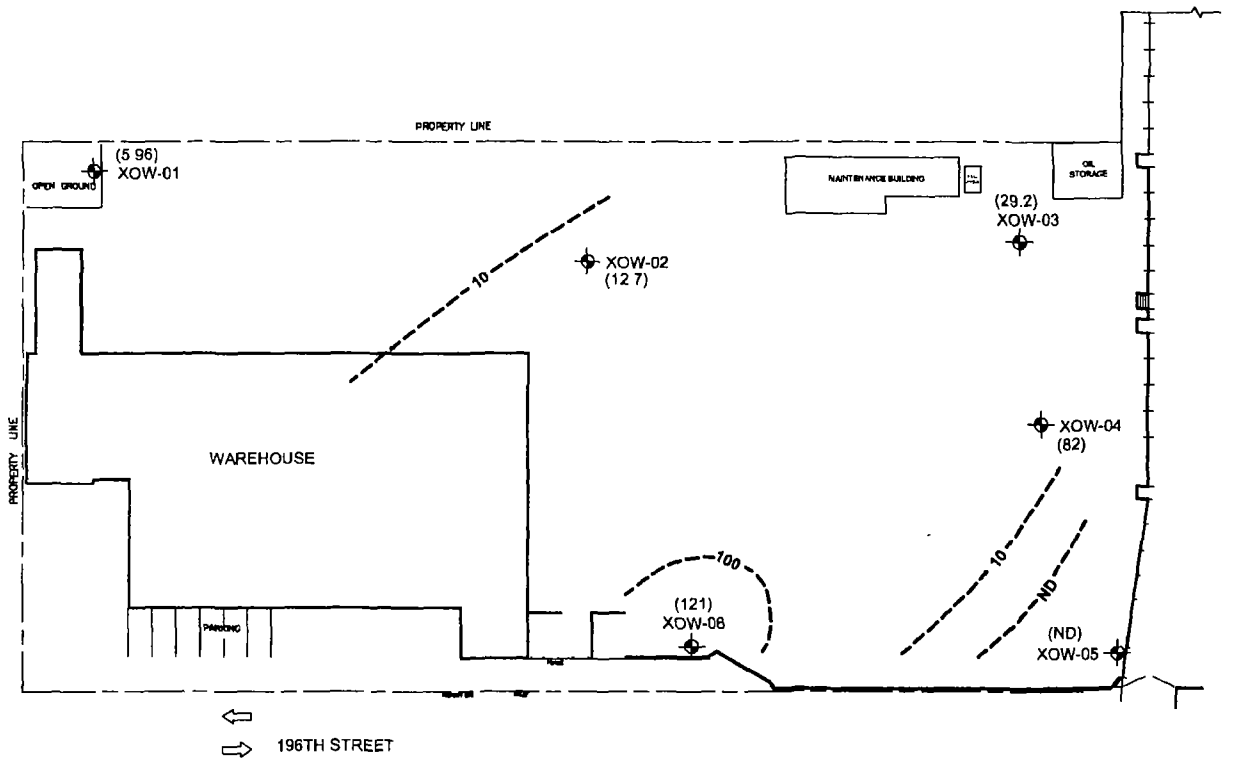
WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION: GROUNDWATER SAMPLE ANALYSES MAP FOR 1,1-DICHLOROETHENE 4TH QUARTER 2004

PROJECT: AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA

LOCATION: 1225 W 196TH STREET TORRANCE, CALIFORNIA

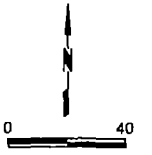
JOB NO.	DATE	FIGURE NO
APC-04-071	11/15/2004	5



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(24)	1,2-DICHLOROETHENE (DCE) CONCENTRATION (µg/l)
100	1,2-DCE ISO-CONCENTRATION CONTOUR

ND = NOT DETECTED



WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER SAMPLE ANALYSES MAP FOR 1,2-DICHLOROETHENE 4TH QUARTER 2004
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W. 196TH STREET TORRANCE, CALIFORNIA

JOB NO.	DATE	FIGURE NO
APC-04-071	11/15/2004	6

Appendix 2

Groundwater Analyses and Gauging Results (Table 1)

Historical Groundwater Analyses and Gauging Results (Table 2)

TABLE 1
GROUNDWATER ANALYSES AND GAUGING RESULTS, 4th QUARTER 2004
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

WELL I.D.	WELL ELEVATION (feet MSL)	DATE MEASURED	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	cis 1,2-Dichloroethene (µg/L)	Trichlorethene (µg/L)	Tetrachloroehtene (µg/L)	Her-Chromium (µg/L)	Chromium (µg/L)	Copper (µg/L)	Lead (µg/L)	Mercury (µg/L)
XOW-01	46.62	11/01/04	59.80	-13.18	5.96	**874**	**232**	nd	nd	nd	nd	nd
XOW-02	45.40	11/01/04	58.75	-13.35	**12.70**	**1,200**	**310**	nd	13.0	63.0	nd	nd
XOW-03	44.32	11/01/04	57.64	-13.32	**29.2**	**1,300**	**280**	nd	22.0	16.0	nd	nd
XOW-04	44.94	11/01/04	58.32	-13.38	**82.0**	**2,520**	**885**	nd	16.0	18.0	2.80	**2.80**
XOW-05	43.65	11/01/04	57.18	-13.53	nd	**3,830**	**1,800**	nd	**53.0**	25.0	nd	nd
XOW-06	45.42	11/01/04	58 80	-13.38	**121**	**10,800**	**3,400**	nd	40 0	nd	nd	nd
Laboratory Detection Limits					10.0	10.0	10.0	0.01	4.00	3.00	1.00	2.00
Primary MCLs					6.0	5.0	5 0	--	50	1,300	15	2

NOTES:
µg/L: Micrograms per liter.
nd: Not detected at laboratory detection limit
MCL· Maximum contamination levels for primary drinking water standards
Bold. Values in bold exceed the MCL for that compound
fbce: Feet below casing elevation
MSL· Mean sea level.
--. Not established

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

Physical Paramaters					VOCs (µg/L)																						Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Benzene	Carbon Tetrachloride	Chlorobenzene	Chloroform	Dibromochloro methane	Dichlorobromo methane	1,2 Dichloro benzene	1,3 Dichloro benzene	1,4 Dichloro benzene	1,1 Dichloro ethane	1,1 Dichloro ethene	cis 1,2 Dichloro ehtene	trans 1,2 Dichloro ehtene	Ethylbenzene	Freon 11	Freon 12	Tetrachloro ethene	Toluene	1,1,2 Trichloro ethane	Trichloro ethene	1,2,4 Trimethyl benzene	Xylenes	Cr^6	Cr	Cu	Pb	Hg
XOW-01	46.62	01/26/04	--	--	**20**	nd	nd	21	nd	nd	nd	nd	nd	3.0	3.9	**14**	8.7	0.67	12	5.3	**170**	nd	nd	**1,300**	nd	0.19	nt	nt	nt	nt	nt
		07/29/04	59.73	-13.11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**nd**	nd	nd	nd	nd	**62**	nd	nd	**622**	nd	nd	nd	nd	5	nd	nd
		11/01/04	59.80	-13 18	nd	nd	nd	17.4	nd	nd	nd	nd	nd	2.24	3.38	**5.96**	5.46	nd	nd	nd	**232**	nd	nd	**874**	nd	nd	nd	nd	nd	nd	nd
XOW-02	45 40	01/26/04	--	--	**3.4**	nd	nd	19	nd	nd	nd	nd	nd	1 7	nd	**37**	4.5	nd	8.7	5.4	**410**	nd	nd	**3,100**	nd	nd	nt	nt	nt	nt	nt
		07/29/04	58.60	-13.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**nd**	nd	nd	nd	nd	**148**	nd	nd	**801**	nd	nd	0.12	33	39	8	nd
		11/01/04	58.75	-13.35	nd	nd	nd	10.2	nd	nd	nd	nd	nd	nd	nd	**12.7**	0.91	nd	nd	nd	**310**	nd	nd	**1,200**	nd	nd	nd	13	63	6.2	nd
XOW-03	44.32	01/26/04	--	--	**94**	nd	nd	8.2	nd	nd	nd	nd	nd	2.3	1.3	**29**	nd	9.7	2.4	2.1	**130**	1.1	nd	**1,100**	0.46	3.3	nt	nt	nt	nt	nt
		07/29/04	57.50	-13.18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**24**	nd	nd	nd	nd	**139**	nd	nd	**1,290**	nd	nd	8.3	18	12	5	nd
		11/01/04	57.64	-13.32	nd	nd	nd	13	nd	nd	nd	nd	nd	1.04	2.78	**29.2**	nd	nd	nd	nd	**280**	nd	nd	**1,300**	nd	nd	nd	22	16	nd	nd
XOW-04	44 94	01/26/04	--	--	0.38	nd	nd	16	nd	nd	nd	nd	nd	2.5	6.0	**83**	1.2	nd	3.4	3.4	**400**	nd	1.6	**2,000**	nd	nd	nt	nt	nt	nt	nt
		07/29/04	58.25	-13.31	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**99.1**	nd	nd	nd	nd	**476**	nd	nd	**2,520**	nd	nd	6 81	12	4	3	nd
		11/01/04	58.32	-13 38	nd	nd	nd	30.8	nd	nd	nd	nd	nd	1.71	10	**82**	nd	nd	nd	nd	**885**	nd	nd	**2,520**	nd	nd	nd	16	18	13	**2.8**
XOW-05	43.65	01/26/04	--	--	**2.0**	**0.75**	0.56	22	nd	0.76	0 52	nd	0.4	3.9	36	**190**	1 7	nd	4.2	nd	**2,300**	nd	nd	**6,400**	nd	nd	nt	nt	nt	nt	nt
		07/29/04	57.12	-13.47	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**83.8**	nd	nd	nd	nd	**1,540**	nd	nd	**3,060**	nd	nd	5.42	11	nd	2	nd
		11/01/04	57.18	-13 53	nd	nd	nd	31.3	nd	nd	nd	nd	nd	2.87	23.6	nd	0.85	nd	nd	nd	**1,800**	nd	nd	**3,830**	nd	nd	nd	**53**	25	8.3	nd
XOW-06	45.42	01/26/04	--	--	**15**	**0.74**	0.47	74	0.56	0.77	11	0.88	1.2	**5.9**	22	**250**	5.6	nd	8.2	7.1	**4,000**	nd	nd	**12,000**	nd	nd	nt	nt	nt	nt	nt
		07/29/04	58.80	-13.38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**134**	nd	nd	nd	nd	**4,200**	nd	nd	**14,200**	nd	nd	29.2	38	13	3	nd
		11/01/04	58.80	-13.38	nd	nd	nd	75 6	nd	nd	nd	nd	nd	**5.81**	29.2	**121**	3.58	nd	nd	nd	**3,400**	nd	nd	**10,800**	nd	nd	nd	40	nd	nd	nd
Laboratory Detection Limits					0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0 50	0.50	0.50	0.50	0.50	1.00	0.01	4.00	3.00	1.00	2.00
DHS Primary MCLs					1	0.5	70	100	100	--	600	--	5	5	6	6	10	300	--	--	5	150	5	5	--	1,750	--	50	1,300	15	2

Notes:
µg/L: Micrograms per liter
Bold: Values in bold exceed their respective MCL
nd: Not detected at laboratory detection limits shown.
nt: Not tested.
--: Not reported, or not determined

Appendix 3

Groundwater Monitoring and Sampling Field Data Sheets

GROUNDWATER SAMPLING AND ANALYSIS REQUEST

PROJECT NAME: Winefield Torrance
PROJECT MANAGER: Ron Bailey
PROJECT ADDRESS: 1225 W 196th Street
SITE CONTACT: Carl Benninger

PROJECT# 1150-1225-1
DATE SUBMITTED:
CITY: Torrance
PHONE #: 310-329-6379

CIRCLE MONTH(S) IN WHICH SAMPLING IS TO TAKE PLACE:

2004			2005			2006		
Jan	Feb	March	Jan	Feb	March	Jan.	Feb	March
April	May	June	April	May	June	April	May	June
July	Aug	Sept	July	Aug	Sept	July	Aug.	Sept
Oct	Nov	Dec	Oct	Nov	Dec.	Oct	Nov	Dec.

LABORATORY **RCH, 2880 Ana Street, Rancho Dominguez (Compton), CA 310-763-5023**
TURN AROUND TIME: **Normal**
CONTAIN PURGE WATER IN: **DRUMS (purchase if necessary)**
COPIES OF ANALYTICAL AND FIELD DATA ROUTED TO: **Ron Bailey (Fax: 714-670-2095)**

SPECIAL INSTRUCTIONS / CONSIDERATIONS (ie. specific deadlines, traffic control, etc.):
1. Gauge and sample wells in order shown.
2. Purge 3 casing volumes per well using electric pump
3. Record pH, Conductivity, Temp.
4. Store labelled drums somewhere
5. No trip or equipment blanks.
6. Be careful.

GAUGE AND SAMPLE IN ORDER LISTED BELOW

WELL ID	CASING DIAMETER (inches)	TOTAL DEPTH (feet)	DEPTH TO WATER (feet)	FREE PRODUCT? (Y/N)	ANALYSES AND COMMENTS
XOW-1	2	85	65	No	EPA 8260 Full Scan VOCs, Chromium, Hex Chromium, Copper, Mercury, and Lead
XOW-2	2	85	65	No	
XOW-3	2	85	65	No	
XOW-4	2	85	65	No	
XOW-5	2	85	65	No	
XOW-6	2	85	65	No	

PROJECT MANAGER'S SIGNATURE:_____ DATE:_____

MONITORING WELL GAUGING FORM

Site Name: APC Location: Torrance Date: 11/1/04

Project Number: 1150-1225 Technician: J Kuosa

Well ID	Total Well Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	D.O Reading	Time Sampled	Wellhead Locked and Secured?	Comments
XOW-1	85.00	—	59.80					
XOW-2	85.00	—	58.75					
XOW-3	85.00	—	57.64					
XOW-4	85 00	—	58.32					
XOW-5	85 00	—	57.18					
XOW-6	85 00	—	58.80					

Note Measure water and product levels from the notch in top of well casing.

GROUNDWATER MONITORING FIELD DATA SHEET

Project No.: 1150-1225	Sample Tech: Jim Krivan	Well ID: XOW-1
Site Name: American Polystyrene Corp	Site Location. Torrance	DATE: 11/1/04

WELL GAUGING INFORMATION

Date Gauged	Depth of Well (ft)	Depth to Water (ft)	Calculated purge volume (gal)	Actual Purge Volume (gal)
11/1/04	**85.00**	59.80	12.10	12.00

Casing Diameter: 2" X **4"**____ **4.5"**____ **6"**____ **Other** ____

Floating Product: Yes — **No** X **Color** — **Thickness (ft)** —
Quantity of Free Product Skimmed/removed: —

Sample Date: 11/1/04 **Sample Time:** 8:20am

Depth to Water at Sample Time: 59.82

Sample Method: Pump____ **Bailer** X **Disposable Bailer**____ **Other**____

PURGE WATER MONITORING

Date Purged: 11/1/04	**Start time:** 7:45	**End Time:** 7:55
Purge Method: PUMP		

Time	Cum. Purge Vol. (gal)	Temp (°C)	Conduct-ivity ~s	PH	Color	Turbidity
7:50	5	21.0	2.49	7.21	Clear	
7:53	10	21.7	2.61	7.26	Clear	
7:55	12	21.8	2.65	7.28	Clear	

Well Box Integrity (seals, bolts, lid, skirt, lock, etc):

Comments:
64.84

GROUNDWATER MONITORING FIELD DATA SHEET

Project No.: 1150-1225	Sample Tech: Jim Krivan	Well ID: XOW-2
Site Name: American Polystyrene Corp	Site Location: Torrance	DATE: 11/1/04

WELL GAUGING INFORMATION

Date Gauged	Depth of Well (ft)	Depth to Water (ft)	Calculated purge volume (gal)	Actual Purge Volume (gal)
11/1/04	**85.00**	58.75	12.60	13.00

Casing Diameter: 2" X **4"** ____ **4.5"** ____ **6"** ____ **Other** ____

Floating Product: Yes — **No** X **Color** — **Thickness (ft)** —
Quantity of Free Product Skimmed/removed: —

Sample Date: 11/1/04 **Sample Time:** 9:15a

Depth to Water at Sample Time: 58.80

Sample Method: Pump ____ **Bailer** X **Disposable Bailer** ____ **Other** ____

PURGE WATER MONITORING

Date Purged: 11/1/04	**Start time:** 8:50	**End Time:** 9:02
Purge Method: PUMP		

Time	Cum. Purge Vol. (gal)	Temp (°C)	Conduct-ivity µS	PH	Color	Turbidity
8:54	5	22.9	1669	7.97	Clear	
8:58	10	22.8	1711	7.82	Clear	
9:02	13	22.7	1722	7.81	Clear	

Well Box Integrity (seals, bolts, lid, skirt, lock, etc):

Comments:
64.00

GROUNDWATER MONITORING FIELD DATA SHEET

Project No.: 1150-1225	Sample Tech: Jim Krivan	Well ID: XOW-3
Site Name: American Polystyrene Corp	Site Location: Torrance	DATE: 11/1/04

WELL GAUGING INFORMATION

Date Gauged	Depth of Well (ft)	Depth to Water (ft)	Calculated purge volume (gal)	Actual Purge Volume (gal)
11/1/04	**85.00**	57.64	13.13	13 00

Casing Diameter: 2" X **4"** ___ **4.5"** ___ **6"** ___ **Other** ___

Floating Product: Yes — **No** X **Color** — **Thickness (ft)** —
Quantity of Free Product Skimmed/removed: —

Sample Date: 11/1/04 **Sample Time:** 9:55

Depth to Water at Sample Time: 57.66

Sample Method: Pump ___ **Bailer** X **Disposable Bailer** ___ **Other** ___

PURGE WATER MONITORING

Date Purged: 11/1/04	**Start time:** 9:35	**End Time:** 9:50
Purge Method: PUMP		

Time	Cum. Purge Vol. (gal)	Temp (°C)	Conduct-ivity uS	PH	Color	Turbidity
9:40	5	24.2	1407	8.48	Clear	
9:45	10	23.6	1427	8.62	Clear	
9:50	13	23.8	1455	8.32	Clear	

Well Box Integrity (seals, bolts, lid, skirt, lock, etc):

Comments:
63.11

GROUNDWATER MONITORING FIELD DATA SHEET

Project No.: 1150-1225	Sample Tech: Jim Krivan	Well ID: XOW-4
Site Name: American Polystyrene Corp	Site Location: Torrance	DATE: 11/1/04

WELL GAUGING INFORMATION

Date Gauged	Depth of Well (ft)	Depth to Water (ft)	Calculated purge volume (gal)	Actual Purge Volume (gal)
11/1/04	**85.00**	58.32	12.81	13.00

Casing Diameter: 2" X **4"**____ **4.5"**____ **6"**____ **Other**____

Floating Product: Yes — **No** X **Color** — **Thickness (ft)** —
Quantity of Free Product Skimmed/removed: —

Sample Date: 11/1/04 **Sample Time:** 10:40

Depth to Water at Sample Time: 58.35

Sample Method: Pump____ **Bailer** X **Disposable Bailer**____ **Other**____

PURGE WATER MONITORING

Date Purged: 11/1/04	**Start time:** 10:15	**End Time:** 10:30
Purge Method: PUMP		

Time	Cum. Purge Vol. (gal)	Temp (°C)	Conduct-ivity	PH	Color	Turbidity
10:21	5	23.4	1468	8.15	Clear	
10:25	10	24.2	1510	8.21	Clear	
10:30	13	24.8	1512	8.23	Clear	

Well Box Integrity (seals, bolts, lid, skirt, lock, etc):

Comments:

63.66

GROUNDWATER MONITORING FIELD DATA SHEET

Project No.: 1150-1225	Sample Tech: Jim Krivan	Well ID: XOW-5
Site Name: American Polystyrene Corp	Site Location: Torrance	DATE: 11/1/04

WELL GAUGING INFORMATION

Date Gauged	Depth of Well (ft)	Depth to Water (ft)	Calculated purge volume (gal)	Actual Purge Volume (gal)
11/1/04	**85.00**	52.18	13.35	13.00

Casing Diameter: 2" X **4"**____ **4.5"**____ **6"**____ **Other** ____

Floating Product: Yes — **No** X **Color** — **Thickness (ft)** —
Quantity of Free Product Skimmed/removed: —

Sample Date: 11/1/04 **Sample Time:** 11:35

Depth to Water at Sample Time: 11:35

Sample Method: Pump____ **Bailer** X **Disposable Bailer**____ **Other**____

PURGE WATER MONITORING

Date Purged: 11/1/04	**Start time:** 11:10	**End Time:** 11:25
Purge Method: PUMP		

Time	Cum. Purge Vol. (gal)	Temp (°C)	Conduct-ivity µS	PH	Color	Turbidity
11:14	5	27.1	1490	7.74	Clear	
11:20	10	26.6	1526	7.60	Clear	
11:25	13	25.7	1677	7.43	Clear	

Well Box Integrity (seals, bolts, lid, skirt, lock, etc):

Comments:
62.74

GROUNDWATER MONITORING FIELD DATA SHEET

Project No.: 1150-1225	Sample Tech: Jim Krivan	Well ID: XOW-6
Site Name: American Polystyrene Corp	Site Location: Torrance	DATE: 11/1/04

WELL GAUGING INFORMATION

Date Gauged	Depth of Well (ft)	Depth to Water (ft)	Calculated purge volume (gal)	Actual Purge Volume (gal)
11/1/04	**85.00**	58 88	12.54	13 00

Casing Diameter: 2" X **4"** ____ **4.5"** ____ **6"** ____ **Other** ____

Floating Product: Yes — **No** X **Color** — **Thickness (ft)** —
Quantity of Free Product Skimmed/removed: —

Sample Date: 11/1/04 **Sample Time:** 12:15

Depth to Water at Sample Time: 58.90

Sample Method: Pump ____ **Bailer** X **Disposable Bailer** ____ **Other** ____

PURGE WATER MONITORING

Date Purged: 11/1/04	**Start time:** 11:55	**End Time:** 12 08
Purge Method: PUMP		

Time	Cum. Purge Vol. (gal)	Temp (°C)	Conduct-ivity µS	PH	Color	Turbidity
12:00	5	27.8	1266	7.81	Clear	
12:04	10	26.7	1234	7.60	Clear	
12:08	13	25.9	1280	7.42	Clear	

Well Box Integrity (seals, bolts, lid, skirt, lock, etc):

Comments:
64.10

Appendix 4

Laboratory Report
And
Chain of Custody Record

dba - RCH Research and Environmental Laboratories, Inc.
Innovative Research and Environmental Laboratories, Inc.
2880-A Ana St (PCT Building)
Rancho Dominguez, CA 90221
Tel (310) 763-5023
Fax. (310) 763-4000

- Environmental Analysis (California State Certified)
- Contract Research
- Expert Witness in Court
- Industrial Wastewater Engineering
- Environmental/Site Assessment

EPA 8260 VOLATILES
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

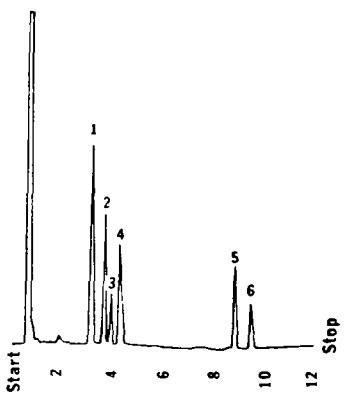
CLIENT: WINEFIELD & ASSOCIATES, INC
110 PINE AVE , SUITE 900
LONG BEACH, CA 90802
PROJECT CONT PERSON ANDRE LA MONTAGNE
MATRIX WATER

REPORTING DATE 11/15/04
SAMPLE RECEIVED 11/1/04
LABORATORY NO 04-2889
DATE ANALYZED 11/8/04

Compound	sample	QC MATRIX SPIKE			QC MATRIX SPIKE DUP			Average	RPD
	Conc ppb	Conc added ppb	Conc found ppb	% Recovery	Conc added ppb	Conc. Found ppb	% Recovery	% Recovery	%
Benzene	0 00	20 0	19 0	95 2	20 0	19 9	99 3	97 2	4 27
Toluene	0 00	20 0	19 6	98.1	20 0	20 2	101	99 6	3 11
Vinyl Chloride	0 00	20 0	19 2	95 9	20 0	20 2	101	98 4	5 18
Trans-1,2-DCE	0 00	20 0	19 0	95 1	20 0	19 7	98 6	96 8	3.67
1,1-DCE	0 00	20 0	19 4	97 0	20 0	19 1	95 4	96 2	1 72
TCE	0 00	20.0	19 6	98 1	20 0	20 3	101	99 7	3 21
1,2-DCE	0 00	20 0	19.4	97.2	20 0	20 1	101	98 9	3.44
PCE	0 00	20 0	19 0	95 1	20 0	19 7	98 3	96 7	3 26

Respectfully Submitted,

Jina Ryu
Project Control Chemist



dba - RCH Research and Environmental Laboratories, Inc.
Innovative Research and Environmental Laboratories, Inc.
2880-A Ana St (PCT Building)
Rancho Dominguez, CA 90221
Tel : (310) 763-5023
Fax (310) 763-4000

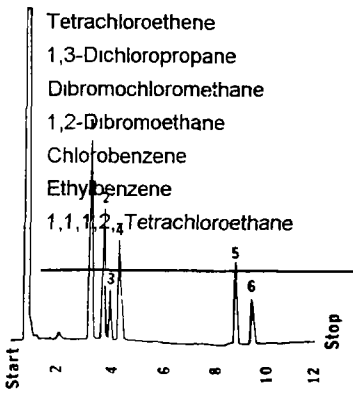
- Environmental Analysis (California State Certified)
- Contract Research
- Expert Witness in Court
- Industrial Wastewater Engineering
- Environmental/Site Assessment

CERTIFICATE OF ANALYSIS

CLIENT: WINEFIELD & ASSOCIATES, INC.
110 PINE AVE., SUITE 900
LONG BEACH, CA 90802
PROJECT CONT. PERSON: ANDRE LA MONTAGNE
PROJECT. NAME/NO.: APC-04-071
MATRIX: WATER

REPORTING DATE: 11/15/04
SAMPLE RECEIVED: 11/1/04
LABORATORY NO.: **04-2889**
DATE SAMPLED : 11/1/04
ELAP NO: 2279
METHOD: EPA 8260
ANALYZED DATE: 11/8/04

Parameter	XOW-1	XOW-2	XOW-3	XOW-4	XOW-5	XOW-6	Detection Limit
Dichlorofluoromethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Chloromethane	ND	ND	ND	ND	ND	ND	0.50 ug/L
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.50 ug/L
Bromoethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	0.50 ug/L
1,1-Dichloroethene	3 38 ug/L	ND	2 78 ug/L	10.0 ug/L	23 6 ug/L	29 2 ug/L	0.50 ug/L
Methylene Chloride	ND	ND	ND	ND	ND	ND	1 00 ug/L
Trans-1,2-Dichloroethene	5 46 ug/L	0 91 ug/L	ND	ND	0 85 ug/L	3.58 ug/L	0 50 ug/L
1,1-Dichloroethane	2 24 ug/L	ND	1 04 ug/L	1.71 ug/L	2.87 ug/L	5 81 ug/L	0 50 ug/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Cis-1,2-Dichloroethene	5.96 ug/L	12 7 ug/L	29 2 ug/L	82 0 ug/L	ND	121 ug/L	0.50 ug/L
Bromochloromethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Chloroform	17 4 ug/L	10 2 ug/L	13 0 ug/L	30 8 ug/L	31 3 ug/L	75 6 ug/L	0 50 ug/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	0.50 ug/L
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Benzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Trichloroethene	874 ug/L	1,200 ug/L	1,300 ug/L	2,520 ug/L	3,830 ug/L	10,800 ug/L	50 0 ug/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Dibromoethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Bromodichloromethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Toluene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Tetrachloroethene	232 ug/L	310 ug/L	280 ug/L	885 ug/L	1,800 ug/L	3,400 ug/L	50 0 ug/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Dibromochloromethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Chlorobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Ethylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	0 50 ug/L



RCH Research and Environmental Laboratories, Inc.

Parameter	XOW-1	XOW-2	XOW-3	XOW-4	XOW-5	XOW-6	Detection Limit
MP-Xylene	ND	ND	ND	ND	ND	ND	1 00 ug/L
O-Xylene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Styrene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Bromoform	ND	ND	ND	ND	ND	ND	0 50 ug/L
Isopropylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	0 50 ug/L
Bromobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
n-Propylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	0 50 ug/L
2-chlorotoluene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
4-Chlorotoluene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Ter-Butylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Sec-Butylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
n-Butylbenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Naphthalene	ND	ND	ND	ND	ND	ND	0 50 ug/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	0 50 ug/L
Acetone	ND	ND	ND	ND	ND	ND	0 50 ug/L
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	1 00 ug/L
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	0 50 ug/L
2-Hexanone	ND	ND	ND	ND	ND	ND	0 50 ug/L
MTBE	ND	ND	ND	ND	ND	ND	1 00 ug/L

ND = The concentration is below the detection limit or is non-detected

Respectfully Submitted,

Jina Ryu
Project Control Chemist

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METALS ANALYSIS
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

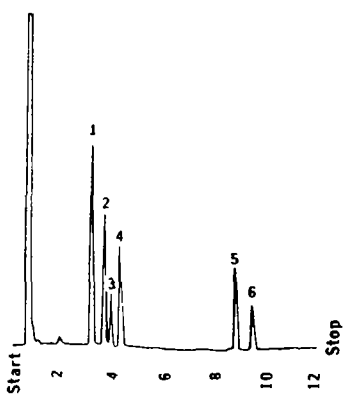
CLIENT: WINEFIELD & ASSOCIATES, INC.
110 PINE AVE., SUITE 900
LONG BEACH, CA 90802
PROJECT CONT. PERSON: ANDRE LA MONTAGNE
PROJECT. NAME/NO.: APC-04-071
MATRIX: WATER

REPORTING DATE: 11/15/04
SAMPLE RECEIVED: 11/1/04
LABORATORY NO.: **04-2889**
DATE SAMPLED : 11/1/04
ELAP NO 2279

Compound	sample	QC MATRIX SPIKE			QC MATRIX SPIKE DUP.			Average	RPD
	Conc. ppm	Conc. added ppm	Conc. found ppm	% Recovery	Conc. added ppm	Conc. Found ppm	% Recovery	% Recovery	%
Chromium VI	0.000	0.250	0.246	98.4	0.250	0.248	99.2	98.8	0.81
Chromium	0.000	0.200	0.180	90.0	0.200	0.190	95.0	92.5	5.41
Copper	0.003	0.250	0.260	102.8	0.250	0.270	106.8	104.8	3.82
Lead	0.002	0.500	0.430	85.6	0.500	0.450	89.6	87.6	4.57
Mercury	0.001	0.010	0.010	90.0	0.010	0 011	100.0	95.0	10.5

Respectfully Submitted,

Jina Ryu
Project Control Chemist



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CERTIFICATE OF ANALYSIS

CLIENT: WINEFIELD & ASSOCIATES, INC.
110 PINE AVE., SUITE 900
LONG BEACH, CA 90802
PROJECT CONT. PERSON: ANDRE LA MONTAGNE
PROJECT. NAME/NO.: APC-04-071
MATRIX: WATER

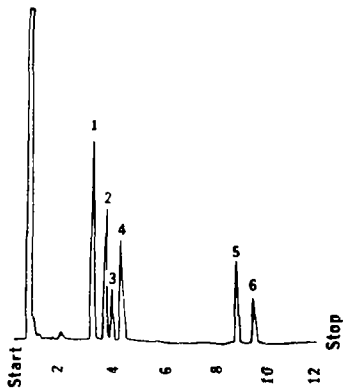
REPORTING DATE: 11/15/04
SAMPLE RECEIVED: 11/1/04
LABORATORY NO.: **04-2889**
DATE SAMPLED : 11/1/04
ELAP NO: 2279
METHOD: EPA 218.6
ANALYZED DATE: 11/4/04

Parameter	XOW-1	XOW-2	XOW-3	XOW-4	XOW-5	XOW-6	Detection Limit
Hexavalent Chromium	ND	ND	ND	ND	ND	ND	0 01 mg/L

ND = The concentration is below the detection limit or is non-detected.
Note: The above analyses were performed by a sub-contracted laboratory.

Respectfully Submitted,

Jina Ryu
Project Control Chemist



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CERTIFICATE OF ANALYSIS

CLIENT: WINEFIELD & ASSOCIATES, INC.
110 PINE AVE., SUITE 900
LONG BEACH, CA 90802
PROJECT CONT. PERSON: ANDRE LA MONTAGNE
PROJECT. NAME/NO.: APC-04-071
MATRIX: WATER

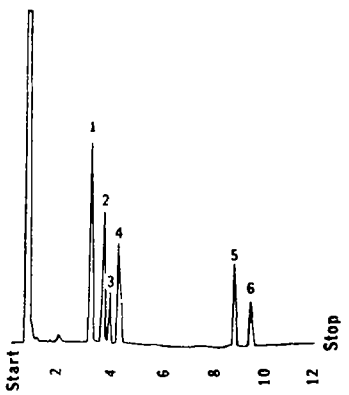
REPORTING DATE: 11/15/04
SAMPLE RECEIVED: 11/1/04
LABORATORY NO.: **04-2889**
DATE SAMPLED : 11/1/04
ELAP NO: 2279
METHOD: EPA 200.8
ANALYZED DATE: 11/9/04

Parameter	XOW-1	XOW-2	XOW-3	XOW-4	XOW-5	XOW-6	Detection Limit
Chromium	ND	13 0 ug/L	22 0 ug/L	16 0 ug/L	53 0 ug/L	40.0 ug/L	4 00 ug/L
Copper	ND	63.0 ug/L	16 0 ug/L	18 0 ug/L	25 0 ug/L	ND	3 00 ug/L
Lead	ND	6.20 ug/L	ND	13 0 ug/L	8 30 ug/L	ND	1 00 ug/L
Mercury	ND	ND	ND	2 80 ug/L	ND	ND	2 00 ug/L

ND = The concentration is below the detection limit or is non-detected.
Note: The above analyses were performed by a sub-contracted laboratory.

Respectfully Submitted,

Jina Ryu
Project Control Chemist



RCH RESEARCH AND ENVIRONMENTAL LABORATORIES
2880-A Ana Street
Rancho Dominguez, CA 90221
Tel.: (310) 763-5023 Fax.: (310) 763-4000

CHAIN OF CUSTODY RECORD

Date: 11/1/04

Page _____ of _____

LABORATORY CLIENT: Winfield & Assoc.

ADDRESS: 110 Pine Ave # 900

CITY: Long Beach STATE: CA ZIP: 90802

TEL: 562-495-5777 FAX: 562-495-5877

CLIENT PROJECT NAME / NUMBER: APC-04-071

PROJECT CONTACT PERSON: Andre LaMontagne

SAMPLER(S) (SIGNATURE)

SEND REPORT TO: Winfield & Assoc.
ATTN: Andre LaMontagne
CO
ADDRESS: 110 Pine Ave. # 900
CITY: Long Beach
STATE: CA ZIP: 90802

TURN AROUND TIME DESIRED — Prior confirmation is recommended for rush samples
☐ SAME DAY (50%) ☐ 24 HOURS (25%) ☐ 48 HOURS (10%) ☐ 3 WORKING DAYS ☐ 5 WORKING DAYS ☒ 10 WORKING DAYS

LABORATORY WORK ORDER NUMBER: ~~04-2324~~ 04-2889

SHIPMENT METHOD: Hand Carry

AFTER ANALYSIS, SAMPLES ARE TO BE: ☐ DISPOSED OF ☒ STORED (30 DAYS MAX) ☐ RETURNED TO CLIENT ☐ OTHER

SPECIAL INSTRUCTIONS

SAMPLE ID	LOCATION DESCRIPTION	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE WATER Comp.	WATER Grab	AIR Integ.	AIR Grab	SOLID / SOIL	NO. OF CONTAINERS	TESTS REQUIRED For All.
XOW-1		11/1/04	8:20A		X				4	Full Scan VOCs by
XOW-2		11/1/04	9:15A		X				4	8260, Chromium,
XOW-3		11/1/04	9:55A		X				4	Hex Chromium,
XOW-4		11/1/04	10:40A		X				4	Cu, Mercury,
XOW-5		11/1/04	11:35A		X				4	Pb
XOW-6		11/1/04	12:15P		X				4	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date:	Time
	11/1/04	1:00P		11/1/04	12:55 P.M.

12/17/2004 08:50 7146702095 7146702095 STRATUS ENV S CAL PAGE 01

Appendix 5

Groundwater Monitoring Procedures

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

Standard Operating Procedures for Groundwater Monitoring and Sampling

1.1 Purpose

The following operating procedures have been developed for purging and sampling completed groundwater monitoring wells. The objective of using this operating procedure is to collect groundwater samples representative of the formation surrounding the well.

1.2 Required Equipment and Supplies

Quantity	Description
1	Electronic water level indicator
1 per well	Disposable polyethylene bailer
1	Triple meter (capable of measuring temperature, pH, and specific conductivity)
1	Turbidity meter, if required
As needed	Rope and twine
As needed	Lab-provided sample containers with adhesive-backed sample labels (40-milliliter volatile organic analysis vials, or as appropriate). The number of containers is dependent on the analyses to be performed.
1	Waterproof marking pen
1 per sample	Resealable plastic bag
As needed	Chain-of-custody forms
1	Clean ice chest with ice or dry ice (no "blue ice")
1	Trip blank (supplied and prepared by the laboratory)
As needed	Tools required to remove well box cover and appropriate key to unlock well plugs
As needed	Steam cleaner and decontamination supplies

1.3 Procedures

1.3.1 Prior to purging and sampling, the depth to water and total depth of the well is measured to calculate the standing water column in each well to be sampled.

1.3.2 Purge the least impacted well first and then move progressively to the most impacted well. The order in which purging and sampling is to be performed is provided on the Groundwater Monitoring Request Form. Purge and sample the wells in the order given on the request form.

1.3.3 Begin by removing the well box lid.

1 3.4 Unlock and remove the well plug.

1.3.5 Each well will be purged of a minimum of three casing-volumes of water using either a vacuum truck, bailer, or 2-inch diameter, Grundfos™ electric submersible pump. Begin purging the well using the appropriate method for the site.

1.3.6 At regular intervals (based on volume), measure the temperature, pH, specific conductivity, and turbidity (stabilization parameters) of the purge water using the triple and turbidity meters. Record the stabilization parameters on a Sampling Information Sheet. A minimum of three readings should be taken per well to indicate stabilization. Inspect the purge water for the presence of floating product and note the appearance of the purge water on the Sampling Information Sheet.

1.3.7 Continue purging the well until one of the three following conditions is met:

(1) Removal of a minimum three well-casing volumes of purge water
(2) Stabilization of temperature, pH, specific conductivity, and turbidity
(3) Recharge of the well is not sufficient to sustain the purging process.

1.3.8 Following the purging process, sample the well when one of the two following conditions is met:

(1) The well has recharged to approximately 80% of the static water level
(2) The well has recharged a minimum of two hours from the completion of the purging process

Collect groundwater samples using a new disposable bailer. Slowly pour sample into laboratory prepared VOAs. Note the sampling time and sample appearance on a Sampling Information Sheet. Ensure that no visible air bubbles or free headspace is present within the sample vials.

1.3.9 Check temperature in chilled ice chest.

1.3.10 Record sample identification on the chain of custody.

1.3.11 Place sample in a resealable plastic bag and store the sample in an ice-chilled chest for transport to the laboratory for chemical analysis.

1.3.12 Replace well plug and secure the well box lid.

1.3.13 Repeat Steps 1.3.3 through 1.3.12 for each additional well. Sample the wells in the order given on the Groundwater Sampling Request Form.

1.3.14 One laboratory-prepared trip blank will accompany the samples during transportation to the laboratory, if required.

1.3.15 Upon completion of the sampling event, relinquish all samples to the laboratory for analysis within 24 hours of collection.

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

110 PINE AVENUE, SUITE 900 • LONG BEACH • CALIFORNIA • 90802

FAX COVER SHEET

Date:	December 21, 2004		
To:	**Carl Benninger**	From:	Jennifer Roache
Phone No.:		Phone No.:	(562) 495-5777
Fax No.:	**(310) 329-9191**	Fax No.:	(562) 495-5877
Reference:	COD Request		

Total # Of Pages: 3
(Including this cover page)

Hard Copy To Follow: Yes
VIA: US Mail

IF ALL PAGES ARE NOT RECEIVED PLEASE CALL: (562) 495-5777

COMMENTS:

Hello Carl,

Per our conversation, attached please find a copy of the latest invoice for the 4th quarter groundwater monitoring. Once the check has been prepared please call our office for delivery arrangements.

If you have any questions or concerns please contact me.

Regards,
Jennifer Roache

Confidentiality Note:
The information contained in this facsimile message is privileged and confidential information intended only for the use of the receiver or company identified above. If the reader or receiver of this fax is not the intended recipient, please be advised that any dissemination, distribution or copying of this fax is prohibited. If you have received this fax in error, please immediately notify the sender to arrange for its return.

MESSAGE CONFIRMATION

12/21/04 14:49
ID=WINEFIELD & ASSOC

DATE	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
12/21	01'01"	913103299191	CALLING	03	OK	0000

12/21/04 14:47 WINEFIELD & ASSOC → 913103299191 NO.014 D01

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

110 PINE AVENUE, SUITE 900 • LONG BEACH • CALIFORNIA • 90802

FAX COVER SHEET

Date: December 21, 2004

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WINEFIELD & ASSOCIATES, INC.
110 PINE AVENUE, SUITE 900 • LONG BEACH • CALIFORNIA • 90802
TELEPHONE 562 495 5777 • FAX 562 495 5877 • WWW.WINEFIELDASSOC.COM

INVOICE

12/20/2004

American Polystyrene Corporation
1225 West 196th Street
Torrance CA 90502

Account No: APC-04071
Invoice No: 2718

Attn: Carl Benninger

Groundwater Monitoring

Groundwater Monitoring
P.O. Number: 12269

Fees

For Current Services Rendered	3,711.00
Total Current Work	3,711.00
Balance Due	$3,711.00

Please remit in care of Winefield & Associates by 01/22/05

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

December 16, 2004

Mr. John Geroch
Regional Water Quality Control Board; Los Angeles Region
320 W. 4th Street
Los Angeles, CA 90013

RE: **American Polystyrene Corporation**
1225 W. 196th Street
Torrance, CA 90502
W&A Project No.: APC-04-071
RWQCB File: SLIC #214

Subject: **4th Quarter 2004, Groundwater Monitoring and Status Report**

Mr. Geroch:

Winefield & Associates performed the groundwater monitoring for the subject site during the 4th Quarter 2004. Attached is a report of the results obtained with a status up-date for the site.

In your letter of July 20, 2004, you had requested that American Polystyrene (APC) submit isoconcentration figures for 10 compounds with this report. Seven of those eleven compounds were reported as "non-detect" by the laboratory. As requested in our letter dated August 30, 2004 we have submitted isoconcentration figures for only those compounds detected in the groundwater samples by the laboratory.

Additionally, APC again requests that their facility be removed from further groundwater monitoring requirements. The compounds identified in the groundwater, cis 1,2 DCE, TCE, and PCE are compounds that are not used by APC, nor are they compounds that would be associated with the processes used by APC. The compounds identified are also not compounds that would have been used in the past operations at the site, prior to ownership and operation by APC. It is unfortunate for APC that there facility is above the midst of a Superfund plume; however, the groundwater results clearly indicate that they are not contributors, and therefore they should not be required to incur the financial burden for monitoring the plume. Again, we respectfully request that APC be removed from all further groundwater monitoring, assessment, and/or remediation requirements.

110 PINE AVENUE, SUITE 900 • LONG BEACH • CALIFORNIA • 90802 • PHONE 562 495 5777 • FAX 562 495 5877

SECOR

2148746

Work Plan for Additional Site Assessment

American Polystyrene Corporation Facility
1225 West 196th Street, Torrance, California

November 30, 2006

PREPARED FOR.

American Polystyrene Corporation
1225 West 196th Street,
Torrance, California

and

Atlantic Richfield Company
6 Centerpointe Drive
La Palma, California 90623

PREPARED BY:

SECOR International Incorporated
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

805-230-1266 tel
805-230-1277 fax

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INTERNATIONAL
INCORPORATED

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290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
805-230-1266 TEL
805-230-1277 FAX

November 30, 2006

Ms. Ana Townsend
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: WORKPLAN FOR ADDITIONAL SITE ASSESSMENT
American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
CRWQCB-LAR I.D. - SLIC NO. 214

Dear Ms. Townsend:

SECOR International Incorporated (SECOR), on behalf of American Polystyrene Corporation (APC) and the Atlantic Richfield Company (Atlantic Richfield) a subsidiary of BP, submits this workplan proposing additional on-site assessment at APC's facility (the Site), located at 1225 West 196th Street in Torrance, California (Figures 1 and 2). This workplan for additional site assessment was prepared is in response to the California Regional Water Quality Control Board, Los Angeles Region (CRWQCB) request for assessment dated March 1, 2006 and an extension for work plan completion granted in correspondence dated July 5, 2006 (Attachment A).

Per the correspondence, the CRWQCB is seeking vertical and horizontal definition of volatile organic compounds (VOCs) related to the site. Because a Site-specific source has not been identified and confirmed, and because numerous off-Site sources exist on adjacent properties and in the surrounding area, the proposed assessment is designed to characterize the on-Site conditions at the APC facility. The scope of work focuses on completing on-Site assessment of the APC facility, evaluating potential on-Site sources of previously detected compounds, and evaluating the impact from known off-Site releases at the property. The objectives of the additional on-Site assessment are to:

- Evaluate the Site for potential on-site source areas including a former dry well and existing chemical handling and storage areas based on site operations;
- Evaluate the potential for off-site sources immediately to the north and east to impact the Site; and
- Conduct on-Site characterization of groundwater on the southwestern portion of the Site.

In order to complete these objectives, SECOR proposes the following scope of work:

- Conduct a geophysical ground penetrating radar (GPR) survey west of the warehouse where drilling cannot be conducted to attempt to identify the location of a former dry well;
- Install 17 temporary direct-push soil vapor survey (SVS) borings with soil vapor samples collected at a depth of approximately 20 and 30 feet below ground surface (bgs);
- Install seven continuously cored direct-push soil borings to a depth of approximately 65 feet bgs with soil samples collected at five foot intervals;
- Obtain a well installation permit from the Los Angeles County Department of Health Services (LADHS);
- Install one additional groundwater monitoring well (XOW-07) to a depth of approximately 85 feet bgs using a hollow-stem auger drill rig at the southwestern corner of the Site;
- Develop newly installed groundwater monitoring well XOW-7;
- Generate a technical report summarizing the findings of the on-Site investigation and off-Site data

SITE INFORMATION

The Site is located east of the intersection of Normandie Avenue and West 196th Street in the City of Torrance at an elevation of approximately 44 feet above mean sea level (amsl). The current APC plant is located on two parcels of approximately 2.1 total acres and consists of offices, a small laboratory, an 18,000 square foot warehouse, up to 30 aboveground storage tanks (ASTs) and silos for the storage of liquids and solid, a batch plant processing area, a railroad spur, aboveground water recycling and cooling tower equipment, and maintenance and storage buildings. There is no history of underground storage tanks (USTs) at the Site and all piping appears to be aboveground except for the sanitary sewer line. A septic tank may have operated on Site prior to 1969.

The production of polystyrene resin from styrene monomer has been the primary activity at the Site since development of the property. Aerial photographs indicate the Site was use for agriculture or was vacant up to at least 1956 (Fairchild Collection aerial photograph, 1956). The original polystyrene plant was built on the western parcel by Brand Plastics Company in 1962 Amoco Chemical Company (Amoco) acquired the property in 1964 and operated the facility until May 1993, when APC purchase the property and the plant. BP acquired Amoco Oil Company and subsidiary companies in 1998 and has never been actively involved in facility operations The Atlantic Richfield Company (a subsidiary of BP) is the remediation company for BP in the United States.

The APC Facility is located in an area with a history of heavy industrial land use since 1940's. Four of the larger historical operations know in the area are listed here.

East of the Site: The Del Amo superfund site is located directly east and adjacent to the Site. This large facility of originally over 280 acres was built to provide synthetic rubber during World War II and was dismantled in the 1970's. Approximately a third of the Del Amo facility produced polystyrene before the Brand/Amoco/APC site began production starting in the 1960's. The PRP for the Del Amo remediation is Shell Oil Company under the oversight of the USEPA. Figures produced for the Del Amo superfund site and air photos show former "pits" immediately east of APC and indicate potential PCE/TCE impacts (Figure 2).

West of the Site: A former McDonnell Douglas manufacturing plant was located west of the Site. The plant operated from the 1940's through 1990's. This large facility has known groundwater impacts which include chlorinated solvents in groundwater.

North of the Site: The ECI property at 19500 S. Normandie Avenue, located up-gradient and directly adjacent to the northern property boundary of APC, was a former paint manufacture. Reclaimed solvent wastes were reportedly stored in three 5,000 gallon USTs and Methylene chloride was also stored on the property.

South of the Site: Properties to the south of APC at 1206 W. 196th Street and 19706 S. Normandie Avenue have also been identified as having a history of chlorinate storage and handling with possible releases to the subsurface.

FACILITY OPERATIONS

Past and current facility operations, styrene monomer is mixed with small amounts of other raw materials in batch tanks located in the northern secondary containment area. Additives in the current processes include mineral oil, zinc stearate, acrawax, dyes, and anti-oxidants (APC, 2006). The batch is then sent to one of two production lines for the polymerization heating and reaction process.

The polystyrene production process includes the use of water to cool polymer that emerges at the end of the process in a water bath. Documents indicate that from 1962 to 1969 the excess water was disposed of in a 35 foot "dry well". No documents or physical evidence have been found to indicate the well's location (EEI, 1986).

In about 1969, the cooling water process was diverted to the sanitary sewer and the dry well was reportedly "filled and blacktopped". In 1973, the County Sanitation District refused further discharge of the "clean water" to the sewer (EEI, 1986). Alternatives for the disposal of excess cooling water included installing a new dry well for injection or installing a recirculation and cooling tower system. The plant operator selected and installed the closed-loop recirculation system and the second dry well was not installed.

PREVIOUS ASSESSMENTS

Voluntary assessment has been conducted on the Site beginning with Amoco in approximately 1986 to 1988 when groundwater quality investigations were initiated. The following assessment and remediation history is compiled from documents available at the time this workplan was prepared.

- In 1986, a voluntary groundwater quality investigation was proposed per Amoco's internal correspondence (Amoco, 1986) and was described in later correspondence to the CRWQCB and the USEPA. (Amoco, 1992a, b)

- On August 12, 1987, 205 gallons of styrene monomer was spilled in the northern secondary containment area. Most of the spill was recovered and properly disposed off-Site. (Amoco, 1987)

- In 1988, Reidel Environmental Services Inc. reportedly finds Styrene and chlorinated compounds during preliminary assessment of their property at 19500 Normandie (current ECI property located directly north of the Site) and reports results to Amoco.

- Between 1986 and 1988, Amoco installed six on-Site groundwater monitoring wells (XOW-01 through XOW-06) as part of a company-wide policy to monitor groundwater at chemical facilities. No report of the well installation, boring logs, or associated analytical sampling of soil or groundwater sampling has been found for review. Other correspondence indicates that no VOCs were detected during the initial sampling event and that groundwater was encountered between 69 and 73 feet bgs. (Amoco, 1992b)

- In October 1988, Amoco contracted EEI to collect and analyze four soil samples from five hand-auger borings (B-1 to B-5) each advanced to five feet bgs within the northern (3 borings) and eastern (2 borings) secondary-containment areas. Tetrachloroethene (PCE) and ethylbenzene were detected at the one foot depth in the eastern secondary-containment area. Styrene and ethylbenzene were detected in three samples from the northern secondary-containment area (EEI, 1988). Selected figures and tables summarizing historical soil sampling are included in Attachment B.

- In June 1989, Amoco contracted ENSR to drill 14 additional soil borings (B-6 to B-19) to total depths of 20 feet bgs in the two containment/tank farm areas to evaluate the vertical extent of VOCs in soil (Amoco, 1992b). Styrene, ethylbenzene, and a trace of trichloroethene (TCE) were detected beneath the eastern secondary-containment area in soil borings B-14 and B-6. Styrene, ethylbenzene, TCE, and PCE were detected beneath the northern secondary-containment area in soil borings B-10 and B-18. Selected figures and tables summarizing historical soil sampling are included in Attachment B.

- In 1989, Amoco rebuilt the secondary-containment areas at two AST locations. The containments were reconstructed with concrete floors and walls. Approximately 200 tons of soil was excavated for construction purposes and transported to USPCI waste disposal facility at Grassy Mountain, Utah. (Amoco, 1992a)

- In February 1990, Amoco contracted EEI to drill 2 additional soil borings (B-20 to B-21) to 40 feet bgs, one at each containment area to evaluate the vertical extent of VOCs in soil adjacent to B-14 in the eastern containment and B-18 in the northern containment (EEI, 1990). [Please note: these borings are designated as B-1 and B-2 in the original EEI report, as EEI-1 and B-2 in the EEI boring logs, and later as B-20 and B-21 in the Amoco summary tables and figures]

- In February 1990, EEI also conducted two rounds of groundwater sampling from the existing wells on February 1, 1990 and February 21, 1990. Groundwater was gauged at 63 to 66 feet bgs (EEI, 1990). Figures and tables summarizing historical groundwater sampling are included in Attachment C.

- In December 1990 and June 1991, two additional groundwater monitoring events were performed. The VOC results were summarized by Amoco in later correspondence to regulatory agencies, but the data report is missing.

- On January 16, 1992, Amoco contracted Simon Hydro-Search (Simon) to conduct groundwater sampling of the existing six monitoring wells for VOC and semi-VOC analyses. 1,2-dichlorobenzene was the only semi-volatile compound reported. The concentration was reported at 5 µg/l in monitoring well OW-6 (Simon, 1992). Periodic groundwater monitoring stopped after this event and Amoco sold the facility to APC in 1993.

- In December 2003, the CRWQCB issued an Order requiring quarterly groundwater monitoring from the six existing monitoring wells.

- In first quarter 2006 (1Q-2006), groundwater monitoring wells located on the APC property were sampled through a USEPA by agreement with Shell Oil Company, through its consultant URS. The APC wells were sample as part of a USEPA coordinated effort to sample third-party monitoring wells in the vicinity of the Del Amo/Montrose superfund sites.

- From 3Q-2004 to 1Q-2006, APC contracted Winefield & Associates, Inc. (Winefield) to conduct quarterly groundwater monitoring and sampling for the existing six monitoring wells. Winefield sampled the Site for VOCs and selected metals Pb, Cu, Hg, Cr-total, and Cr-6 that may be associated with cooling waters.

SUBSURFACE CONDITIONS and POTENTIAL CHEMICALS OF CONCERN

The only boring logs available at the time of this workplan are for soil borings B-20 and B-21, both completed to approximately 40 feet bgs (Attachment D). Soil types encountered during installation of those borings were noted as follows: 1) clay from surface grade to approximately 17 feet bgs; 2) sand and silty sand from approximately 17 to 20 feet bgs; 3) interbedded sand, silty sand, silty clay, and clayey silt from approximately 20 to 33 feet bgs; 4) silt from approximately 33 to 39 feet bgs; and 5) sand or silty sand from approximately 39 to 40 feet bgs (maximum depth explored). Chemical compounds previously detected in shallow soil (1'-20' bgs) beneath the secondary containment areas were ethylbenzene, styrene, toluene, PCE, and TCE. In deeper soil

samples (30'-40' bgs), beneath the northern secondary containment area, PCE, TCE, benzene, 111-trichloroethane (TCA), and carbon disulfide were detected in varying concentrations (Attachment B).

Groundwater beneath the Site recently (Q4-2005) ranged in depth from approximately 55 to 58 feet bgs. During groundwater monitoring and sampling in February 1990, depth to groundwater ranged from approximately 64 to 66.5 feet bgs, indicating that groundwater beneath the Site has risen by up to nine feet since 1990. The groundwater gradient direction has ranged from southeast to south-southwest at an approximate gradient of 0.0015 feet per foot. Chemical compounds detected in groundwater are of greater variety and concentration than the compounds previously detected in overlying soil. These chemicals include methylene chloride, PCE, TCE, toluene, benzene, ethylbenzene, TCA, 1,1-DCE, 1,2-DCE, chlorobenzene, and chloroform. See Attachment C for all detected compounds and concentrations.

PRE-FIELD ACTIVITIES

All field activities will be completed with safety as a foremost concern. A Site specific Health and Safety Plan (HASP) has been for this project. All SECOR personnel, as well as any other on-Site subcontractors or regulatory personnel, will be required to familiarize themselves with and sign the HASP in an attempt to minimize safety hazards.

Prior to drilling at the Site, the following notifications and arrangements will be completed:

- Submit this Workplan with attached HASP to the LARWQCB for review,
- Utilize Underground Service Alert and a private geophysical underground utility location service to locate and surface mark all subsurface utilities and obstructions at and around the proposed boring locations prior to drilling; and
- Notify the LARWQCB, American Polystyrene, and Atlantic Richfield representatives at least ten days prior to initiating any fieldwork.

FIELD INVESTIGATION

All work will be performed under the direct supervision of a State of California Professional Geologist. Drilling, soil and vapor sampling protocols, laboratory analytical testing, chain-of-custody procedures, QA/QC protocols, and decontamination activities will be completed in accordance with the Standard Operating Procedures (SOP) included in Attachment E. Health and safety monitoring activities are described in the Site-specific HASP included in Attachment F.

Ground Penetrating Radar Investigation

SECOR proposes to conduct a geophysical investigation using GPR in the batch processing area located east of the warehouse/production area The purpose of the GPR

survey is to identify possible anomalies that may identify the former dry well location. Because of the tight space and low overhead in the batch processing area, no drilling is proposed in this area. Since piping at the plant is predominantly routed above ground, subsurface anomalies may be apparent. The proposed area for the survey is indicated by the hatching on Figure 3, but may vary based on accessibility throughout the processing area and not follow a regular grid pattern.

Soil Vapor Survey

SECOR proposes installation of approximately 17 soil vapor survey (SVS) locations for the collection of soil vapor samples at approximately 20 and 30 feet bgs (Figure 3). The objective of the SVS is to locate and evaluate potential source areas on the Site and off-Site to the north and west. The data is not intended to be used for indoor air quality evaluation at this time.

The sample locations were selected based on a loose grid pattern of approximately 50 feet and to best locate and evaluate potential on-site and off-site source areas. On-site sources would primarily be the unknown location of the former 35 foot depth dry well and to a lesser extent the ongoing storage and processing of the facility such as the tank containment areas, cooling tower area, and the batch plant processing area. Potential off-site source areas are located to the north (former paint manufacturer / now ECI) and to the east (possible trenches on the Del Amo facility).

Sample depths are based primarily on the limited available subsurface lithological information from boring logs B-20 and B-21 and the reported total depth of the dry well to 35 feet bgs. The boring logs indicated that permeable horizons (sand and silty sand), conducive to vapor sample collection, exist at depths of approximately 17-22 and 28-33 feet bgs.

The following describes the proposed workscope for performing an active soil vapor investigation at the Site. The proposed active soil vapor investigation follows guidelines found in the DTSC's January 28, 2003 *"Advisory: Soil Gas Investigations"* and the February 25, 1997 *"Interim Guidance for Active Soil Gas Investigations"* prepared by the California Regional Water Quality Control Board, Los Angeles Region.

The following methods will be employed during the performance of the soil vapor survey:

- A direct-push hydraulic ram (Geoprobe) equipped with hollow drive rods will be used to advance the vapor survey point to the desired depth.

- After placement of the temporary soil vapor survey points and a sand pack, hydrated bentonite chips or pellets will be placed around each probe and associated sample tubing to prevent ambient air intrusion from occurring;

- At each sampling location, samples will be obtained after approximately 20 minutes following installation to allow subsurface conditions to approach steady state equilibrium;

- A purge volume test will be conducted following guidelines to determine the appropriate purge volume for soil gas sample collection. A single purge test will be performed with the collection of sample volumes at 1, 3 and 7 times the volume of sample tubing and probe annular space. The remaining soil gas survey points will then be purged using the purge volume obtained from this test with the highest VOC concentrations. If the analyzed soil gas from the purge volume test is non detect, then the default three-volume purge rate will be used;

- A leak test of the bentonite seal will be conducted at each soil gas survey point using isobutylene or other suitable volatile compounds;

- Purging and sampling will be conducted at a rate between 100 to 200 milliliters per minute. At each location/target depth, the appropriate number of calculated "dead space" vapor-probe volumes (depending on the results of the purge volume test) of soil gas will be purged, and a soil vapor aliquot contained in an appropriate sample container will be extracted from the point and transported to an on-site mobile laboratory for chemical analysis;

- Soil gas samples for laboratory analyses of volatile organic compounds (VOCs) by EPA Method 8260B will be collected using syringes, and all appropriate chain-of-custody and sample handling protocols will be followed;

- At an approximate 10% level of effort, soil gas sample locations and depths that are found to contain VOC concentrations that are less than the detection limit for a particular COC analyte by USEPA Method 8260B, will be re-sampled with an additional soil gas sample using a laboratory-certified clean micro-Summa™ canister, and will be analyzed using Method TO15 to extend the lower detection range;

- Appropriate QA/QC samples will be collected and analyzed as outlined in the guidance document. One duplicate soil gas sample will be collected per day for QA/QC purposes; and

- Soil gas probes will be removed and properly disposed of once sampling is completed, and the borehole will be properly backfilled with bentonite grout.

Soil Boring Installation

SECOR proposes installation of approximately seven soil borings to a depth of approximately 65 feet bgs (approximately five feet below expected top of the saturated zone) at various locations on site. The purpose of the soil borings is to confirm and/or further assess potential source areas based on the SVS results, and to complete vertical delineation within the unsaturated zone adjacent to the two AST secondary containment areas where shallow soil was assessed in previous borings (B-1 to B-21). The deepest soil samples collected from historical soil borings is to 40 feet bgs in two of the 21 borings (one at each AST containment area). At this time, no soil analytical data or boring logs have been identified for the existing groundwater monitoring wells (XOW-01 through XOW-06) drilled to approximately 85 feet bgs.

The soil borings will be advanced utilizing a direct-push (Geoprobe) rig. All soil borings will be continuously cored to total depth for detailed lithologic logging, and to document any possible confining layers or areas of visible staining. Soil samples will be collected at five-foot intervals for subsequent laboratory analyses using an EPA Method 5035 approved sampling device (EnCore™). Soil samples will be visually classified in accordance with the Unified Soil Classification System. In addition, soils will be monitored for volatile organic vapors by the headspace method using a hand-held photo-ionization detector (PID) or equivalent. Soil sampling will be conducted in accordance with SECOR's Standard Operating Procedures (SOPs) for soil sampling included in Attachment E.

Upon completion, soil borings will be backfilled to near surface grade with hydrated bentonite chips and sealed at the surface with concrete dyed to match the existing surface grade.

Groundwater Monitoring Well Installation

One additional groundwater monitoring wells (XOW-07) will be installed to a total depth of approximately 80 to 85 feet bgs using a hollow-stem auger drill rig. The purpose of this well is to provide additional delineation of VOCs in the southwestern corner of the site, and to investigate potential off-Site sources.

Well XOW-07 will be constructed using two-inch diameter Schedule 40 poly-vinyl chloride (PVC) casing, with a screened interval (0.020-inch slot) extending from approximately 50 to 80 feet bgs. The well annulus will be backfilled with #2/12 Monterey sand to approximately two feet above the screened interval, and then capped with approximately three feet of hydrated bentonite chips. Prior to setting the seal, the well will be surged and bailed to settle the sandpack and remove fines from the well. The wellheads will be completed using 12-inch diameter EMCO-Wheaton well boxes set in concrete flush with the existing surface.

Soil samples will be collected at five-foot intervals for subsequent laboratory analyses using an EPA Method 5035 approved sampling device (EnCore™). Soil samples will be visually classified in accordance with the Unified Soil Classification System. In addition, soils will be monitored for volatile organic vapors by the headspace method using a hand-held photo-ionization detector (PID) or equivalent. Soil sampling will be conducted in accordance with SECOR's SOP for soil sampling included in Attachment E.

LABORATORY ANALYSIS

Soil samples will be analyzed by a fixed California Certified Environmental Laboratory for VOCs in accordance with EPA Method 8260B. Soil samples from soil borings will be analyzed at five foot intervals.

Soil vapor samples will be analyzed by a mobile California Certified Environmental Laboratory for VOCs in accordance with EPA Method 8260B and 10% of vapor samples by Method TO-15 (see above).

WELL DEVELOPMENT

No sooner than 72 hours after installation of the groundwater monitoring well, well development will be conducted using a specific well development rig equipped with a surge block. Development of the well will involve both surging and bailing.

At regular intervals, the dissolved oxygen, redox potential, turbidity, temperature, pH, and specific conductivity of the purge water will be measured using a meter or meters. Stabilization parameters will be recorded on a SECOR Well Development Data Sheet. SECOR personnel will continue to develop the well until one of the two following conditions are met:

- Three to five well-casing volumes of purge water are removed and dissolved oxygen, redox potential, turbidity, temperature, pH, and specific conductivity are stabilized, or

- Recharge of the well is not sufficient to sustain the purging process.

An expanding cap with lock will be installed on the well, and the well box lid will be secured. Purge and decontamination water will be contained in Department of Transportation (DOT) approved 55-gallon drums. The drums will be temporarily stored on site pending disposal.

WASTE DIPOSAL

Any soil and decontamination water will be contained in properly labeled, Department of Transportation approved open head 55-gallon drums with locking covers, and stored on site. Samples of drummed materials may be collected and analyzed for waste characterization purposes, if necessary. After receipt of any analytical results, the drums will be transported off-site. The disposal site for the drums will be determined based on laboratory results. Waste disposal documents will be provided with the site assessment report. All waste will be properly disposed/recycled in accordance with all applicable Federal, State, and local regulations.

WELL SURVEYING

The newly installed groundwater monitoring well will be professionally surveyed relative to a City of Los Angeles Benchmark by a licensed surveyor. The wellhead casing elevations will be surveyed to the nearest 0.01 foot. The top of the well casing will be notched and permanently marked with the survey point upon which subsequent water measurements will be obtained. The licensed surveyor will measure the longitude and latitude measurements with a Global Positioning Satellite (GPS) Instrument in accordance with Assembly Bill 2886.

GROUNDWATER SAMPLING

Well surveying and groundwater sampling will be coordinated with APC's groundwater consultant, Winefield and Associates, Inc.

PROJECT REPORTING

A technical report will document the methods used during this investigation. Analytical data will be presented in tabular format and annotated on the appropriate Figures. Figures will include a Site map showing soil boring, soil vapor survey, and monitoring well locations, VOC concentration map, and boring logs. The report will contain all pertinent documentation such as permits, laboratory reports, disposal/recycling manifests, and chain of custody forms. The final report will be reviewed in its entirety and signed by a State of California Professional Geologist.

STANDARD LIMITATIONS

This workplan has been prepared as a guidance document for the planned field activities. Field conditions may necessitate modifications to the workplan. Should any modifications be necessary, the changes will be documented in the field records and the LARWQCB will be notified.

All work will be performed under the supervision of a Professional Geologist as defined in the Registered Geologist Act of the California Code of Regulations. The information contained in this report represents SECOR's professional opinions, and is based in part on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding this Site or workplan, please do not hesitate to contact the undersigned at (805) 230-1266.

Sincerely,

SECOR International Incorporated

Prepared By:

Gareth Roberts, P.G.
Senior Geologist

REGISTERED GEOLOGIST
PHILIP R. KINNEY
No. 4856
STATE OF CALIFORNIA

Reviewed By:

Philip R. Kinney, P.G.
Principal Geologist

Appendices: Figure 1 – Site Location Map
Figure 2 – Site Vicinity Map
Figure 3 – Site Map Showing Proposed and Existing Soil Boring and Well Locations

Attachment A – Regulatory Agency Correspondence
Attachment B – Historical Soil Sampling Locations and Analytical Results
Attachment C – Historical Groundwater Sampling and Analytical Results
Attachment D – Historical Boring Logs
Attachment E – Standard Operating Procedures for Soil and Groundwater Sampling
Attachment F – Site Specific Health and Safety Plan

cc: Mr. Kyle A. Christie - Atlantic Richfield Company
Mr. Carl G Benninger – American Polystyrene Corporation

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American Polystyrene Corporation, 2006, Communication with Carl Benninger, APC Operations/Technical Manager.

Amoco Chemical Company, 1986, Internal Correspondence GMS 86-455, RE: Proposal to Install and Upgrade Groundwater Monitoring Systems at Amoco Chemical's Plants, Torrance, California. June 16.

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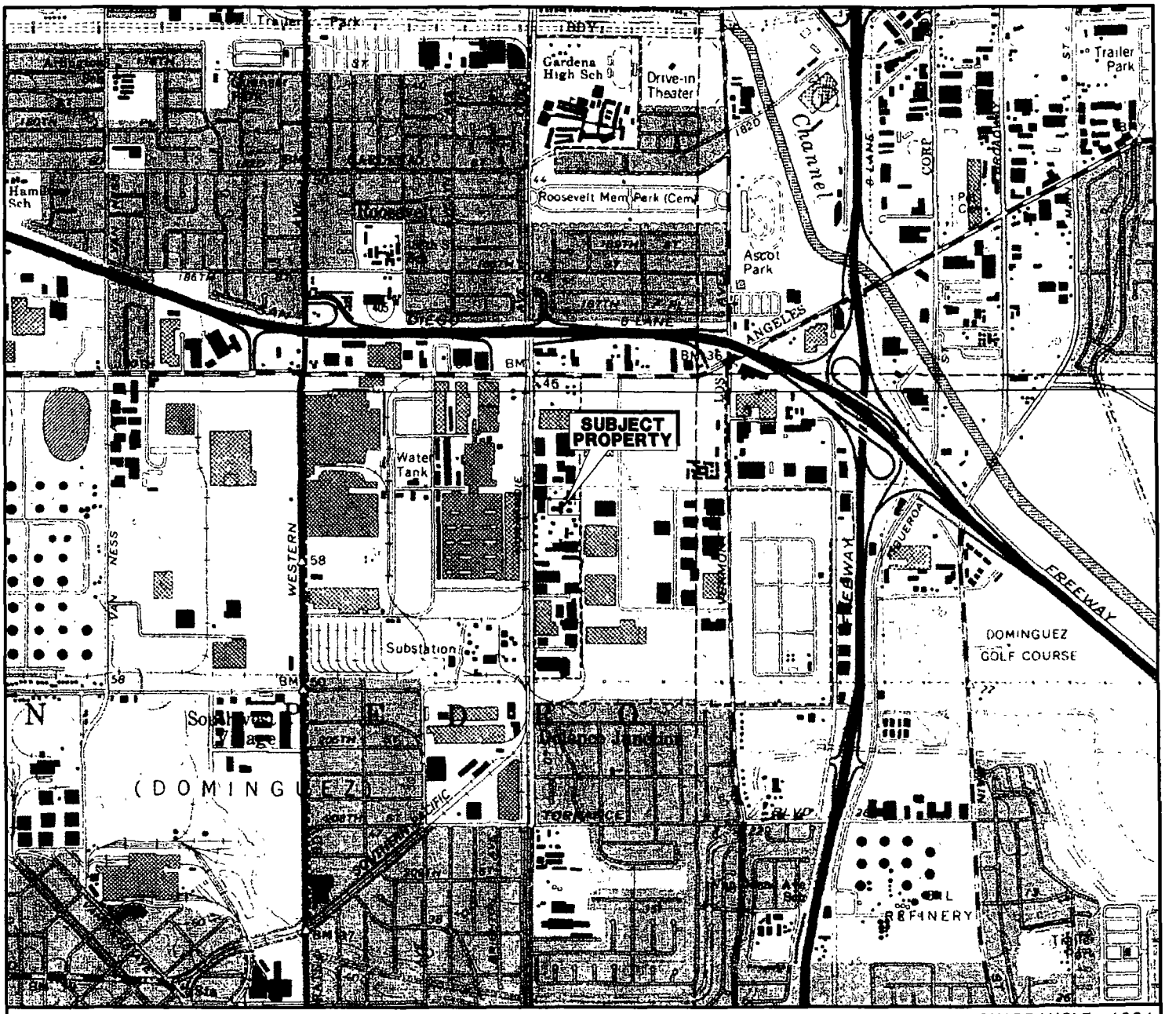
Engineering Enterprises, Inc. (EEI), 1990, Report of Additional Subsurface Assessment and Groundwater Sampling, Amoco Chemical Facility, Torrance, California. May

Simon Hydro-Search, 1992, January 1992 Groundwater Sampling and Analysis Report, Amoco Chemical Facility, Torrance, California. March 11

Winefield & Associates, Inc., 2006, 4th Quarter 2005, Groundwater Monitoring and Status Report, Amoco Chemical Facility, Torrance, California. January 17.

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, INGLEWOOD QUADRANGLE, 1964
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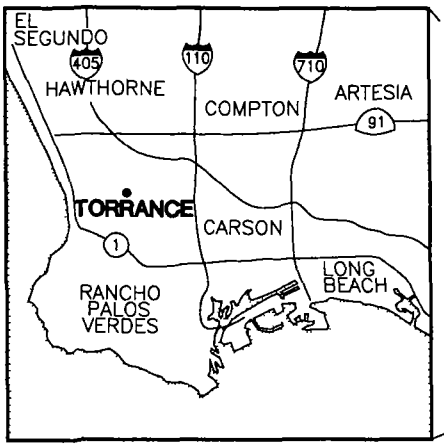
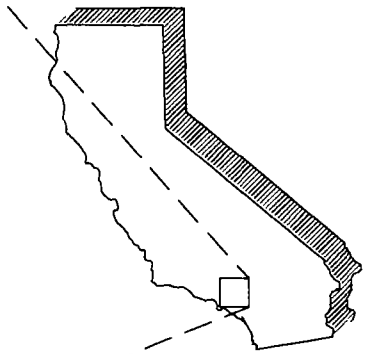
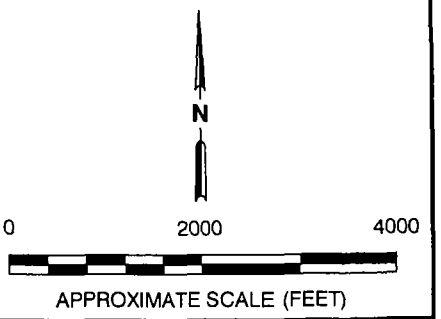
TORRANCE QUADRANGLE, 1964
PHOTOREVISED 1981







SECOR 290 Conejo Ridge Avenue, Suite 200 Thousand Oaks, CA 91361 (805) 230-1266/230-1277 (Fax)	FOR BP AMERICAN POLYSTYRENE CORPORATION 1225 West 196th Street Torrance, California	SITE LOCATION MAP		FIGURE 1
	JOB NUMBER 37BP XB010 03/1136	DRAWN BY RLE	CHECKED BY P Kinney	APPROVED BY P Kinney	DATE 08/17/06

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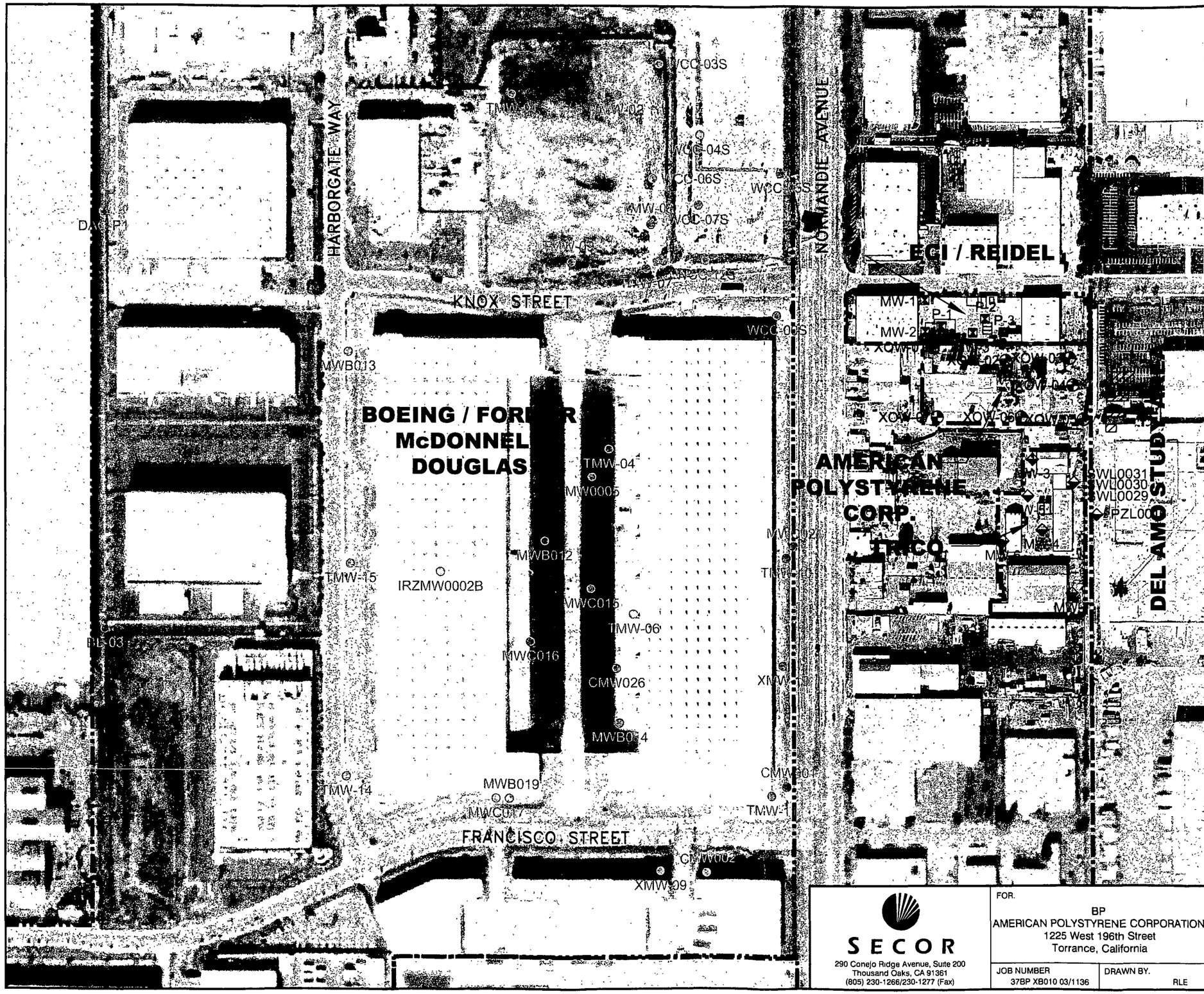

LEGEND

- SITE PROPERTY LINES
- XOW-01 — AMERICAN POLYSTYRENE CORPORATION MONITORING WELL LOCATION
- MW-1 — ECI / REIDEL MONITORING WELL LOCATION
- MW-4 — TRICO MONITORING WELL LOCATION
- B-1 — BOEING MONITORING WELL LOCATION
- FORMER TRENCHES SHELL SYNTHETHETIC RUBBER PLANT

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NOTES

1. AERIAL PHOTO FROM TERRASERVERUSA.COM DATED MARCH 29, 2004.

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APPROXIMATE SCALE (FEET)

SECOR 290 Conejo Ridge Avenue, Suite 200 Thousand Oaks, CA 91361 (805) 230-1266/230-1277 (Fax)	FOR. BP AMERICAN POLYSTYRENE CORPORATION 1225 West 196th Street Torrance, California		SITE VICINITY MAP SHOWING MONITORING WELL LOCATIONS	FIGURE 2
	JOB NUMBER 37BP XB010 03/1136	DRAWN BY. RLE	CHECKED BY P. Kinney	APPROVED BY. P. Kinney	DATE. 08/17/06

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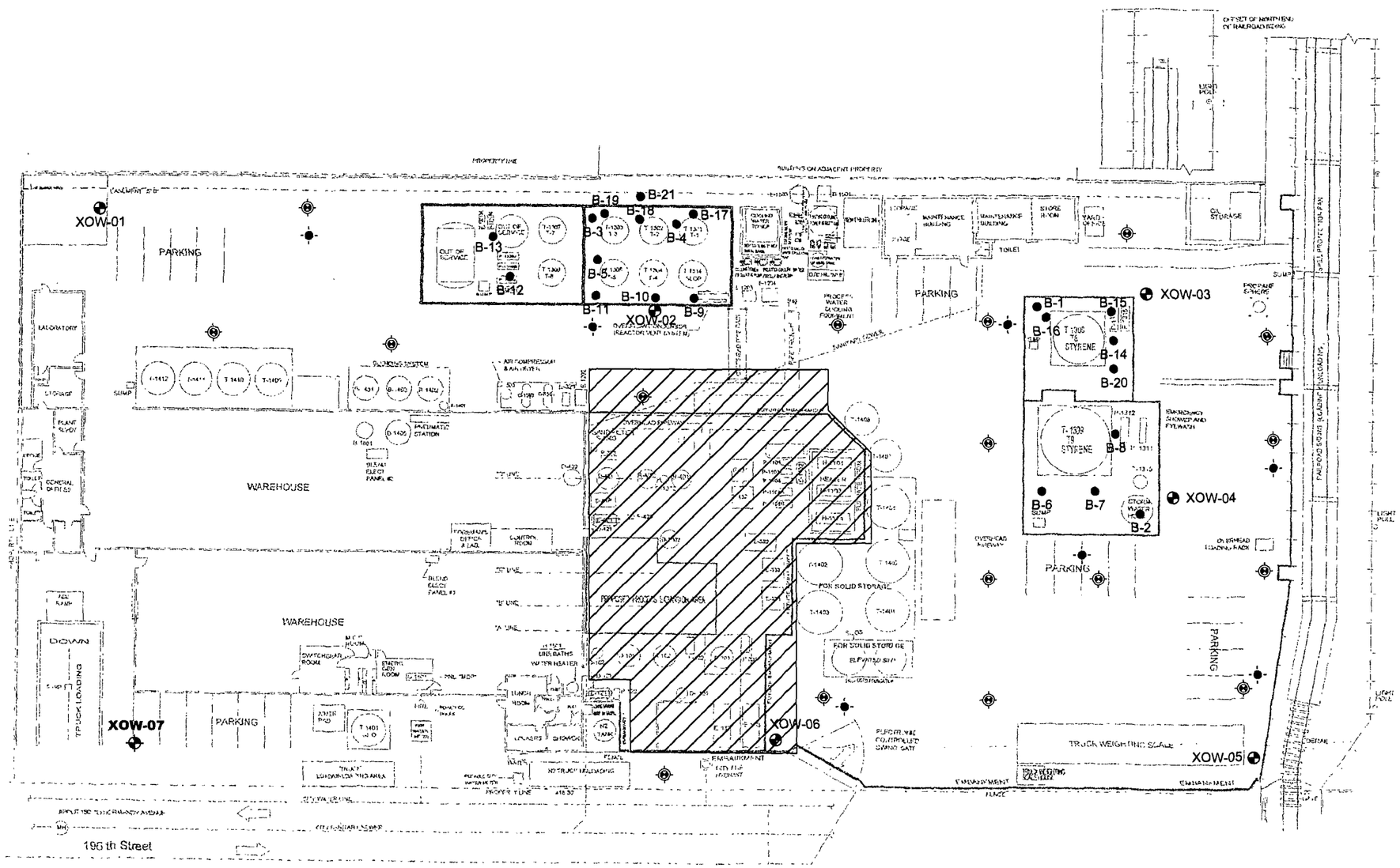

LEGEND

- XOW-01 — GROUNDWATER MONITORING WELL LOCATION
- B-1 — PREVIOUS SOIL BORING LOCATION
- PROPOSED SOIL VAPOR SURVEY BORING LOCATIONS
- XOW-07 — PROPOSED GROUNDWATER MONITORING WELL LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED GROUND PENETRATING RADAR SURVEY AREA

N

NOTES

1. DRAWING FROM AMERICAN POLYSTYRENE CORPORATION DRAWING #250-TO-D NOT DATED.

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APPROXIMATE SCALE (FEET)

SECOR 290 Conejo Ridge Avenue, Suite 200 Thousand Oaks, CA 91361 (805) 230-1266/230-1277 (Fax)	FOR BP AMERICAN POLYSTYRENE CORPORATION 1225 West 196th Street Torrance, California	**SITE MAP SHOWING EXISTING AND PROPOSED SOIL BORING AND WELL LOCATIONS**		FIGURE **3**
	JOB NUMBER 37BP XB010 03/1136	DRAWN BY RLE	CHECKED BY: P Kinney	APPROVED BY: P Kinney	DATE: 08/17/06

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ATTACHMENT A

Regulatory Agency Correspondence

American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
SECOR Project No. 37BP.XB010.03

California Regional Water Quality Control Board

Los Angeles Region

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Alan C. Lloyd, Ph.D.
Agency Secretary

320 W 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address http://www.waterboards.ca.gov/losangeles

Arnold Schwarzenegger
Governor

March 1, 2006

Mr. Michael A. McAnulty
Environmental Business Manager
Atlantic Richfield Company
6 Centerpointe Drive
La Palma, CA 90623

RECEIVED
MAR 6 2006
Remediation Management

Mr. Carl Benninger
American Polystyrene
1225 West 196th Street
Torrance, CA 90502

CALIFORNIA WATER CODE SECTION 13267 ORDER FOR SUBSURFACE INVESTIGATION OF UNAUTHORIZED DISCHARGES AT FORMER AMOCO CHEMICAL COMPANY POLYSTYRENE FACILITY, 1225 WEST 196TH STREET, TORRANCE (SLIC NO. 214)

Dear Mr. McAnulty and Mr. Benninger:

Our previous letters dated February 19, 2004, and December 12, 2003, required Amoco (now British Petroleum (BP) Amoco and Atlantic Richfield Company (herein referred to "Amoco")) and American Polystyrene Corporation (APC) to submit information regarding chemical use, storage and disposal practices and to conduct quarterly groundwater monitoring at the facility located at 1225 West 196th Street, Torrance, California (Facility). Groundwater monitoring has been conducted and quarterly reports submit to this Regional Board by APC since 2004.

Regional Board staff have reviewed the information provided by Amoco and APC and have determined that the previous chemical use, storage and/or disposal practices at this Facility have polluted the underlying soil and groundwater. Volatile organic compounds (VOCs) are present in the groundwater beneath the Facility at concentrations above their respective maximum contaminant levels (MCLs) established by the California Department of Health Services and have degraded the beneficial uses of the State's groundwater resources.

To determine the extent of soil and groundwater pollution, Amoco and APC are required to conduct an additional extensive soil, soil vapor and groundwater investigation at the subject site. Amoco and APC are required to develop and submit a work plan presenting the rationale and methodology for determining the vertical and lateral extent of known soil and groundwater pollution underlying the site by **June 30, 2006**. The work plan must incorporate all applicable requirements contained in the enclosed Requirements for Subsurface Soil Investigation, Requirements for Groundwater Investigations, Laboratory Requirements for Soil and Water Sample Analyses, and Advisory Active Soil Gas Investigation.

Amoco and APC are also required to investigate area of suspected soil contamination, based in part on current and previous operations at the site. At a minimum, the Work Plan shall include.

1. Proposed locations for additional soil borings to further define the extent of soil pollution identified underlying the subject site Proposed boring locations, boring depth and sampling frequency shall be based in part on past site operations.

2. Proposed locations for additional groundwater monitoring wells (onsite and offsite) to determine the full vertical and lateral extent of groundwater pollution.

3. Information submitted by Amoco documents disposal of wastes into at least one on-site dry/injection well, and a proposal for installation of a second dry/injection well. The required work plan shall present a detailed proposal for the identification of the location, construction and integrity of these disposal wells, and detailed plans for the installation of groundwater monitoring wells to determine the vertical and lateral extent of contamination associated from the operation of these wells.

Existing groundwater monitoring wells must continue to be sampled quarterly and quarterly groundwater monitoring reports submitted as specified in following schedule:

Reporting Period	Sampling Month	Report Due Date
January – March	January	April 29
April – June	April	July 2
July – September	July	October 31
October – December	October	January 31

As additional groundwater monitoring wells are installed at the subject site they must also be incorporated into the above referenced schedule. Pursuant to Section 13268 of the California Water Code, failure to submit the required reports or documents by the due dates may result in civil liability administratively imposed by the Regional Board in an amount up to one thousand dollars ($1,000) for each day the report or document is not received.

If you have any questions you may call Ms. Ana Townsend at (213) 576-6738 or Dr. Rebecca Chou at (213) 576-6733.

Sincerely,

Jonathan Bishop
Executive Officer

Enclosures:
1. Requirements for Subsurface Soil Investigation
2. Requirements for Groundwater Investigations
3. Laboratory Requirements for Soil and Water Sample Analyses
4. Advisory - Active Soil Gas Investigation.

cc: See Mailing List

Robert Sams, Office of Chief Counsel, State Water Resources Control Board
Jeff Dhont, United States Environmental Protection Agency, Region IX
Susan Keydel, United States Environmental Protection Agency
Andre LaMontagne, Winefield & Associates, Inc.

Law Offices of Capp and Marsh
4317 Silver Spring Way
Oceanside, CA 92057-6521
Tel. (760) 231 9851
Fax. (760) 231 6272
E-mail: jonccapp@cox.net

5/23/2006

BY FACSIMILE TO 213 576 6640, EMAIL, AND US MAIL

Ms. Ana Townsend & Dr. Rebecca Chou
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Ms. Townsend & Dr. Chou

Re: Water Code Section 13267 Order at Former Amoco Chemical Polystyrene Facility located at 1225 West 196th Street, Torrance, California (SLIC no. 214)

As you know these offices represent the American Polystyrene Corporation.

Following my conversation with Dr. Chou, please let this letter serve as a formal request on behalf of both the American Polystyrene Corporation and the Atlantic Richfield Corporation for a 60 (sixty) day extension of the June 30, 2006 date contained in your letter dated March 1, 2000.

As I told Dr. Chou over the telephone, the relevant officers and representatives of both the American Polystyrene Corporation and Atlantic Richfield have met in person to discuss how to work together to comply with the reasonable demands of the Regional Board.

Despite our progress, we would however request that we receive more time to develop and submit the work plan requested by the Board. We believe that up to and including August 30, 2006 is a reasonable time period within which to comply. Obviously, we will in any event

comply with your request as soon as is reasonably practicable, and hopefully before the end of August.

Please contact me directly on my direct line (760) 231 6498 if you have any questions.

Sincerely,

Jonathan Capp

Cc. Carolyn Tan, APC. Michael McAnulty

California Regional Water Quality Control Board

Los Angeles Region

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Linda S. Adams
Agency Secretary

320 W 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address http //www waterboards ca gov/losangeles

Arnold Schwarzenegger
Governor

RECEIVED
JUL 14 2006
Remediation Management

July 5, 2006

Mr. Michael McAnulty
Environmental Business Manager
Atlantic Richfield Corpration
6 Centerpointe Drive
La Palma, CA 90623

Ms. Carolyn Tan
American Polystyrene Company
1225 West 196th Street
Torrance, CA 90502

EXTENSION APPROVAL - CALIFORNIA WATER CODE (CWC) SECTION 13267 - REQUEST FOR SUBSURFACE INVESTIGATION FOR UNAUTHORIZED DISCHARGES AT FORMER AMOCO CHEMICAL COMPANY POLYSTYRENE FACILITY, 1225 WEST 196TH STREET, TORRANCE, CALIFORNIA 90502(SLIC NO. 0214)

Dear Mr. McAnulty and Ms Tan:

Regional Water Quality Control Board (Regional Board) have received a letter dated May 23, 2006, prepared by Mr Jonathan Capp, requesting a 60-day extension to submit a work plan for soil gas, soil and groundwater investigation for the subject site, required in our March 1, 2006 California Water Code Section 13267 letter

According to May 23, 2006 letter, additional time is needed to review data and prepare required workplan We understand that a time extension is needed to ensure adequate time for reviewing data and finalizing the workplan that will meet all necessary requirements Therefore, the due date for submittal of the required workplan to this Regional Board by June 30, 2006 is modified to August 30, 2006.

This letter constitutes our approval for time extension to submit the workplan by **August 30, 2006.**

A report summarizing all soil vapor, soil and groundwater sampling data collected during this investigation shall be submitted to the Regional Board by **November 30, 2006** The report shall include the conclusions from this investigation, recommendations for additional investigations, and/or plans for site remediation as needed. In addition, site-specific soil screening levels (SSLs) and soil vapor screening levels (SVSLs) for groundwater resource protection shall be developed based on our May 1996, Interim Site Assessment and Cleanup Guidebook. Please include the SSLs and SVSLs in the investigation report to be submitted by November 30, 2006.

You are required to perform quarterly groundwater monitoring The quarterly groundwater monitoring report must be submitted by the fifteenth day following the end of the quarter, as shown in the following schedule with the next report due on **October 15, 2006**.

Report Period	Report Due Date
January - March	April 15th
April – June	July 15th
July – September	October 15th
October - December	January 15th

Pursuant to Section 13268 of the California Water Code, failure to submit the required reports or documents by the due dates may result in civil liability administratively imposed by the Regional Board in an amount up to one thousand dollars ($1,000) for each day the report or document is not received.

Should you have any questions, please contact Dr. Rebecca Chou at (213) 576-6733.

Sincerely,

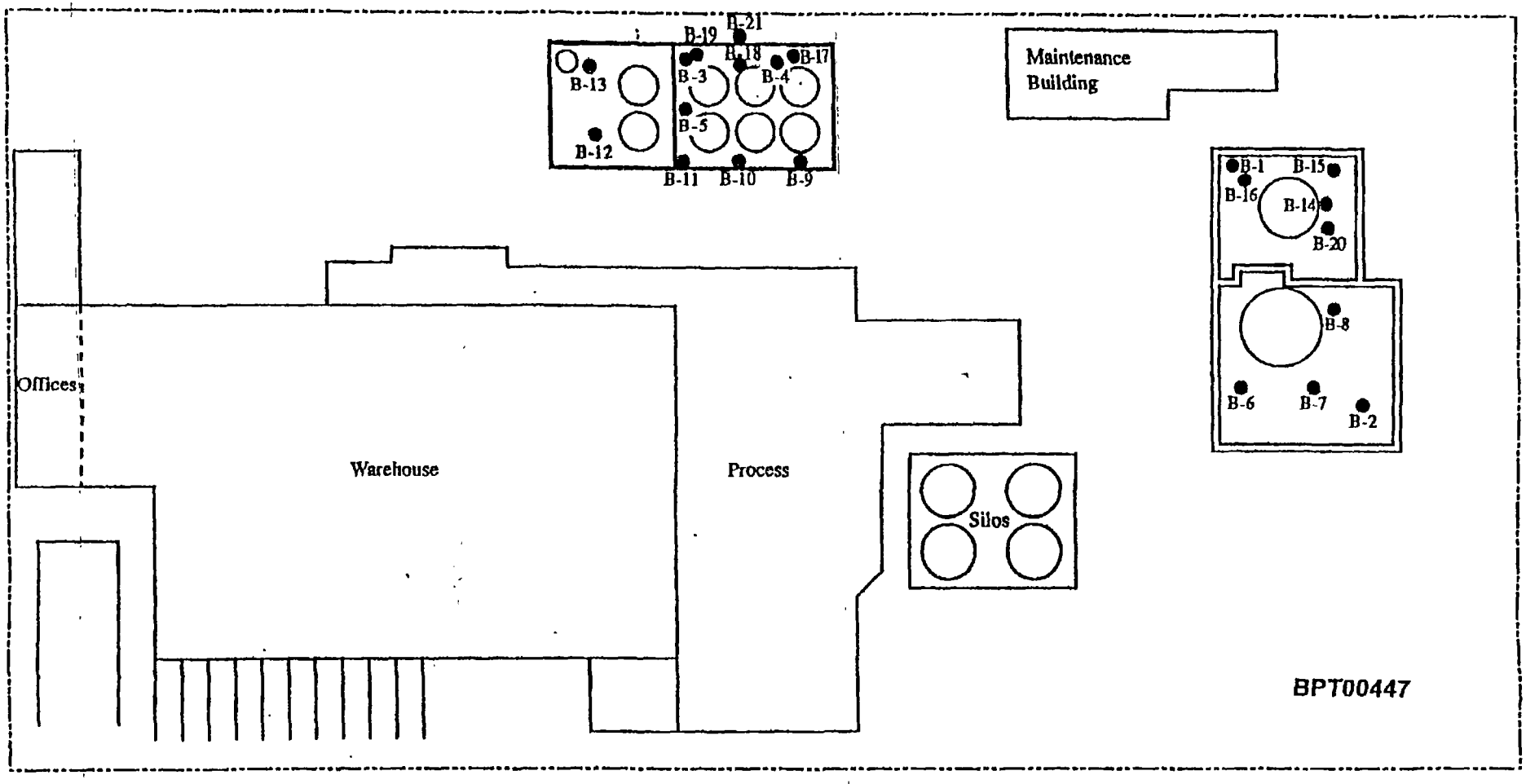
Jonathan Bishop
Executive Officer

cc: Mr. Jeffrey Dhont, U.S. Environmental Protection Agency
Mr. Chuck Stevens, Ecology Control Industries
Mr. Bob Scott, Boeing Company
Mr. Fred Benz, PACCAR
Mr. Peter Tsai, Mighty USA
Mr. Emerito Tito, Mighty USA
Mr. David Gurewitz,
Mr. Anthony Lizzi, Earth Tech, Inc.
Mr. Jonathan Capp, Law Offices of Capp and Marsh

ATTACHMENT B

Historical Soil Sampling Locations and Analytical Results

American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
SECOR Project No. 37BP.XB010.03



N

0 40 80

Scale in feet

● B-1 Exploratory Boring Approximate Location

Soil Sample Approximate Locations

Amoco Chemical Company
Polystyrene Facility
1225 West 196th Street
Torrance, California

AMOCO

May, 1992

Attachment 2

Analytical Results for Soil Samples
Amoco Chemical Company
Polystyrene Facility, Torrance, California

Sample Location/Depth (ft)	Styrene	Ethyl-benzene	TCE	PCE	1,1,1-TCA	Benzene	Carbon disulfide	Toluene
B-01/01	<1.0	50	<1.0	4	<1.0	<1.0	<1.0	<1.0
TD - 5 ft	--	--	--	--	--	--	--	--
B-02/01	--	--	--	--	--	--	--	--
TD - 3 ft	--	--	--	--	--	--	--	--
B-03/05	9	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TD - 5 ft	--	--	--	--	--	--	--	--
B-04/02	<2.0	140	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
TD - 5 ft	--	--	--	--	--	--	--	--
B-05/01	100	720	<10	<10	<10	<10	<10	<10
TD - 5 ft	--	--	--	--	--	--	--	--
B-06/05	--	--	--	--	--	--	--	--
/10	<0.1	<0.05	0.1	<0.05	<0.05	<0.05	<0.1	<0.05
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	--	--	--	--	--	--	--	--
B-07/05	--	--	--	--	--	--	--	--
/10	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	--	--	--	--	--	--	--	--
B-08/05	--	--	--	--	--	--	--	--
/10	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	--	--	--	--	--	--	--	--
B-09/05	--	--	--	--	--	--	--	--
/10	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/15	--	--	--	--	--	--	--	--
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
B-10/05	--	--	--	--	--	--	--	--
/10	<1.0	<0.5	44	8	<0.5	<0.5	<1.0	<0.5
/15	--	--	--	--	--	--	--	--
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05

BPT00448

Attachment 3

Analytical Results for Soil Samples
Amoco Chemical Company
Polystyrene Facility, Torrance, California

Sample Location/Depth (ft)	Styrene	Ethyl-benzene	TCE	PCE	1,1,1-TCA	Benzene	Carbon disulfide	Toluene
B-11/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
B-12/05	--	--	--	--	--	--	--	--
/10	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	--	--	--	--	--	--	--	--
B-13/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
B-14/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	1.2	0.7	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	4.4	0.95	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
B-15/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
B-16/05	--	--	--	--	--	--	--	--
/10	<0.1	<0.05	0.09	0.08	<0.05	<0.05	<0.1	<0.05
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	--	--	--	--	--	--	--	--
B-17/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05

Analytical Results for Soil Samples
Amoco Chemical Company
Polystyrene Facility, Torrance, California

Sample Location/Depth (ft)	Styrene	Ethyl-benzene	TCE	PCE	1,1,1-TCA	Benzene	Carbon disulfide	Toluene
B-18/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	330	65	46	2.4	<1.0	<1.0	<2.0	1.1
/20	100	20	6.8	1.4	<1.0	<1.0	<2.0	<1.0
B-19/05	--	--	--	--	--	--	--	--
/10	--	--	--	--	--	--	--	--
/15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
/20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05
B-20/20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
/25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
/30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
/35	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
/40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
B-21/20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
/25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
/30	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	0.14	<0.1
/35	<0.05	<0.05	0.86	<0.05	<0.05	0.05	0.06	<0.1
/40	<0.05	<0.05	0.15	0.2	0.07	<0.05	<0.05	<0.1

TCE = trichloroethene
PCE = tetrachloroethene
TCA = trichloroethane
-- = Sample not analyzed
<0.1 = Not detected at or above concentration indicated

Notes: (1) Laboratory analysis by GC/MS (EPA Method 8240).
Concentrations reported in mg/kg (ppm).
Compounds not reported were not detected in any sample.
(2) Soil borings B-1 thru B-5:
* Soil samples collected at 1 foot intervals.
* Soil immediately above sample interval was screened in field for organic vapors.
* Samples were selected for laboratory analysis based on field screening results.

BPT00450

Attachment 3

ENGINEERING
ENTERPRISES, INC.

WATER RESOURCES SPECIALISTS

6695 E. Pacific Coast Highway Long Beach, CA 90803 213-430-6500

May 29, 1990

Amoco Chemical Company
1225 West 196th Street
Torrance, California 90502

Attention: Mr. Jeff Campbell
Process Engineer

Subject: Report of Additional Subsurface Assessment and Groundwater Sampling
Amoco Chemical Facility
1225 West 196th Street
Torrance, California
Project No. 512-345

Dear Mr. Campbell:

Presented herewith is the report of subsurface assessment and groundwater sampling performed by Engineering Enterprises, Inc. (EEI). This assessment was performed at the request of Amoco, Inc. to evaluate the presence of styrene, ethylbenzene and associated chemicals in two boreholes and six groundwater monitoring wells at the subject site.

We trust this report meets your current requirements. Should you have questions regarding the results contained herein, or require further clarification, please contact us. We appreciate the opportunity to be of continued service to Amoco.

Respectfully,

William E. Halbert
Project Hydrogeologist

WEH:weh

BPT00126

REPORT OF ADDITIONAL SUBSURFACE ASSESSMENT AND GROUNDWATER SAMPLING

AMOCO CHEMICAL FACILITY

1225 WEST 196TH STREET

TORRANCE, CALIFORNIA

Prepared for:

Amoco Chemical Company
1225 West 196th Street
Torrance, California 90502

Submitted by:

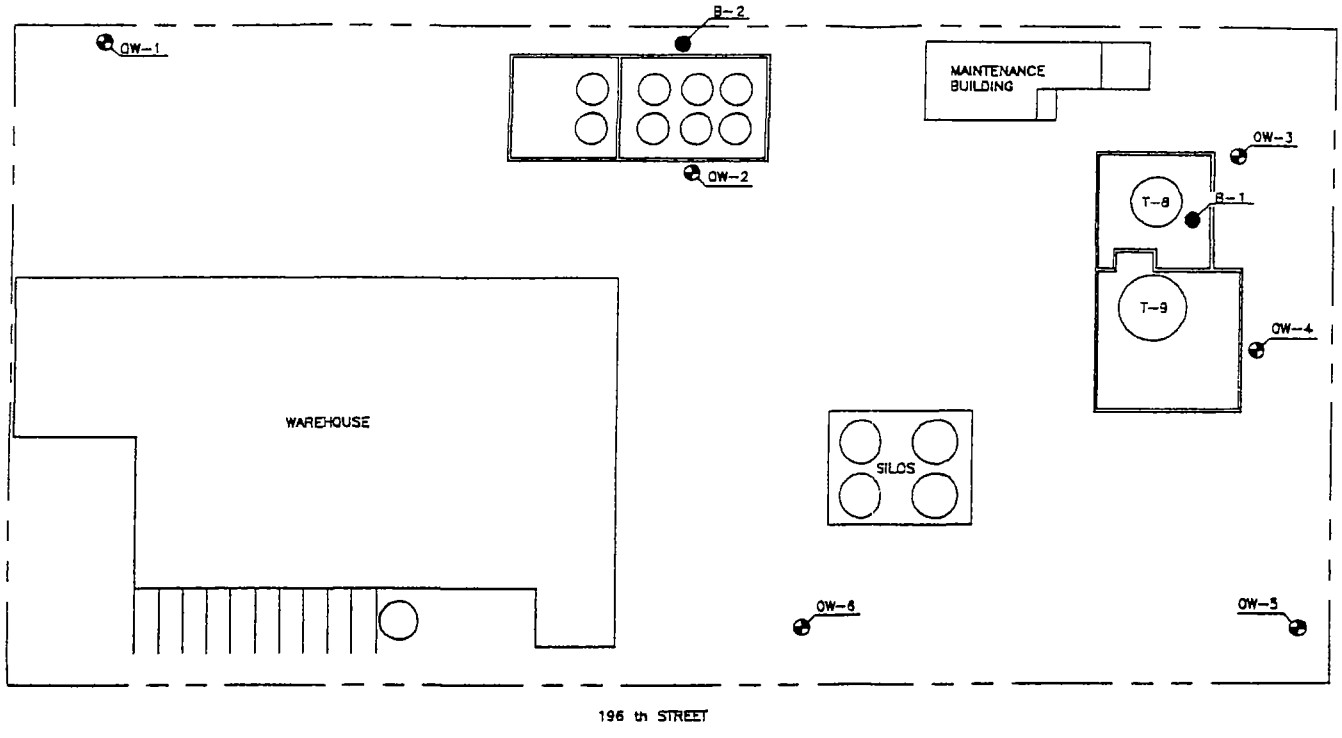
Engineering Enterprises, Inc.
6695 East Pacific Coast Highway
Long Beach, California 90803
213/430-6500

William E. Halbert
Project Hydrogeologist

Robert T. Bean
Registered Geologist #1339
CEG #483

BPT00127

ENGINEERING ENTERPRISES, INC.



OW-3 MONITORING WELL NUMBER

B-1 EXPLORATORY BORING LOCATION

N

0 40 80

SCALE IN FEET

BPT00134

BORING AND MONITORING WELL
LOCATION MAP
1225 WEST 196th STREET
TORRANCE, CALIFORNIA

EEI ENGINEERING ENTERPRISES, INC.

PROJECT NO: 512-345	FIGURE 2
DATE: MARCH, 1990	

5.0 DISCUSSION OF RESULTS

No detectable concentrations of analyzed compounds were reported in soil samples collected from boring B-1. Soil samples from boring B-2 did not contain detectable concentrations of analyzed compounds at depths of 20 and 25 feet bgs. The soil sample collected from 30 feet contained carbon disulfide at a reported concentration of 0.14 milligrams per kilogram (mg/kg) and trichloroethene at a reported concentration of 0.11 mg/kg. The soil sample collected from a depth of 35 feet bgs contained reported concentrations of carbon disulfide at 0.06 mg/kg, trichloroethene at 0.86 mg/kg, and benzene at 0.05 mg/kg. The soil sample collected from a depth of 40 feet bgs contained reported concentrations of trichloroethene at 0.15 mg/kg, tetrachloroethene at 0.2 mg/kg and 1,1,1 trichloroethane at 0.07 mg/kg. Presented in Table 1 are laboratory results for soil samples from boring B-2. Laboratory reports for soil samples are contained in Appendix C, Part 1.

TABLE 1

LABORATORY RESULTS - BORING B-2(a)

Depth (ft.)	Benzene	Carbon Disulfide	TCE(b)	PCE(c)	1,1,1-TCA(d)
20	ND(0.05)	ND(.05)(e)	ND(0.05)	ND(0.05)	ND(0.05)
25	ND(0.05)	ND(.05)	ND(0.05)	ND(0.05)	ND(0.05)
30	ND(0.05)	0.14	0.11	ND(0.05)	ND(0.05)
35	0.05	0.06	0.86	ND(0.05)	ND(0.05)
40	ND(0.05)	ND(0.05)	0.15	0.20	0.07

(a) All concentrations reported in milligrams per kilogram.
(b) TCE = Trichloroethene.
(c) PCE = Tetrachloroethene.
(d) TCA = Trichloroethane.
(e) ND = Not detected above concentration in parentheses.

Groundwater samples collected 2-1-90 from all six wells all contained detectable concentrations of trichloroethene (TCE) ranging from 500 to 5,800 micrograms per liter (ug/L). Tetrachloroethene (PCE) was detected in wells OW-2 to OW-6 in the concentration range from 50 ug/L to 1,600 ug/L. PCE was not detected in OW-1 above a detection limit of 80 ug/L. The compounds 1,1-dichloroethene and 1,2-dichloroethene (total) were detected in wells OW-4, OW-5 and OW-6 in reported concentrations ranging from 17 ug/L to 200 ug/L. Of these two compounds, only 1,2-dichloroethene was detected in OW-3 at a concentration of 54 ug/L. Neither compound was reported to be present in groundwater samples from wells OW-1 and OW-2 above detection limits of 80 ug/L and 4 ug/L,

ENGINEERING
ENTERPRISES, INC.

WATER RESOURCES SPECIALISTS

21818 S Wilmington Avenue Suite 405 Long Beach CA 90810 213/518-4597

November 10, 1988

Amoco Corporation
7201 East 38th Street
Space 7253
P.O. Box 3385
Tulsa, Oklahoma 74102

Attention: Mr. Robert Hockman
Groundwater Management Section

Subject: Report of Shallow Soil Sampling
Amoco Chemical Facility
1225 196th Street
Torrance, California
Project No. 512-345

Dear Mr. Hockman:

Engineering Enterprises, Inc. (EEI) is pleased to provide you with this report outlining the results of our shallow soil sampling assessment at your chemical facility situated in Torrance, California.

If you have any questions regarding this report or require additional information, please do not hesitate to contact us. EEI appreciates the opportunity to be of service to Amoco Corporation.

Sincerely,

Stephen M. Testa
Vice President
West Coast Operations

SMT/mag

BPT00003

REPORT OF SHALLOW SOIL SAMPLING

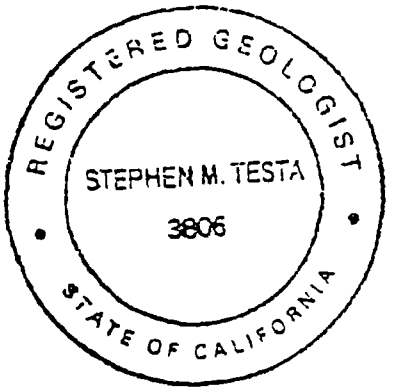
AMOCO CHEMICAL FACILITY

1225 196TH STREET

TORRANCE, CALIFORNIA

Submitted by:

Engineering Enterprises, Inc.
21818 S. Wilmington Avenue
Suite 405
Long Beach, California 90810

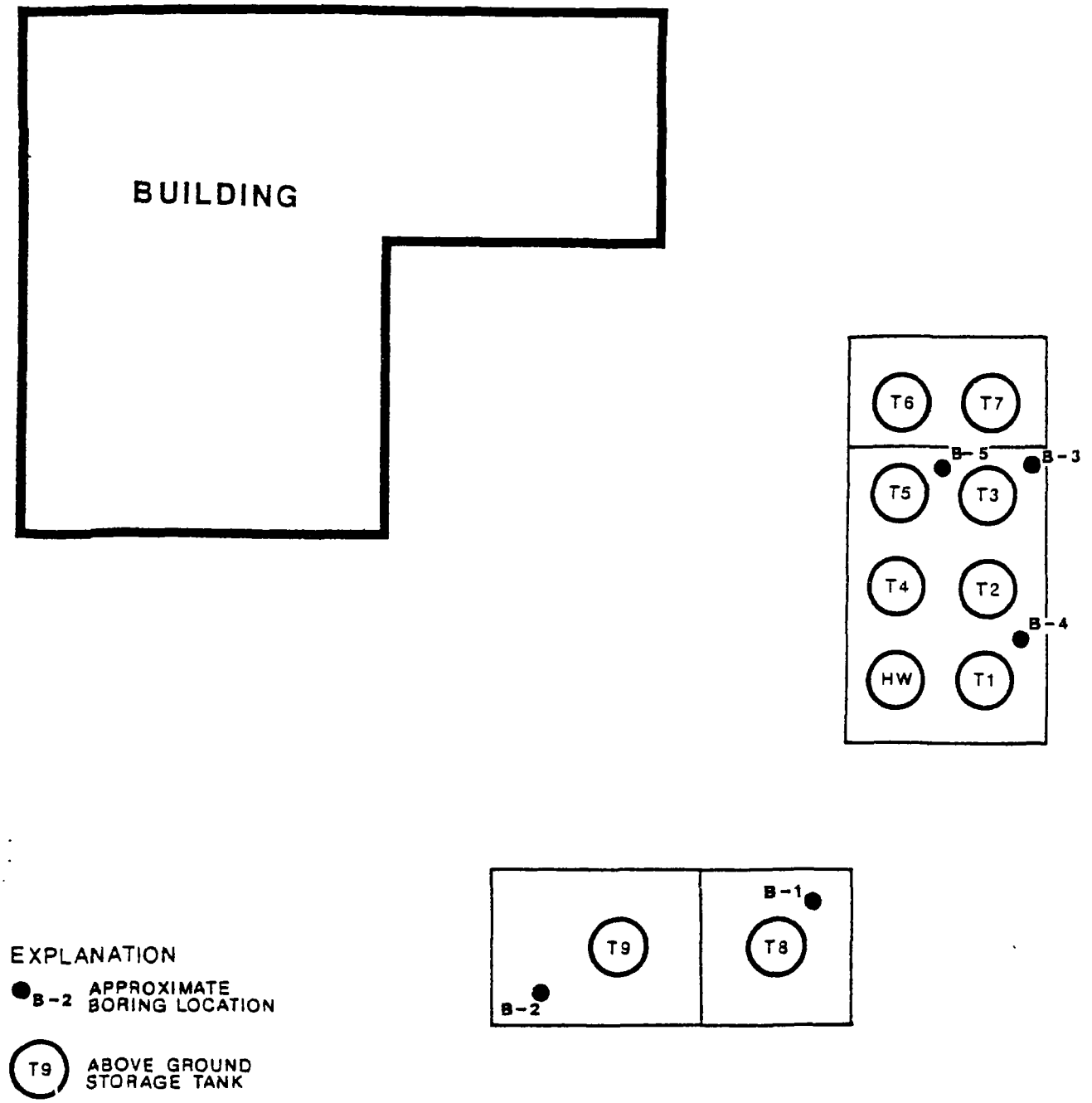


William E. Halbert
Project Hydrogeologist

Stephen M. Testa
Vice President
West Coast Operations

BPT00004

EEI ENGINEERING ENTERPRISES, INC.



BPT00008

NOT TO SCALE

APPROXIMATE BORING LOCATIONS
AMOCO CHEMICAL FACILITY
TORRANCE, CALIFORNIA

ENGINEERING ENTERPRISES, INC.

PROJECT NO. 512-345 FIGURE 2

Enseco

CRL Environmental - South Coast
7440 Lincoln Way • Garden Grove, CA 92641
(213) 598-0458 • (714) 898-6370 • (800) LAB-1-CRL
FAX. (714) 891-5917

November 2, 1988

ENGINEERING ENTERPRISES, INC.
21818 Wilmington Avenue, Suite 405
Long Beach, CA 90810
ATTN: Mr. Bill Halbert

ANALYSIS NO.: 830101-001/004
ANALYSES: EPA Method 8240
DATE SAMPLED: 10/26/88
DATE SAMPLE REC'D: 10/26/88
PROJECT: 512-345

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 830101-001/004 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached. Sample seals were intact.

Solid samples are reported on an "as received" basis.

Results were faxed on October 31, 1988 at 9:15 A.M.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED

APPROVED

BPT00017

The Report Cover Letter is an integral part of this report.
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Enseco

CRL Environmental - South Coast
7440 Lincoln Way • Garden Grove, CA 92641
(213) 598-0458 • (714) 898-6370 • (800) LAB-1-CRL
FAX (714) 891-5917

LABORATORY REPORT

ENGINEERING ENTERPRISES, INC.
21818 Wilmington Avenue, Suite 405
Long Beach, CA 90810
ATTN: Mr. Bill Halbert

Sample ID: S-01-01

ANALYSIS NO.: 830101-001
ANALYSES: EPA Method 8240
DATE SAMPLED: 10/26/88
DATE SAMPLE REC'D: 10/26/88
DATE ANALYZED: 10/28/88
SAMPLE TYPE: Solid
PROJECT: 512-345

EPA METHODS 624/8240 VOLATILE ORGANICS

	(ug/kg)		(ug/kg)
Chloromethane	ND(2,000.)	1,2-Dichloropropane	ND(1,000.)
Bromomethane	ND(2,000.)	Trans-1,3-Dichloropropene	ND(1,000.)
Vinyl Chloride	ND(2,000.)	Trichloroethene	ND(1,000.)
Chloroethane	ND(2,000.)	Dibromochloromethane	ND(1,000.)
Methylene Chloride	ND(1,000.)	1,1,2-Trichloroethane	ND(1,000.)
Acetone	ND(2,000.)	Benzene	ND(1,000.)
Carbon Disulfide	ND(1,000.)	cis-1,3-Dichloropropene	ND(1,000.)
1,1-Dichloroethene	ND(1,000.)	2-Chloroethylvinyl ether	ND(2,000.)
1,1-Dichloroethane	ND(1,000.)	Bromoform	ND(1,000.)
Trans-1,2-Dichloroethene	ND(1,000.)	4-Methyl-2-Pentanone	ND(2,000.)
Chloroform	ND(1,000.)	2-Hexanone	ND(2,000.)
1,2-Dichloroethane	ND(1,000.)	Tetrachloroethene	4,000.
2-Butanone	ND(2,000.)	1,1,2,2-Tetrachloroethane	ND(1,000.)
1,1,1-Trichloroethane	ND(1,000.)	Toluene	ND(1,000.)
Carbon Tetrachloride	ND(1,000.)	Chlorobenzene	ND(1,000.)
Vinyl Acetate	ND(2,000.)	Ethylbenzene	50,000.
Bromodichloromethane	ND(1,000.)	Styrene	ND(1,000.)
		Total Xylenes	ND(1,000.)

BPT00018

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FAX (714) 891-5917

LABORATORY REPORT

ENGINEERING ENTERPRISES, INC.
21818 Wilmington Avenue, Suite 405
Long Beach, CA 90810
ATTN: Mr. Bill Halbert

Sample ID: S-03-05

ANALYSIS NO.: 830101-002
ANALYSES: EPA Method 8240
DATE SAMPLED: 10/26/88
DATE SAMPLE REC'D: 10/26/88
DATE ANALYZED: 10/29/88
SAMPLE TYPE: Solid
PROJECT: 512-345

EPA METHODS 624/8240 VOLATILE ORGANICS

	(ug/kg)		(ug/kg)
Chloromethane	ND(2,000.)	1,2-Dichloropropane	ND(1,000.)
Bromomethane	ND(2,000.)	Trans-1,3-Dichloropropene	ND(1,000.)
Vinyl Chloride	ND(2,000.)	Trichloroethene	ND(1,000.)
Chloroethane	ND(2,000.)	Dibromochloromethane	ND(1,000.)
Methylene Chloride	ND(1,000.)	1,1,2-Trichloroethane	ND(1,000.)
Acetone	ND(2,000.)	Benzene	ND(1,000.)
Carbon Disulfide	ND(1,000.)	cis-1,3-Dichloropropene	ND(1,000.)
1,1-Dichloroethene	ND(1,000.)	2-Chloroethylvinyl ether	ND(2,000.)
1,1-Dichloroethane	ND(1,000.)	Bromoform	ND(1,000.)
Trans-1,2-Dichloroethene	ND(1,000.)	4-Methyl-2-Pentanone	ND(2,000.)
Chloroform	ND(1,000.)	2-Hexanone	ND(2,000.)
1,2-Dichloroethane	ND(1,000.)	Tetrachloroethene	ND(1,000.)
2-Butanone	ND(2,000.)	1,1,2,2-Tetrachloroethane	ND(1,000.)
1,1,1-Trichloroethane	ND(1,000.)	Toluene	ND(1,000.)
Carbon Tetrachloride	ND(1,000.)	Chlorobenzene	ND(1,000.)
Vinyl Acetate	ND(2,000.)	Ethylbenzene	47,000.
Bromodichloromethane	ND(1,000.)	Styrene	9,000.
		Total Xylenes	ND(1,000.)

BPT00019

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FAX. (714) 891-5917

LABORATORY REPORT

ENGINEERING ENTERPRISES, INC.
21818 Wilmington Avenue, Suite 405
Long Beach, CA 90810
ATTN: Mr. Bill Halbert

Sample ID: S-04-02

ANALYSIS NO.: 830101-003
ANALYSES: EPA Method 8240
DATE SAMPLED: 10/26/88
DATE SAMPLE REC'D: 10/26/88
DATE ANALYZED: 10/28/88
SAMPLE TYPE: Solid
PROJECT: 512-345

EPA METHODS 624/8240 VOLATILE ORGANICS

	(ug/kg)		(ug/kg)
Chloromethane	ND(5,000.)	1,2-Dichloropropane	ND(2,000.)
Bromomethane	ND(5,000.)	Trans-1,3-Dichloropropene	ND(2,000.)
Vinyl Chloride	ND(5,000.)	Trichloroethene	ND(2,000.)
Chloroethane	ND(5,000.)	Dibromochloromethane	ND(2,000.)
Methylene Chloride	ND(2,000.)	1,1,2-Trichloroethane	ND(2,000.)
Acetone	ND(5,000.)	Benzene	ND(2,000.)
Carbon Disulfide	ND(2,000.)	cis-1,3-Dichloropropene	ND(2,000.)
1,1-Dichloroethene	ND(2,000.)	2-Chloroethylvinyl ether	ND(5,000.)
1,1-Dichloroethane	ND(2,000.)	Bromoform	ND(2,000.)
Trans-1,2-Dichloroethene	ND(2,000.)	4-Methyl-2-Pentanone	ND(5,000.)
Chloroform	ND(2,000.)	2-Hexanone	ND(5,000.)
1,2-Dichloroethane	ND(2,000.)	Tetrachloroethene	ND(2,000.)
2-Butanone	ND(5,000.)	1,1,2,2-Tetrachloroethane	ND(2,000.)
1,1,1-Trichloroethane	ND(2,000.)	Toluene	ND(2,000.)
Carbon Tetrachloride	ND(2,000.)	Chlorobenzene	ND(2,000.)
Vinyl Acetate	ND(5,000.)	Ethylbenzene	140,000.
Bromodichloromethane	ND(2,000.)	Styrene	ND(2,000.)
		Total Xylenes	ND(2,000.)

BPT00020

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FAX. (714) 891-5917

LABORATORY REPORT

ENGINEERING ENTERPRISES, INC.
21818 Wilmington Avenue, Suite 405
Long Beach, CA 90810
ATTN: Mr. Bill Halbert

Sample ID: S-05-01

ANALYSIS NO.: 830101-004
ANALYSES: EPA Method 8240
DATE SAMPLED: 10/26/88
DATE SAMPLE REC'D: 10/26/88
DATE ANALYZED: 10/28/88
SAMPLE TYPE: Solid
PROJECT: 512-345

EPA METHODS 624/8240 VOLATILE ORGANICS

	(mg/kg)		(mg/kg)
Chloromethane	ND(20.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(20.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(20.)	Trichloroethene	ND(10.)
Chloroethane	ND(20.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
Acetone	ND(20.)	Benzene	ND(10.)
Carbon Disulfide	ND(10.)	cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethene	ND(10.)	2-Chloroethylvinyl ether	ND(20.)
1,1-Dichloroethane	ND(10.)	Bromoform	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	4-Methyl-2-Pentanone	ND(20.)
Chloroform	ND(10.)	2-Hexanone	ND(20.)
1,2-Dichloroethane	ND(10.)	Tetrachloroethene	ND(10.)
2-Butanone	ND(20.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Toluene	ND(10.)
Carbon Tetrachloride	ND(10.)	Chlorobenzene	ND(10.)
Vinyl Acetate	ND(20.)	Ethylbenzene	720.
Bromodichloromethane	ND(10.)	Styrene	100.
		Total Xylenes	ND(10.)

BPT00021

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CRL Environmental - South Coast
7440 Lincoln Way • Garden Grove, CA 92641
(213) 598-0458 • (714) 898-6370 • (800) LAB-1-CRL
FAX: (714) 891-5917

LABORATORY REPORT

ENGINEERING ENTERPRISES, INC.
21818 Wilmington Avenue, Suite 405
Long Beach, CA 90810
ATTN: Mr. Bill Halbert

ANALYSIS NO.: 830101-001/004
ANALYSES: EPA Method 8240
DATE SAMPLED: 10/26/88
DATE SAMPLE REC'D: 10/26/88
SAMPLE TYPE: Solid
PROJECT: 512-345

QA/QC SUMMARY

Date	Parameter(method)	Average Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
10/28-29/88	1,1-Dichloroethene (EPA 8240)	113	59-172	1	22
10/28-29/88	Chlorobenzene (EPA 8240)	91	59-139	*25	21

*RPD value due to matrix effect. Check standard verifies acceptable system performance.

BPT00022

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ENGINEERING ENTERPRISES, INC.
21818 WILMINGTON AVE., SUITE 405
LONG BEACH, CA 90810 (213)518-4597

CHAIN OF CUSTODY RECORD

LABORATORY	PROJECT NO.	PURCHASE ORDER NO.
Chemical Research Laboratory 7440 Lincoln Way Garden Grove, Ca.	512-345	
	SAMPLERS:(signature) Jay Boughter	
	Phone No.	

Phone No:

Remarks:

ANALYSES REQUESTED

SAMPLE NO.	DATE	TIME	Number of Containers	REMARKS
S-01-01	10/26/88		1	*8240 ~~Hold for verbal~~
S-01-02			1	~~analysis request~~
S-01-03			1	
S-02-01			1	
~~[illegible]~~				
S-03-01			1	
S-03-02			1	
S-03-05			1	*8240
S-04-01			1	
S-04-02			1	*8240
S-04-03			1	
S-04-05			1	
S-05-01			1	*8240
S-05-03			1	

* 10/27/88 - 8:20AM - ANALYTICAL REQUEST FOR 8240 ON NOTED SAMPLES PLACED BY BOB HOCKMAN OF AMOCO CHEM. CO. → 24-48 HR TAT

PINK COPY: SAMPLER RETAINS YELLOW COPY: LABORATORY COPY

WHITE COPY: LABORATORY SIGNS AND RETURNS WITH ANALYTICAL RESULTS

BPT00023

TOTAL NUMBER OF CONTAINERS 13

Relinquished by:(signature)	Received by:(signature)	Date/Time
Jay Boughter		10/26/88 4:30pm
Relinquished by:(signature)	Received by:(signature)	Date/Time
Relinquished by:(signature)	Received by:(signature)	Date/Time
Relinquished by:(signature)	Received for laboratory by:(signature)	Date/Time
	[illegible]	10/26/88 4:30PM

ATTACHMENT C

Historical Groundwater Sampling and Analytical Results

American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
SECOR Project No. 37BP.XB010.03

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

American Polystyrene Corporation
Quarterly Groundwater Monitoring and Status Report
4th Quarter 2005

Site Name:	American Polystyrene Corporation
Site Location:	1225 W. 196th Street
Client Contact/Phone No.:	Mr. Carl Benninger / 310.329.6379
ıry Consultant/Contact/Phone No.:	Winefield & Associates / Andre LaMontagne / 562.495.5777
Lead Agency:	RWQCB, LA
Lead Agency File No.:	SLIC # 214
Lead Agency Contact/Phone No.:	Ms. Ana Townsend / 213.576.6738
Other Regulatory Agencies cc'd:	None

WORK PERFORMED THIS QUARTER (4th Quarter 2005):

- Gauged and sampled all wells at the site
- Laboratory analyzed groundwater samples collected.
- Provided groundwater monitoring report for 4th Quarter 2005

WORK PROPOSED FOR NEXT QUARTER (1st Quarter 2006):

- Gauge and sample all wells at the site.

XOW-1	XOW-3	XOW-5
XOW-2	XOW-4	XOW-6

- Laboratory analyzed groundwater samples collected.
- Provide groundwater monitoring report for 1st Quarter 2006

MONITORING RESULTS for 4th QUARTER 2005

Current phase of project: Monitoring

Frequency of groundwater monitoring: Quarterly

Wells sampled this quarter

XOW-1	XOW-3	XOW-5
XOW-2	XOW-4	XOW-6

Current phase of project:	Monitoring
Frequency of groundwater monitoring:	Quarterly
Date measured:	12/20/05
Depth to groundwater (ft. below surface grade):	55.43-58.28
Groundwater flow direction:	Southwesterly
Groundwater flow direction last quarter:	Southwesterly
Is flow consistent with last quarter?	Yes
Wells with free product:	None

Well		Compound				
		1,1 Dichloro ethane (µg/L)	1,1 Dichloro ethene (µg/L)	cis 1,2-Dichloro ethene (µg/L)	Trichloro ethene (µg/L)	Tetrachloro ethene (µg/L)
XOW-1	Concentration	2.82	1.94	**18.6**	**973**	**171**
	Over MCL?	no	no	yes	yes	yes
	Relative to last quarter	Increase	Increase	Increase	Decrease	Increase
XOW-2	Concentration	1.80	nd	**35.8**	**2,990**	**386**
	Over MCL?	no	no	yes	yes	yes
	Relative to last quarter	Increase	Decrease	Increase	Increase	Increase
XOW03	Concentration	1.30	1.56	**24.5**	**742**	**99**
	Over MCL?	no	no	yes	yes	yes
	Relative to last quarter	Same	Decrease	Increase	Increase	Decrease
XOW-4	Concentration	2.28	**7.86**	**88.40**	**1,820**	**423**
	Over MCL?	no	yes	yes	yes	yes
	Relative to last quarter	Increase	Decrease	Increase	Increase	Increase
XOW-5	Concentration	4.73	**54.9**	**231.0**	**4,810**	**1,910**
	Over MCL?	no	yes	yes	yes	yes
	Relative to last quarter	Increase	Increase	Increase	Increase	Increase
XOW-6	Concentration	4.10	**21.7**	**127.0**	**7,160**	**2,050**
	Over MCL?	no	yes	yes	yes	yes
	Relative to last quarter	Increase	Decrease	Increase	Increase	Increase

* Compound is considered to have increased or decreased if concentration is greater or less than 5% from last quarter.

Wells and/or surface waters within 2,000 feet:	Unknown
Radius and direction from site:	Unknown
Current remediation method:	None

Gallons of water purged this quarter:	82
Disposal/recycling facility:	American Polystyrene Responsibility

Summary of unusual activity:

This quarter some compounds typically associated with gasoline were reported in the wells; specifically toluene, ethylbenzene, xylenes, and some trimethylbenzenes. In addition, naphthalene was also reported for the first time in the samples. The specific wells and concentrations are shown in Table 2.

Agency directive requirements:

- Continue quarterly groundwater monitoring

REVIEWED and APPROVED BY:

Matt Winefield, PE, CSP
Principal Consultant

Date: 1/17/06

REGISTERED PROFESSIONAL ENGINEER
MATTHEW WINEFIELD
No. CO49885
Exp. 9/30/06
CIVIL
STATE OF CALIFORNIA

APPENDICES:

Appendix 1: Groundwater Elevation Contour Map (Figure 1)
1,1 DCA Iso-concentration Map (Figure 2)
1,1 DCE Iso-concentration Map (Figure 3)
1,2 DCE Iso-concentration Map (Figure 4)
TCE Iso-concentration Map (Figure 5)
PCE Iso-concentration Map (Figure 6)
Metals Text Boxes on Map (Figure 7)

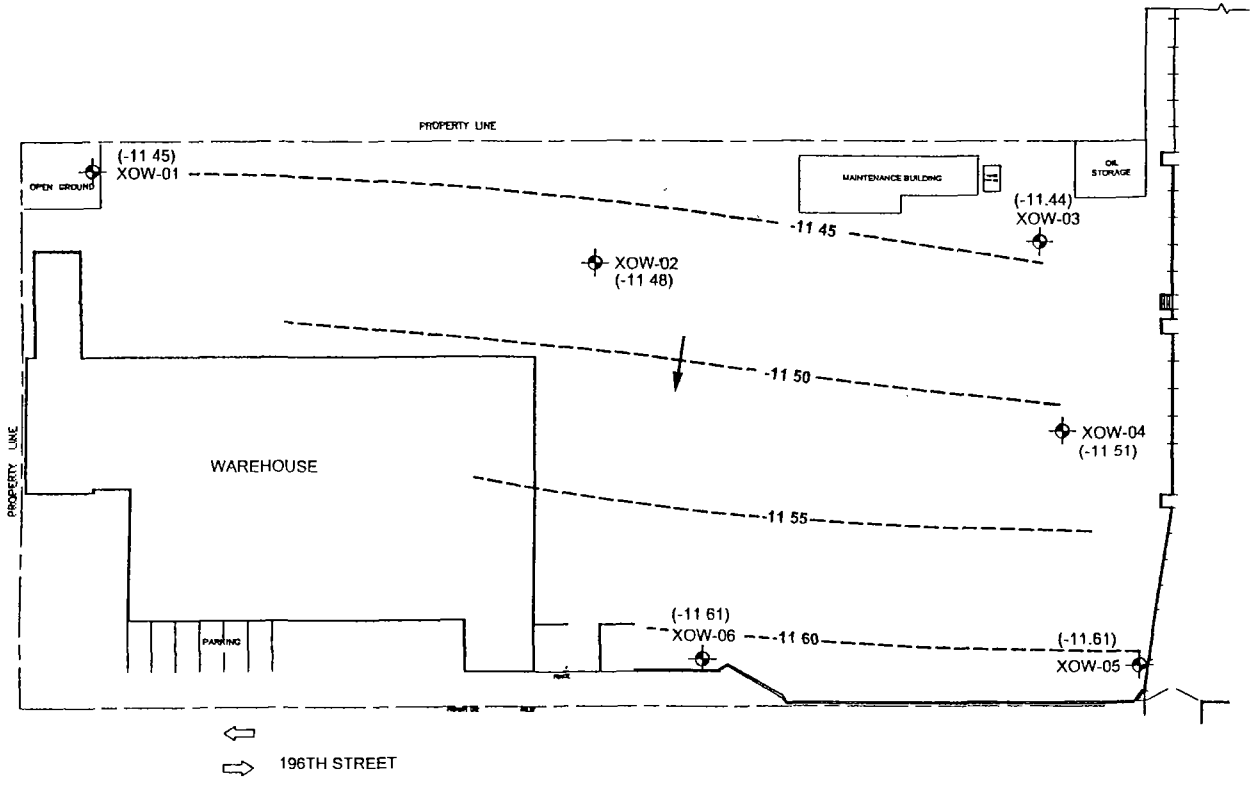
Appendix 2: Groundwater analysis and gauging results (Table 1)
Historical groundwater analysis and gauging results (Table 2)

Appendix 3: Groundwater monitoring and sampling field data sheets

Appendix 4: Laboratory reports and Chain-of-custody forms

Appendix 5: Purged water disposal manifests (will be sent under separate cover)

Appendix 6: Groundwater monitoring procedures



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(-11 60)	GROUNDWATER ELEVATION (ft MSL) MEASURED DECEMBER 20, 2005
-12.10	GROUNDWATER ELEVATION CONTOUR (ft MSL, CONTOUR INTERVAL = 0.10 ft)
	APPARENT GROUNDWATER FLOW DIRECTION

DASHED WHERE INFERRED, QUERIED WHERE UNCERTAIN

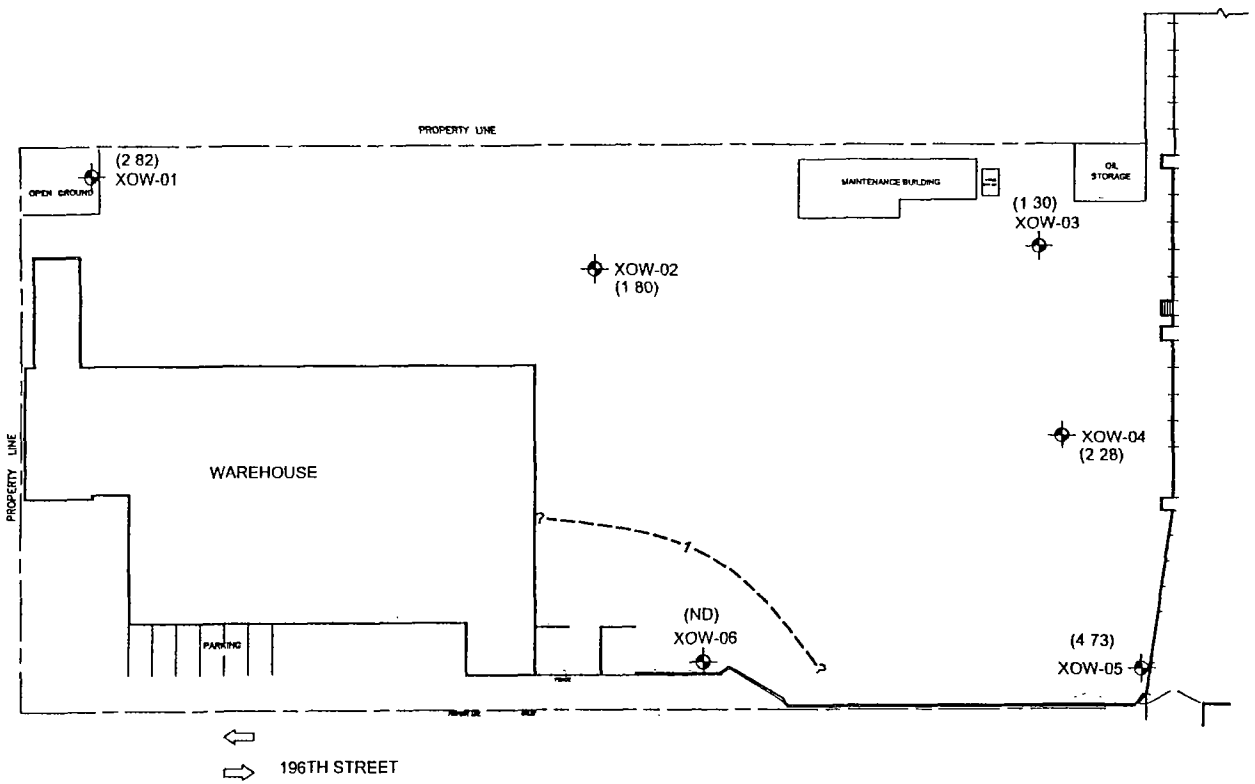
N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER GRADIENT MAP 4TH QUARTER 2005
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W. 196TH STREET TORRANCE, CALIFORNIA

JOB NO.	DATE	FIGURE NO
APC-04-071	1/5/2006	1



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(1 04)	1,1-DICHLOROETHANE (1,1-DCA) CONCENTRATION (µg/l)
--- 1	1,1-DCA ISO-CONCENTRATION CONTOUR
	ND = NOT DETECTED AT LABORATORY DETECTION LIMIT

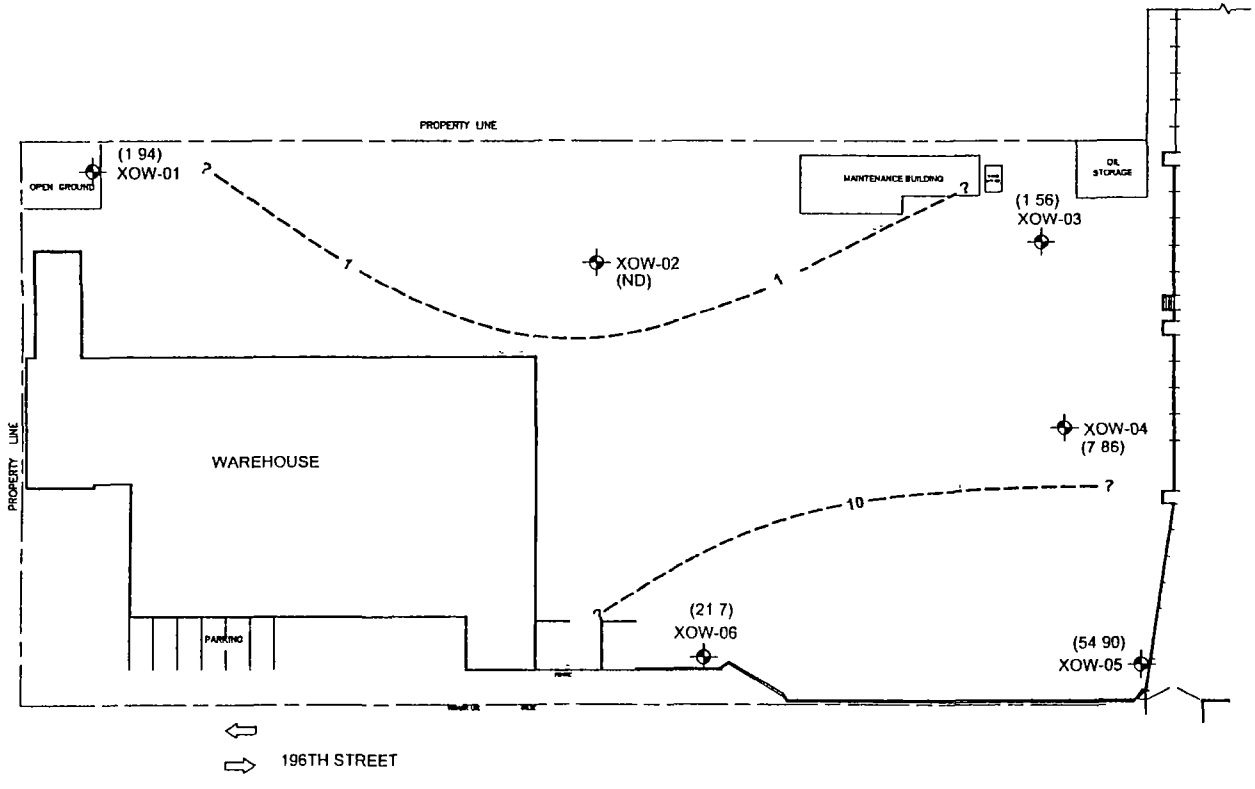
N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER SAMPLE ANALYSES MAP FOR 1,1-DICHLOROETHANE 4TH QUARTER 2005
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W. 196TH STREET TORRANCE, CALIFORNIA

JOB NO	DATE	FIGURE NO.
APC-04-071	1/5/2006	2



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(ND)	1,1-DICHLOROETHENE (1,1-DCE) CONCENTRATION (µg/l)
10	1,1-DCE ISO-CONCENTRATION CONTOUR

ND = NOT DETECTED AT LABORATORY DETECTION LIMIT

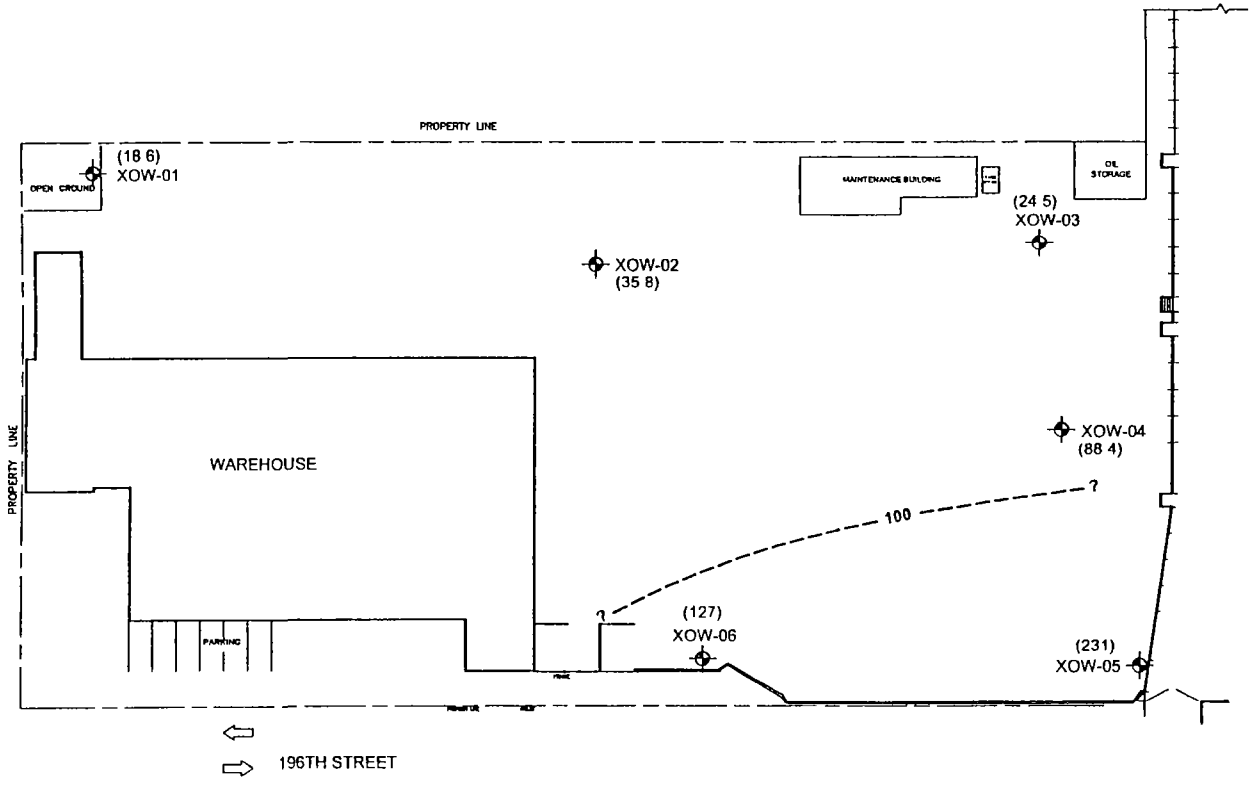
N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER SAMPLE ANALYSES MAP FOR 1,1-DICHLOROETHENE 4TH QUARTER 2005
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W. 196TH STREET TORRANCE, CALIFORNIA

JOB NO	DATE	FIGURE NO
APC-04-071	1/5/2006	3



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(ND)	cis 1,2-DICHLOROETHENE (1,1-DCE) CONCENTRATION (µg/l)
---100	1,2-DCE ISO-CONCENTRATION CONTOUR

N

0 40

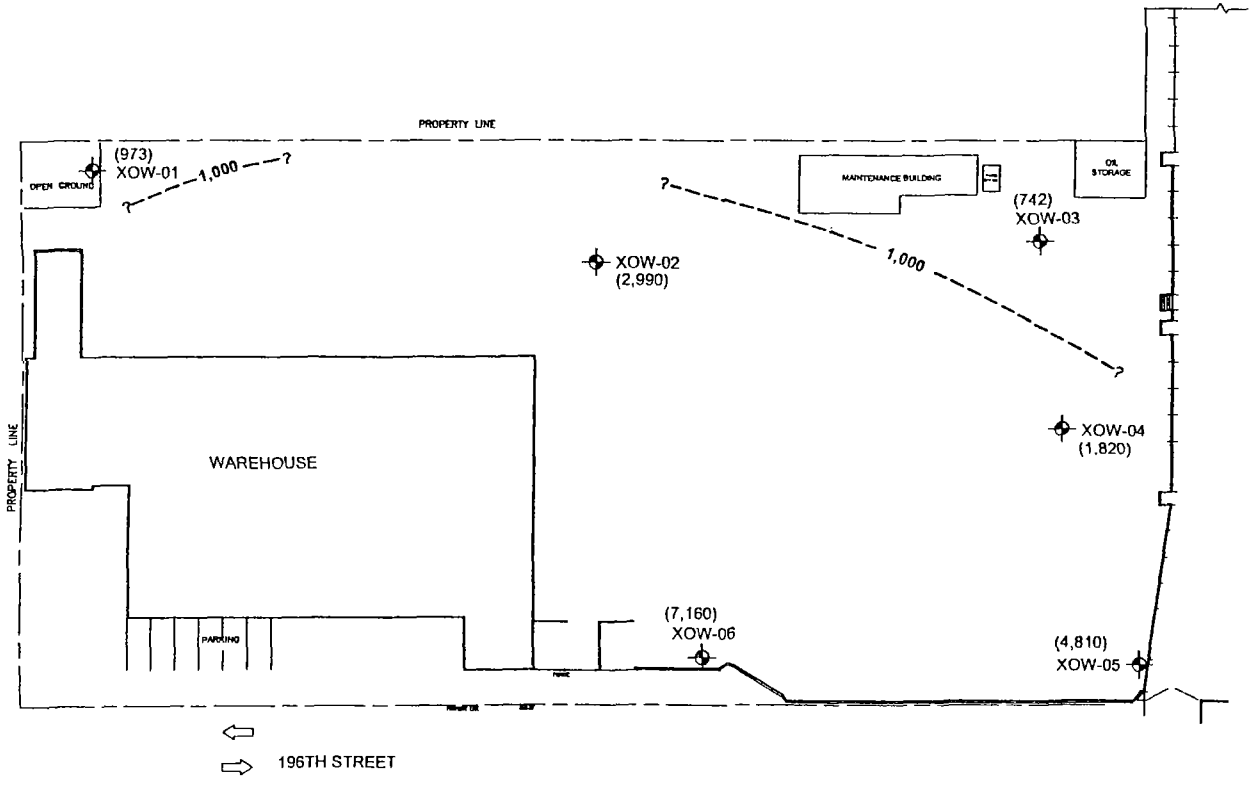
WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION GROUNDWATER SAMPLE ANALYSES MAP FOR cis 1,2 DICHLOROETHENE 4TH QUARTER 2005

PROJECT AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA

LOCATION 1225 W. 196TH STREET TORRANCE, CALIFORNIA

JOB NO.	DATE	FIGURE NO
APC-04-071	1/5/2006	4



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(1,040)	TRICHLOROETHENE (TCE) CONCENTRATION (µg/l)
1,000	TCE ISO-CONCENTRATION CONTOUR

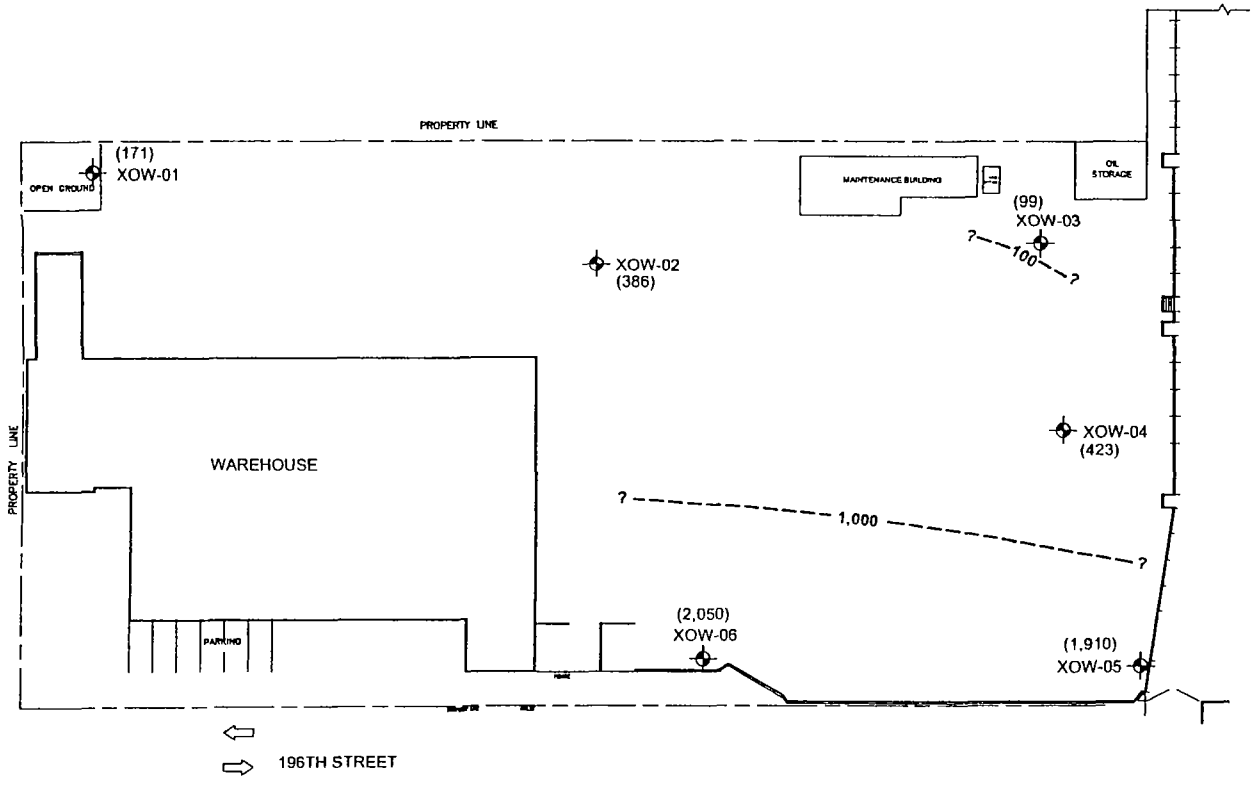
N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	GROUNDWATER SAMPLE ANALYSES MAP FOR TRICHLOROETHENE 4TH QUARTER 2005
PROJECT	AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA
LOCATION	1225 W 196TH STREET TORRANCE, CALIFORNIA

JOB NO	DATE	FIGURE NO
APC-04-071	1/5/2006	5



LEGEND

XOW-01	GROUNDWATER MONITORING WELL
(62)	TETRACHLOROETHENE (PCE) CONCENTRATION (µg/l)
1,000	PCE ISO-CONCETRATION CONTOUR

N

0 40

WINEFIELD & ASSOCIATES
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION: GROUNDWATER SAMPLE ANALYSES MAP FOR TETRACHLOROETHENE 4TH QUARTER 2005

PROJECT: AMERICAN POLYSTYRENE CORPORATION TORRANCE, CALIFORNIA

LOCATION: 1225 W 196TH STREET TORRANCE, CALIFORNIA

JOB NO	DATE	FIGURE NO
APC-04-071	1/5/2006	6

Appendix 2

Groundwater Analysis and Gauging Results (Table 1)

Historical Groundwater Analysis and Gauging Results (Table 2)

TABLE 1
GROUNDWATER ANALYSES AND GAUGING RESULTS, 4th QUARTER 2004
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

Physical Parameters					VOCs (µg/L)					Metals (µg/L)				
WELL ID	WELL ELEVATION (feet, MSL)	DATE MEASURED	Depth to Groundwater (fbce)	Groundwater Elevation (ft, MSL)	1,1-Dichloroethene	1,1-Dichloroethane	cis-1,2-Dichloroethene	Trichloroethene	Tetrachloroethene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-01	46.62	12/20/05	58 07	-11.45	1 94	2 82	18 60	973	171	nd	5 30	5 80	0 80	nd
XOW-02	45 40	12/20/05	56.88	-11 48	nd	1 80	35 80	2,990	386	50 70	50 00	15.80	1 30	nd
XOW-03	44 32	12/20/05	55 76	-11 44	1 56	1 30	24 50	742	99	7.09	12 00	2 60	0 50	nd
XOW-04	44 94	12/20/05	56 45	-11 51	7 86	2 28	88 40	1,820	423	7 56	15 00	5 60	0 90	nd
XOW-05	43 65	12/20/05	55 26	-11 61	54.90	4 73	231 00	4,810	1,910	53 20	98 00	26 60	6 00	nd
XOW-06	45 42	12/20/05	57 03	-11.61	21 70	4 10	127.00	7,160	2,050	43 70	45 00	10.00	0 70	nd
Laboratory Detection Limits					0.5	0.5	0.5	10.0	10.0	0.01	4.00	3.00	1.00	2.00
Primary MCLs					6.0	5.0	6.0	5.0	5.0	--	50	1,300	15	2

NOTES
µg/L Micrograms per liter.
nd Not detected at laboratory detection limit
MCL Maximum contamination levels for primary drinking water standards
fbce Feet below casing elevation
MSL Mean sea level
-- Not established

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

Physical Paramaters					VOCs (µg/L)																											Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Dichlorofluoro methane (Freon 21)	Trichlorofluoro methane (Freon 11)	1,1 Dichloroethene	trans 1 2 DCE	1,1 Dichloroethane	cis 1,2-Dichloroethene	Chloroform	Carbon Tetrachloride	Benzene	1 2 DCA	1 1 2 TCA	Trichloroethene	Dichlorobromo methane	Toluene	1 1 2 TCA	Tetrachloroethene	Dibromochloro methane	Chloro benzene	Ethyl benzene	Xylenes	1,3,5 Trimethyl benzene	1,2,4 Trimethyl benzene	1,3 Dichloro benzene	1,4 Dichloro benzene	n Butyl benzene	1,2 Dichloro benzene	Freon 12	Naphthalene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-01	46 62	12/20/05	58 07	-11 45	24 6	10 7	1 94	7 88	2 82	18.6	20 9	nd	nd	nd	nd	973	nd	23	nd	171	nd	nd	9 73	37 7	1.07	6 04	nd	nd	nd	nd	nd	1 81	nd	5 3	5 8	0 8	nd
XOW-01	46 62	09/22/05	58.28	-11 66	2 88	3 98	0 98	2 72	1 04	5.03	11 6	nd	nd	nd	nd	1,040	nd	nd	nd	135	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.3	0 4	nd
XOW-01	46 62	06/21/05	58 72	-12 10	6 08	8 42	1 72	6 39	2.34	23.9	16 9	nd	nd	nd	nd	785	nd	nd	nd	132	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
XOW-01	46 62	03/24/05	59 16	-12 54	nd	nd	2.69	4 59	1.73	5 8	15 9	nd	nd	nd	nd	1,000	nd	nd	nd	103	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0 06	11	5	nd	0 48
XOW-01	46 62	11/01/04	59 80	-13 18	nd	nd	3.38	5 46	2.24	5.96	17 4	nd	nd	nd	nd	874	nd	nd	nd	232	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
XOW-01	46 62	07/29/04	59 73	-13 11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	622	nd	nd	nd	62	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5	nd	nd
XOW-01	46 62	01/26/04	--	--	nd	12	3 9	8 7	3	14	21	nd	20	nd	nd	1,300	nd	nd	nd	170	nd	nd	0 67	0 19	nd	nd	nd	nd	nd	nd	5.3	nd	nt	nt	nt	nt	nt
Laboratory Detection Limits					1 00	0 50	0 50	0 50	0.50	0 50	0.50	0.50	0 50	0 50	1 0	0 50	0 50	0 50	1.00	0 50	0 50	0 50	0.50	1 00	1 00	0 50	0.50	0.50	1 00	0 50	0 50	1 00	0 01	4 00	3 00	1.00	2 00
DHS Primary MCLs					--	--	6	10	5	6	100	0.5	1	0 5	5	5	--	150	5	5	100	70	300	1,750	--	--	--	5	260	600	--	--	--	50	1,300	15	2

Notes
µg/L Micrograms per liter
Bold Values in bold exceed their respective MCL
nd Not detected at laboratory detection limits shown
nt Not tested
-- Not reported, or not determined

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

Physical Paramaters					VOCs (µg/L)																											Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Dichlorofluoro methane (Freon 21)	Trichlorofluoro methane (Freon 11)	1,1 Dichloroethene	trans 1 2 DCE	1,1 Dichloroethane	cis 1,2-Dichloroethene	Chloroform	Carbon Tetrachloride	Benzene	1 2 DCA	1 1 2 TCA	Trichloroethene	Dichlorobromo methane	Toluene	1 1 2 TCA	Tetrachloroethene	Dibromochloro methane	Chloro benzene	Ethyl benzene	Xylenes	1,3,5 Trimethyl benzene	1,2,4 Trimethyl benzene	1,3 Dichloro benzene	1,4 Dichloro benzene	n Butyl benzene	1,2 Dichloro benzene	Freon 12	Naphthalene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-02	45 40	12/20/05	56 88	-11 48	41 2	6 33	nd	5 42	1 8	35 8	17 3	nd	nd	nd	nd	2,990	nd	12	nd	386	nd	nd	5 54	21 45	nd	3 68	nd	nd	nd	nd	nd	1 12	50 7	50	15 8	1.3	nd
XOW-02	45 40	09/22/05	57 18	-11 78	5 2	6 64	1 88	3 55	1 34	17.7	18.6	nd	nd	nd	nd	2,570	nd	nd	nd	256	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	22 6	121	80 8	13	0.29
XOW-02	45 40	06/21/05	57 53	-12 13	9 3	9 43	nd	3 55	1 46	30.8	15	nd	nd	nd	nd	2,240	nd	nd	nd	291	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	23 4	25 6	nd	nd	nd
XOW-02	45 40	03/24/05	57 93	-12 53	nd	nd	nd	1 08	nd	6.3	6 52	nd	nd	nd	nd	1,610	nd	nd	nd	120	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	9 74	18	4 5	nd	0.25
XOW-02	45 40	11/01/04	58 75	-13 35	nd	nd	nd	0 91	nd	12.7	10 2	nd	nd	nd	nd	1,200	nd	nd	nd	310	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	13	63	6 2	nd
XOW-02	45 40	07/29/04	58 60	-13.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	801	nd	nd	nd	148	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0 12	33	39	8	nd
XOW-02	45 40	01/26/04	--	--	nd	8 7	nd	4 5	1.7	37	19	nd	3.4	nd	nd	3,100	nd	nd	nd	410	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5 4	nd	nt	nt	nt	nt	nt
Laboratory Detection Limits					1 00	0 50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	1.0	0 50	0 50	0 50	1 00	0 50	0 50	0.50	0.50	1 00	1 00	0 50	0 50	0.50	1.00	0 50	0.50	1 00	0 01	4 00	3.00	1 00	2.00
DHS Primary MCLs					--	--	6	10	5	6	100	0 5	1	0 5	5	5	--	150	5	5	100	70	300	1,750	--	--	--	5	260	600	--	--	--	50	1,300	15	2

Notes
µg/L Micrograms per liter
Bold Values in bold exceed their respective MCL
nd Not detected at laboratory detection limits shown
nt Not tested
-- Not reported, or not determined

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W 196th STREET
TORRANCE, CALIFORNIA

Physical Paramaters					VOCs (µg/L)																													Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Dichlorofluoro methane (Freon 21)	Trichlorofluoro methane (Freon 11)	1,1 Dichloroethene	trans 1 2 DCE	1,1 Dichloroethane	cis 1,2-Dichloroethene	Chloroform	Carbon Tetrachloride	Benzene	1 2 DCA	1 1 2 TCA	Trichloroethene	Dichlorobromo methane	Toluene	1 1 2 TCA	Tetrachloroethene	Dibromochloro methane	Chloro benzene	Ethyl benzene	Xylenes	1,3,5 Trimethyl benzene	1,2,4 Trimethyl benzene	1,3 Dichloro benzene	1,4 Dichloro benzene	n Butyl benzene	1,2 Dichloro benzene	Freon 12	Naphthalene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-03	44 32	12/20/05	55 76	-11 44	6 22	1 67	1 56	nd	1 3	**24.5**	7 2	nd	nd	**nd**	nd	**742**	nd	4 6	nd	**99**	nd	nd	2.35	9 28	nd	1 84	nd	nd	nd	nd	nd	nd	7 09	12	2 6	0.5	nd
XOW-03	44 32	09/22/05	55 90	-11.58	2 32	2 53	2 77	nd	1 26	**20.5**	11 6	nd	nd	nd	nd	**522**	nd	nd	nd	**174**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7 48	14	5 1	1.5	0 14
XOW-03	44 32	06/21/05	56 30	-11 98	2 57	2 17	2 07	nd	1 7	**34.8**	8 31	nd	**nd**	nd	nd	**924**	nd	nd	nd	**146**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7 06	8 9	nd	nd	nd
XOW-03	44 32	03/24/05	56 70	-12 38	nd	nd	2 26	nd	1 2	**17.7**	8 94	nd	nd	nd	nd	**1,260**	nd	nd	nd	**159**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.58	11	2.2	nd	nd
XOW-03	44 32	11/01/04	57 64	-13.32	nd	nd	2 78	nd	1.04	**29.2**	13	nd	nd	nd	nd	**1,300**	nd	nd	nd	**280**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	22	16	nd	nd
XOW-03	44 32	07/29/04	57 50	-13 18	nd	nd	nd	nd	nd	**24**	nd	nd	nd	nd	nd	**1,290**	nd	nd	nd	**139**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.3	18	12	5	nd
XOW-03	44.32	01/26/04	--	--	nd	2 4	1.8	nd	2.3	**29**	8.2	**nd**	**94**	nd	nd	**1,100**	nd	1	nd	**130**	nd	nd	9 7	3.3	nd	0 46	nd	nd	nd	nd	2 1	nd	nt	nt	nt	nt	nt
Laboratory Detection Limits					1 00	0 50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	1 0	0 50	0 50	0 50	1 00	0 50	0 50	0.50	0 50	1.00	1 00	0.50	0.50	0 50	1.00	0 50	0.50	1.00	0 01	4 00	3.00	1.00	2 00
DHS Primary MCLs					--	--	6	10	5	6	100	0.5	1	0 5	5	5	--	150	5	5	100	70	300	1,750	--	--	--	5	260	600	--	--	--	50	1,300	15	2

Notes
µg/L Micrograms per liter
Bold Values in bold exceed their respective MCL
nd. Not detected at laboratory detection limits shown
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-- Not reported, or not determined

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

Physical Paramaters					VOCs (µg/L)																											Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Dichlorofluoro methane (Freon 21)	Trichlorofluoro methane (Freon 11)	1,1 Dichloroethene	trans 1 2 DCE	1,1 Dichloroethane	cis 1,2-Dichloroethene	Chloroform	Carbon Tetrachloride	Benzene	1 2 DCA	1 1 2 TCA	Trichloroethene	Dichlorobromo methane	Toluene	1 1 2 TCA	Tetrachloroethene	Dibromochloro methane	Chloro benzene	Ethyl benzene	Xylenes	1,3,5 Trimethyl benzene	1,2,4 Trimethyl benzene	1,3 Dichloro benzene	1,4 Dichloro benzene	n Butyl benzene	1,2 Dichloro benzene	Freon 12	Naphthalene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-04	44 94	12/20/05	56 45	-11 51	10.4	2 61	7.86	nd	2.28	88 4	16 9	nd	nd	0 81	nd	1,820	nd	9 2	1 3	423	nd	nd	4 89	18 94	nd	3 45	nd	nd	nd	nd	nd	1.13	7 56	15	5 6	0 9	nd
XOW-04	44 94	09/22/05	56 61	-11 67	1.3	1 7	10.7	nd	1 88	59.9	27.3	nd	nd	nd	nd	1,540	nd	nd	nd	347	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7 47	7 8	1 8	0.3	nd
XOW-04	44 94	06/22/05	57 07	-12.13	2 16	1 8	4.4		1.64	67.1	12 1	nd	nd	nd	nd	1,050	nd	nd	nd	261	nd	nd	nd	nd	nd	nd	nd	nd	n	nd	nd	nd	7 26	10 5	nd	nd	nd
XOW-04	44 94	03/24/05	57 43	-12 49	nd	nd	13	nd	1.42	46.7	18	nd	nd	nd	nd	1,790	nd	nd	nd	422	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7 81	11	2 8	nd	nd
XOW-04	44 94	11/01/04	58 32	-13 38	nd	nd	10	nd	1.71	82	30 8	nd	nd	nd	nd	2,520	nd	nd	nd	885	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	16	18	13	2.8
XOW-04	44 94	07/29/04	58 25	-13 31	nd	nd	nd	nd	nd	99.1	nd	nd	nd	nd	nd	2,520	nd	nd	nd	476	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	6 81	12	4	3	nd
XOW-04	44 94	01/26/04	--	--	nd	3 4	6	1.2	2.5	83	16	nd	0.38	nd	nd	2,000	nd	nd	2	400	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.4	nd	nt	nt	nt	nt	nt
Laboratory Detection Limits					1 00	0 50	0 50	0 50	0 50	0 50	0.50	0 50	0.50	0.50	1 0	0 50	0 50	0.50	1 00	0 50	0 50	0.50	0 50	1 00	1 00	0 50	0.50	0 50	1 00	0.50	0.50	1.00	0 01	4.00	3 00	1.00	2 00
DHS Primary MCLs					--	--	6	10	5	6	100	0.5	1	0 5	5	5	--	150	5	5	100	70	300	1,750	--	--	--	5	260	600	--	--	--	50	1,300	15	2

Notes
µg/L Micrograms per liter
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nd Not detected at laboratory detection limits shown
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--. Not reported, or not determined

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

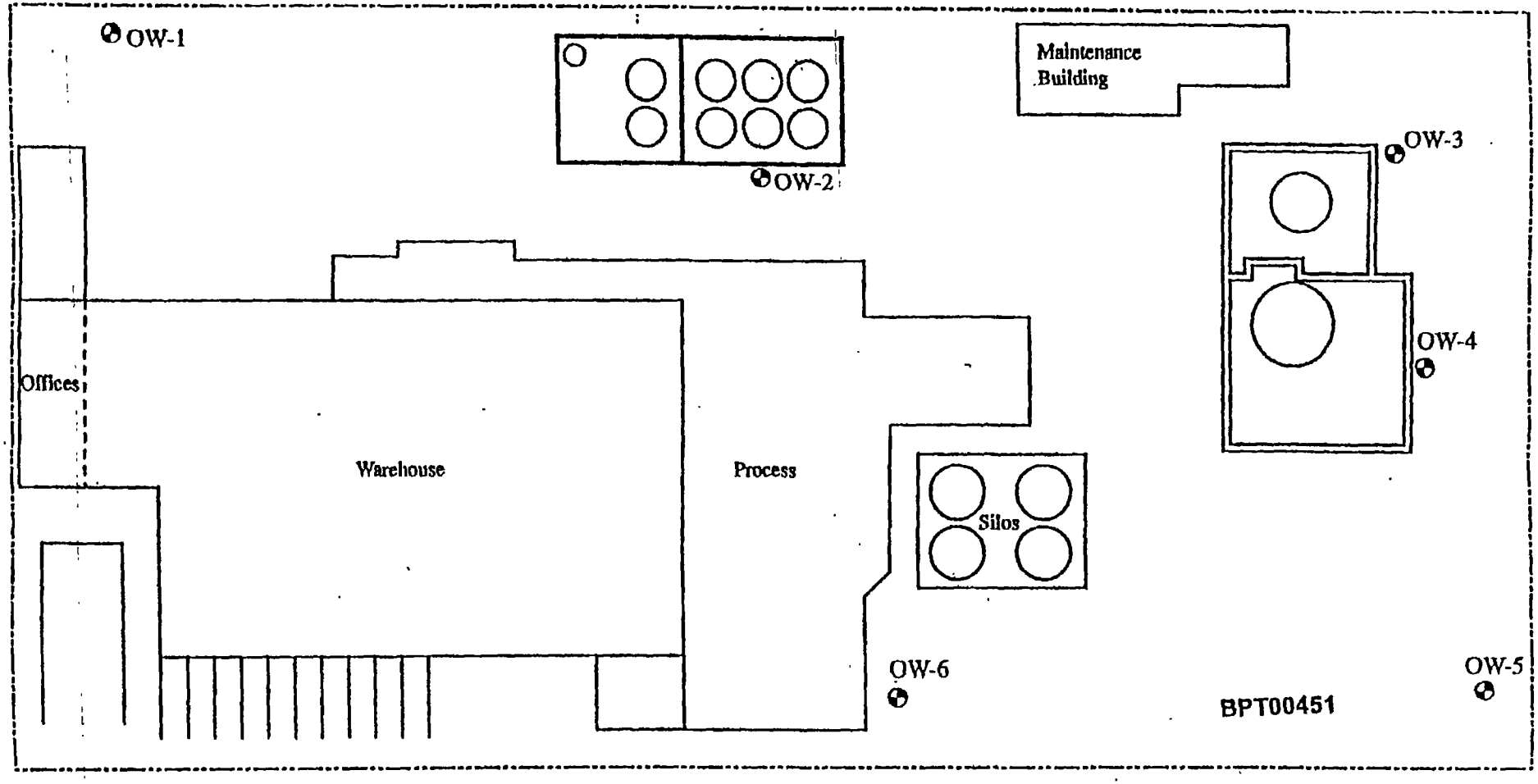
Physical Parameters					VOCs (µg/L)																											Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Dichlorofluoromethane (Freon 21)	Trichlorofluoromethane (Freon 11)	1,1 Dichloroethene	trans 1 2 DCE	1,1 Dichloroethane	cis 1,2-Dichloroethene	Chloroform	Carbon Tetrachloride	Benzene	1 2 DCA	1 1 2 TCA	Trichloroethene	Dichlorobromomethane	Toluene	1 1 2 TCA	Tetrachloroethene	Dibromochloromethane	Chlorobenzene	Ethylbenzene	Xylenes	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,4 Dichlorobenzene	n Butylbenzene	1,2 Dichlorobenzene	Freon 12	Naphthalene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-05	43 65	12/20/05	55 26	-11 61	19 1	3 5	54.9	nd	4 73	231	24 2	0 61	2 09	0 67	nd	4.810	nd	9 6	nd	1,910	nd	nd	5 14	20 15	nd	3 68	nd	nd	nd	nd	nd	1 13	53 2	98	26 6	6	nd
XOW-05	43 65	09/22/05	55 43	-11 78	nd	5 14	14 2	nd	2 72	101	29 9	2 11	nd	nd	nd	3,990	nd	nd	nd	1,720	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	43 3	152	21	5	0.22
XOW-05	43 65	06/21/05	55 87	-12 22	nd	nd	3 63	nd	1 4	113	11 6	nd	nd	nd	nd	1,400	nd	nd	nd	841	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2 89	39 3	24 2	9 6	nd
XOW-05	43 65	03/24/05	56 25	-12 60	nd	nd	30.1	nd	2.3	85.1	23 4	nd	nd	nd	nd	3,880	nd	nd	nd	1,340	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	26 5	254	41 5	17	0 3
XOW-05	43 65	11/01/04	57 18	-13 53	nd	nd	23.6	0 85	2 87	83 8	31 3	nd	nd	nd	nd	3,830	nd	nd	nd	1,800	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	53	25	8 3	nd
XOW-05	43 65	07/29/04	57 12	-13 47	nd	nd	nd	nd	nd	83.8	nd	nd	nd	nd	nd	3,060	nd	nd	nd	1,540	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.42	11	nd	2	nd
XOW-05	43 65	01/26/04	--	--	nd	4 2	36	1 7	3 9	190	22	0.75	2	nd	nd	6,400	0 76	nd	nd	2,300	nd	0 56	nd	nd	nd	nd	nd	0 4	nd	0 52	nd	nd	nt	nt	nt	nt	nt
Laboratory Detection Limits					1 00	0 50	0.50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	1 0	0 50	0 50	0 50	1 00	0.50	0 50	0 50	0 50	1 00	1 00	0 50	0 50	0 50	1 00	0 50	0 50	1 00	0.01	4 00	3 00	1.00	2 00
DHS Primary MCLs					--	--	6	10	5	6	100	0 5	1	0 5	5	5	--	150	5	5	100	70	300	1,750	--	--	--	5	--	600	--	--	--	50	1,300	15	2

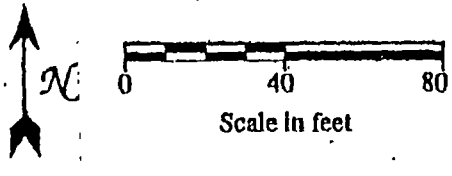
Notes.
µg/L Micrograms per liter
Bold Values in bold exceed their respective MCL
nd Not detected at laboratory detection limits shown
nt Not tested
-- Not reported, or not determined

TABLE 2
HISTORIC GROUNDWATER ANALYSES and GAUGING RESULTS
AMERICAN POLYSTYRENE CORPORATION
1225 W. 196th STREET
TORRANCE, CALIFORNIA

Physical Paramaters					VOCs (µg/L)																													Metals (µg/L)				
Well ID	Well Elevation	Date Measured	Depth to Groundwater (fbce)	Groundwater Elevation (ft. MSL)	Dichlorofluoro methane (Freon 21)	Trichlorofluoro methane (Freon 11)	1,1 Dichloroethene	trans 1 2 DCE	1,1 Dichloroethane	cis 1,2-Dichloroethene	Chloroform	Carbon Tetrachloride	Benzene	1 2 DCA	1 1 2 TCA	Trichloroethene	Dichlorobromo methane	Toluene	1 1 2 TCA	Tetrachloroethene	Dibromochloro methane	Chloro benzene	Ethyl benzene	Xylenes	1,3,5 Trimethyl benzene	1,2,4 Trimethyl benzene	1,3 Dichloro benzene	1,4 Dichloro benzene	n Butyl benzene	1,2 Dichloro benzene	Freon 12	Naphthalene	Hex-Chromium	Chromium	Copper	Lead	Mercury
XOW-06	45 42	12/20/05	57 03	-11 61	29 6	7 88	21 7	3 1	4 1	127	41 3	0 77	8 88	0.53	nd	7,160	nd	17	nd	2,050	nd	nd	9 12	35 32	1 12	6 42	nd	nd	nd	3 32	nd	1 79	43 7	45	10	0 7	nd
XOW-06	45 42	09/22/05	57 25	-11 83	3 36	4 91	24 8	3 6	3 31	50 9	23.3	nd	nd	nd	nd	5,190	nd	nd	nd	1,390	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	45 9	46	2 5	0.3	nd
XOW-06	45 42	06/21/05	57.70	-12.28	6 02	5 83	20 8	1 78	6.42	208	61 9	nd	18	nd	nd	4,930	nd	nd	nd	2,450	nd	nd	nd	nd	nd	nd	nd	nd	10 2	nd	nd	nd	29 3	34 5	nd	nd	nd
XOW-06	45 42	03/24/05	58 10	-12 68	nd	nd	26.1	nd	5.57	125	79 1	nd	nd	nd	nd	12,300	nd	nd	nd	5,120	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	30 8	39	3 3	nd	0.21
XOW-06	45 42	11/01/04	58 80	-13 38	nd	nd	29.2	3 58	5 81	121	75 6	nd	nd	nd	nd	10,800	nd	nd	nd	3,400	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	40	nd	nd	nd
XOW-06	45 42	07/29/04	58 80	-13 38	nd	nd	nd	nd	nd	134	nd	nd	nd	nd	nd	14,200	nd	nd	nd	4,200	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	29 2	38	13	3	nd
XOW-06	45 42	01/26/04	--	--	nd	8 2	22	5 6	5 9	250	74	0 74	15	nd	nd	12,000	0 77	nd	nd	4,000	0.56	0 47	nd	nd	nd	nd	0 88	1.2	nd	11	7 1	nd	nt	nt	nt	nt	nt
Laboratory Detection Limits					1 00	0 50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	0 50	1.0	0.50	0 50	0 50	1 00	0 50	0 50	0.50	0.50	1 00	1.00	0.50	0 50	0.50	1.00	0.50	0 50	1.00	0.01	4 00	3.00	1.00	2 00
DHS Primary MCLs					--	--	6	10	5	6	100	0 5	1	0 5	5	5	--	150	5	5	100	70	--	1,750	330	--	--	5	--	600	--	--	--	50	1,300	15	2

Notes
µg/L Micrograms per liter
Bold Values in bold exceed their respective MCL
nd Not detected at laboratory detection limits shown
nt Not tested
-- Not reported, or not determined





OW-3 Monitoring Well

Monitoring Well Locations

Amoco Chemical Company
Polystyrene Facility
1225 West 196th Street
Torrance, California

May, 1992

Attachment 4

Analytical Results for Groundwater Samples
Amoco Chemical Company
Polystyrene Facility, Torrance, California

Well No.	Date	1,1 D C E	1,2 D C E	T C E	P C E	M Cl	1,1 D C A
OW-1	2/1/90	<0.080	<0.080	1.0	<0.080	10	<0.080
	2/21/90	<1.5	<1.5	2.2	<1.5	190	<1.5
	12/5/90	<1.0	<1.0	2.0	<1.0	320	<1.0
	6/20/91	<5.0	<5.0	<5.0	<5.0	1,100	<5.0
	1/16/92	0.008	0.060	2.2	0.19	1,000	<0.003
OW-2	2/1/90	<0.004	<0.004	0.500/0.625	0.050/0.068	<0.020	<0.004
	2/21/90	<0.005	0.006	1.1	0.16	<0.025	<0.005
	12/5/90	<0.010	0.056	3.0	0.42	<0.050	<0.010
	6/20/91	<0.020	0.050/<0.020	2.7/2.7	0.41/0.39	<0.10	<0.020
	1/16/92	<0.003	0.030/0.032	2.7/2.7	0.46/0.39	0.93/0.025	<0.003
OW-3	2/1/90	<0.015	0.054	1.7	0.24	<0.075	<0.015
	2/21/90	0.035	0.15	3.8	1.1	<0.10	<0.020
	12/5/90	<0.020	0.073	2.6	0.29	<0.10	<0.020
	6/20/91	<0.020	<0.020	1.9	0.27	<0.10	<0.020
	1/16/92	0.008	0.059	3.2	0.43	0.007	<0.003
OW-4	2/1/90	0.017	0.064	1.4	0.31	<0.050	<0.010
	2/21/90	<0.015	0.087	3.4	0.40	<0.075	<0.015
	12/5/90	0.046/0.064	0.33/0.33	7.2/7.2	1.6/1.6	<0.125	<0.025
	6/20/91	<0.050	0.36	7.8	1.0	<0.250	<0.050
	1/16/92	0.033	0.19	5.5	1.3	0.005	<0.003
OW-5	2/1/90	0.063	0.20	5.8	1.6	<0.20	<0.040
	2/21/90	0.13/0.10	0.38/0.38	15/16	5.9/5.1	<0.40	<0.080
	12/5/90	<0.10	0.67	21	8.1	<0.50	<0.10
	6/20/91	<0.20	0.90	15	6.6	<1.0	<0.20
	1/16/92	0.15	0.56	14	5.0	0.006	0.010
OW-6	2/1/90	0.021	0.021	1.9	0.78	<0.075	<0.015
	2/21/90	0.056	0.059	7.8	3.3	<0.040	<0.04
	12/5/90	<0.10	0.27	27	11	<0.10	<0.10
	6/20/91	<0.20	<0.20	22	10	<1.0	<0.20
	1/16/92	0.13	0.30	21	9.4	<0.005	0.011

- Laboratory reported no volatile organic compounds in samples collected November, 1988
- Concentrations reported in milligrams per liter (ppm)
- Elevated detection limits caused by dilution in laboratory

0.13/0.10 = Original sample results/duplicate sample results
<0.020 = Not detected at or above concentration indicated

DCE = dichloroethene
TCE = trichloroethene
PCE = tetrachloroethene
MCl = methylene chloride
DCA = dichloroethane

BPT00452

Attachment 5

Analytical Results for Groundwater Samples
Amoco Chemical Company
Polystyrene Facility, Torrance, California

Well No.	Date	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Chloro-benzene	Chloroform
OW-1	2/1/90	<0.080	<0.080	<0.080	<0.16	<0.080	<0.080
	2/21/90	<1.5	<1.5	<1.5	<3.0	<1.5	<1.5
	12/5/90	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0
	6/20/91	<5.0	<5.0	<5.0	<10	<5.0	<5.0
	1/16/92	0.003	0.005	0.014	0.004	<0.003	0.037
OW-2	2/1/90	<0.004	<0.004	<0.004	<0.008	<0.004	<0.004
	2/21/90	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005
	12/5/90	<0.010	<0.010	<0.010	<0.020	<0.010	0.025
	6/20/91	<0.020	<0.020	<0.020	<0.040	<0.020	<0.020
	1/16/92	<0.003	<0.003	<0.003	<0.003	<0.003	0.011/0.013
OW-3	2/1/90	<0.015	<0.015	<0.015	<0.030	<0.015	<0.015
	2/21/90	<0.020	<0.020	<0.020	<0.040	<0.020	<0.020
	12/5/90	<0.020	<0.020	<0.020	<0.040	<0.020	<0.020
	6/20/91	<0.020	<0.020	<0.020	<0.040	<0.020	<0.020
	1/16/92	<0.003	<0.003	<0.003	<0.003	<0.003	0.008
OW-4	2/1/90	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010
	2/21/90	<0.015	<0.015	<0.015	<0.030	<0.015	<0.015
	12/5/90	<0.025	<0.025	<0.025	<0.050	<0.025	<0.025
	6/20/91	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050
	1/16/92	0.007	<0.003	<0.003	<0.003	<0.003	0.019
OW-5	2/1/90	<0.040	<0.040	<0.040	<0.080	<0.040	<0.040
	2/21/90	<0.080	<0.080	<0.080	<0.16	<0.080	<0.080
	12/5/90	<0.10	<0.10	<0.10	<0.20	<0.10	<0.10
	6/20/91	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20
	1/16/92	0.022	<0.003	<0.003	<0.003	<0.003	0.034
OW-6	2/1/90	<0.015	<0.015	<0.015	<0.030	<0.015	<0.015
	2/21/90	<0.04	<0.04	0.21	<0.080	2.8	<0.04
	12/5/90	<0.10	<0.10	<0.10	<0.20	<0.10	<0.10
	6/20/91	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20
	1/16/92	0.028	<0.003	<0.003	<0.003	<0.003	0.069

- Laboratory reported no volatile organic compounds in samples collected November, 1988
- Concentrations reported in milligrams per liter (ppm)
- Elevated detection limits caused by dilution in laboratory

0.13/0.10 = *Original sample results/duplicate sample results*
<0.020 = Not detected at or above concentration indicated

DCE = dichloroethene
TCE = trichloroethene
PCE = tetrachloroethene
MCl = methylene chloride
DCA = *dichloroethane*

BPT00453

Attachment 5

'92 MAY -4 AM 9:34

JANUARY, 1992
GROUNDWATER SAMPLING
AND ANALYSIS REPORT
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

March 11, 1992

Simon Hydro-Search
5882 Bolsa Avenue
Huntington Beach, California 92649

Project No. 512-345

GROUNDWATER LABORATORY ANALYTICAL RESULTS

TABLE 1

Report JANUARY, 1992 BIANNUAL GROUNDWATER MONITORING REPORT
Client AMOCO
Facility AMOCO Chemical Company
Location 1225 West 196th Street/Normandie
City Torrance, California

SIMON Hydro-Search
Project 512-345
Contract NA
Date: 11-Mar-92

SAMPLE DESCRIPTION | LABORATORY RESULTS ND = Not Detected above limit shown, NA = Not Analyzed, Unregulated = Monitoring Required per CADHS, Not Listed = No CADHS Levels Established

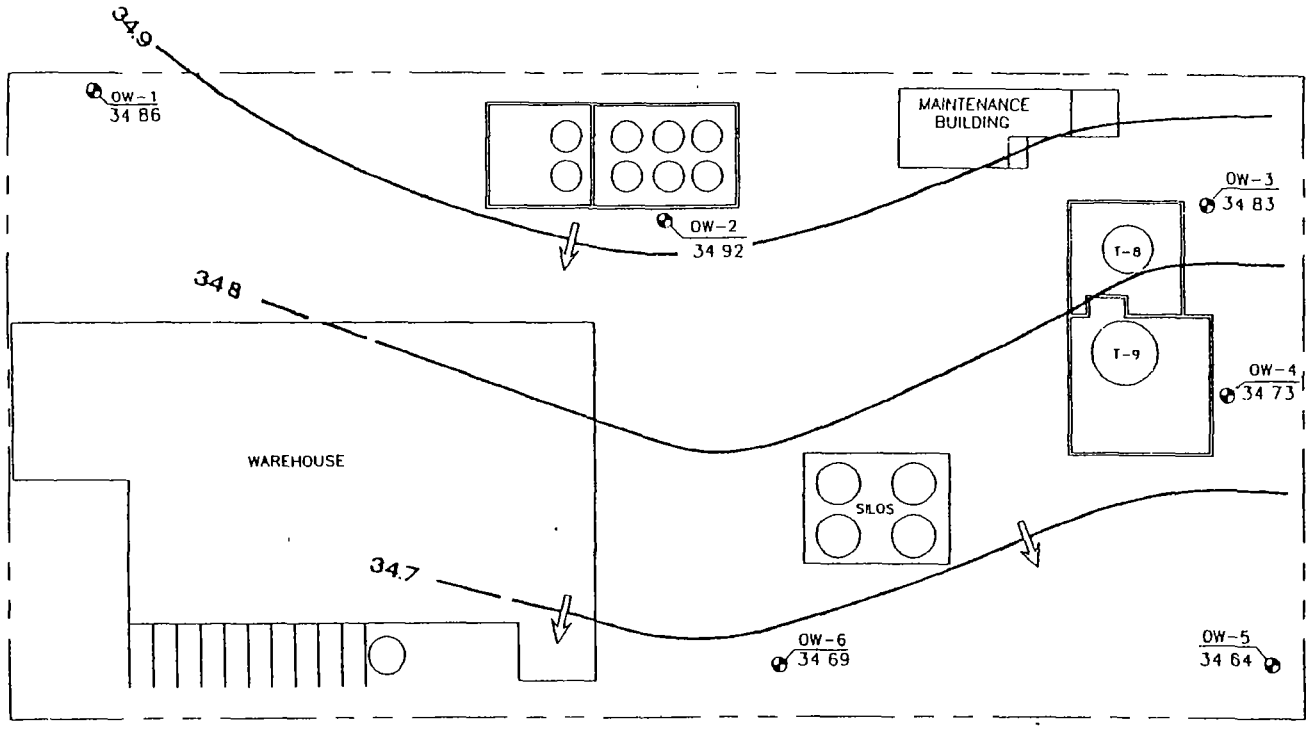
Sample Date	Well/Sample Name	Benzene EPA 624 (ug/l)	Chloroform EPA 624 (ug/l)	1,2-Dichloro benzene EPA 625 (ug/l)	1,1-Dichloro ethane EPA 624 (ug/l)	1,1-Dichloro ethene EPA 624 (ug/l)	cis-1,2-Dichloro ethene EPA 624 (ug/l)	trans-1,2-Dichloro ethene EPA 624 (ug/l)	Ethyl benzene EPA 624 (ug/l)	Methylene Chloride EPA 624 (ug/l)	Tetrachloro ethene EPA 624 (ug/l)	Toluene EPA 624 (ug/l)	1,1,2-Tri chloro ethane EPA 624 (ug/l)	Trichloro ethene EPA 624 (ug/l)	Trichloro fluoro methane EPA 624 (ug/l)	Xylenes Total EPA 624 (ug/l)	All Other Semi-Volatile Compounds EPA 625 (ug/l)
CADHS MCL as of 18 OCT 90		1	unregulated	unregulated	5	6	6	10	680	unregulated	5	unregulated	32	5	150	1,750	
CADHS AL as of 18 OCT 90			not listed	130						40		100					
01/16/92	OW-00 field blank	ND<3	ND<3	ND<5	ND<3	ND<3	ND<3	ND<3	ND<3	ND<5	ND<3	ND<3	ND<5	ND<3	ND<10	ND<3	none detected
01/16/92	OW-01	3	37	ND<5	ND<3	8	60	ND<3	5	1,000,000	190	4	8	2,200	ND<10	14	none detected
01/16/92	OW-02	ND<3	11	ND<5	ND<3	ND<3	23	7	ND<3	830	460	ND<3	ND<5	2,700	17	ND<3	none detected
01/16/92	OW-02 Duplicate	ND<3	13	ND<5	ND<3	ND<3	24	8	ND<3	25	390	ND<3	ND<5	2,700	18	ND<3	none detected
01/16/92	OW-03	ND<3	8	ND<5	ND<3	8	59	ND<3	ND<3	7	430	ND<3	ND<5	3,200	ND<10	ND<3	none detected
01/16/92	OW-04	7	18	ND<5	ND<3	33	190	ND<3	ND<3	5	1,300	ND<3	ND<5	5,500	ND<10	ND<3	none detected
01/16/92	OW-05	22	34	ND<5	10	150	580	ND<3	ND<3	6	5,500	ND<3	ND<5	14,000	14	ND<3	none detected
01/16/92	OW-06	28	69	5	11	130	300	ND<3	ND<3	ND<5	8,400	ND<3	ND<5	21,000	ND<10	ND<3	none detected

TABLE 2

MEASURED GROUNDWATER ELEVATIONS

Well Casing	Casing Elevation (Assumed)	Groundwater Elevation January 16, 1992	Groundwater Elevation June 25, 1992	Change in Elevation
OW-1	100.86	34.86	35.41	-0.55
OW-2	99.63	34.93	35.23	-0.30
OW-3	98.56	34.84	35.24	-0.40
OW-4	99.19	34.73	35.13	-0.40
OW-5	97.99	34.65	35.06	-0.41
OW-6	99.67	34.69	35.07	-0.38

NOTE: Elevation in Feet



EXPLANATION

OW-3 MONITORING WELL NUMBER
34 83 GROUNDWATER ELEVATION (feet)

34.7 GROUNDWATER ELEVATION CONTOUR (dashed where inferred)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

NOTE

1 Data collected Jan 16, 1992

2 Contour intreval = 0 10 feet

N

0 60 120

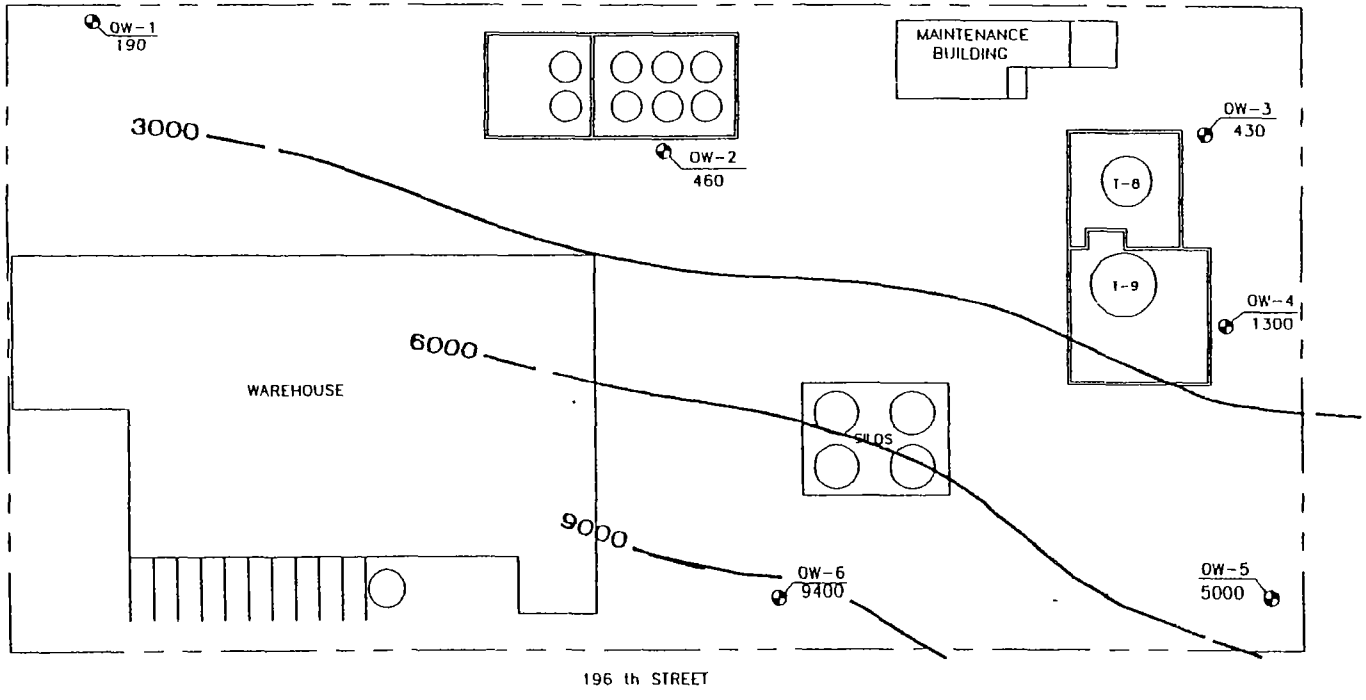
SCALE IN FEET
1" = 60'

GROUNDWATER ELEVATION CONTOUR MAP
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

SIMON HYDRO-SEARCH
5882 BOLSA AVENUE
HUNTINGTON BEACH, CALIFORNIA 92649

PROJECT NO	DWG NO.	FIGURE
512-345	345001	2
DATE JANUARY, 1992	REV 2/21/92	

BPT00338



EXPLANATION

OW-3 MONITORING WELL NUMBER
430 TETRACHLOROETHYLENE CONCENTRATION (ug/L)

3000 TETRACHLOROETHYLENE CONTOUR (Dashed where inferred)

1 Data collected Jan 16, 1992
2 Contour interval = 3000 ug/L

N

0 60 120

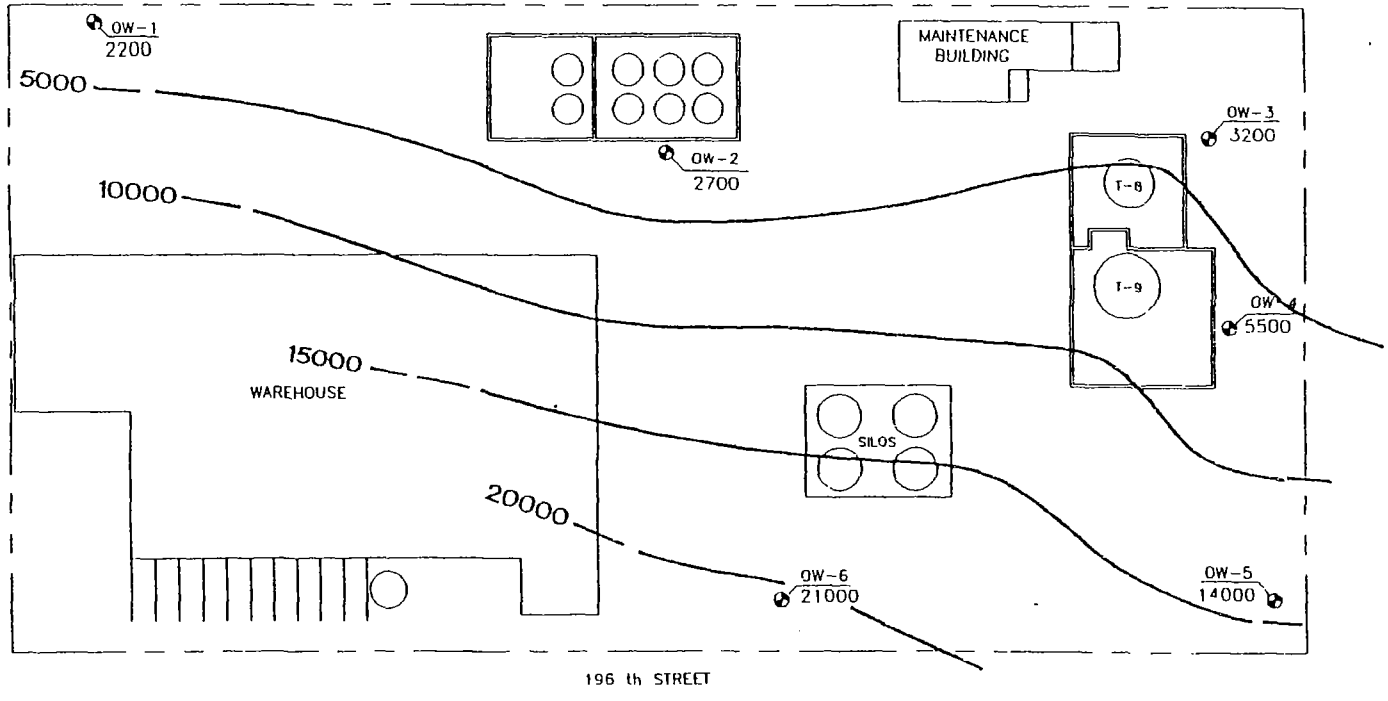
SCALE IN FEET
1" = 60'

BPT00341

TETRACHLOROETHENE CONCENTRATION MAP
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

SIMON HYDRO-SEARCH
5882 BOLSA AVENUE
HUNTINGTON BEACH, CALIFORNIA 92649

PROJECT NO	DWG NO	FIGURE
512-345	345001	5
DATE JANUARY, 1992	REV 2/21/92	



EXPLANATION

OW-3 MONITORING WELL NUMBER

1900 TRICHLOROETHENE CONCENTRATION (ug/L)

5000 TRICHLOROETHENE CONTOUR (Dashed where inferred)

1 Data collected Jan 16, 1992

2 Contour Interval = 5000 ug/L

N

0 60 120

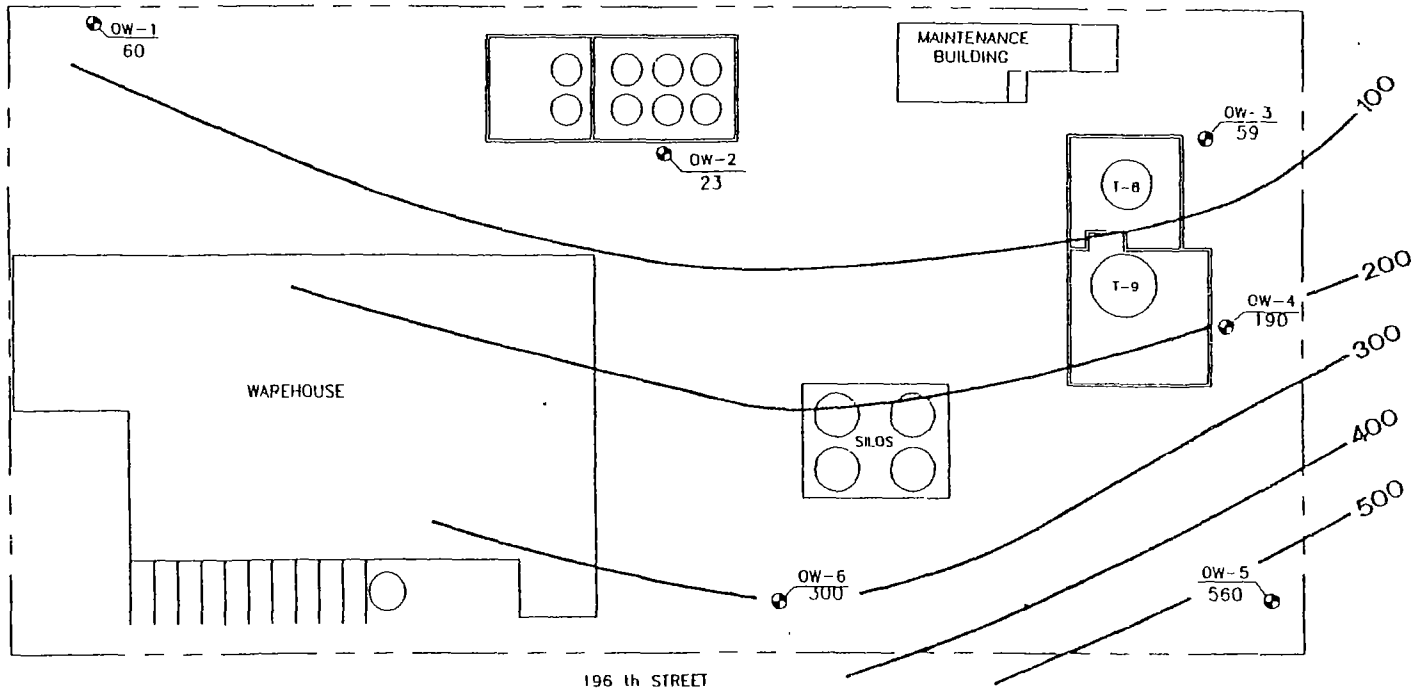
SCALE IN FEET
1" = 60'

BPT00340

TRICHLOROETHENE CONCENTRATION MAP
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

SIMON HYDRO-SEARCH
5882 BOLSA AVENUE
HUNTINGTON BEACH, CALIFORNIA 92649

PROJECT NO	DWG NO	FIGURE
512-345	345001	4
DATE JANUARY, 1992	REV 2/21/92	



EXPLANATION

OW-3	MONITORING WELL NUMBER
59	CIS-1,2 DICHLOROETHENE CONCENTRATION (ug/L)
500	CIS- 1,2 DICHLOROETHENE CONTOUR (Dashed where inferred)

NOTE 1 Data collected Jan 16, 1992

2 Contour Interval = 100(ug/l)

N

BPT00339

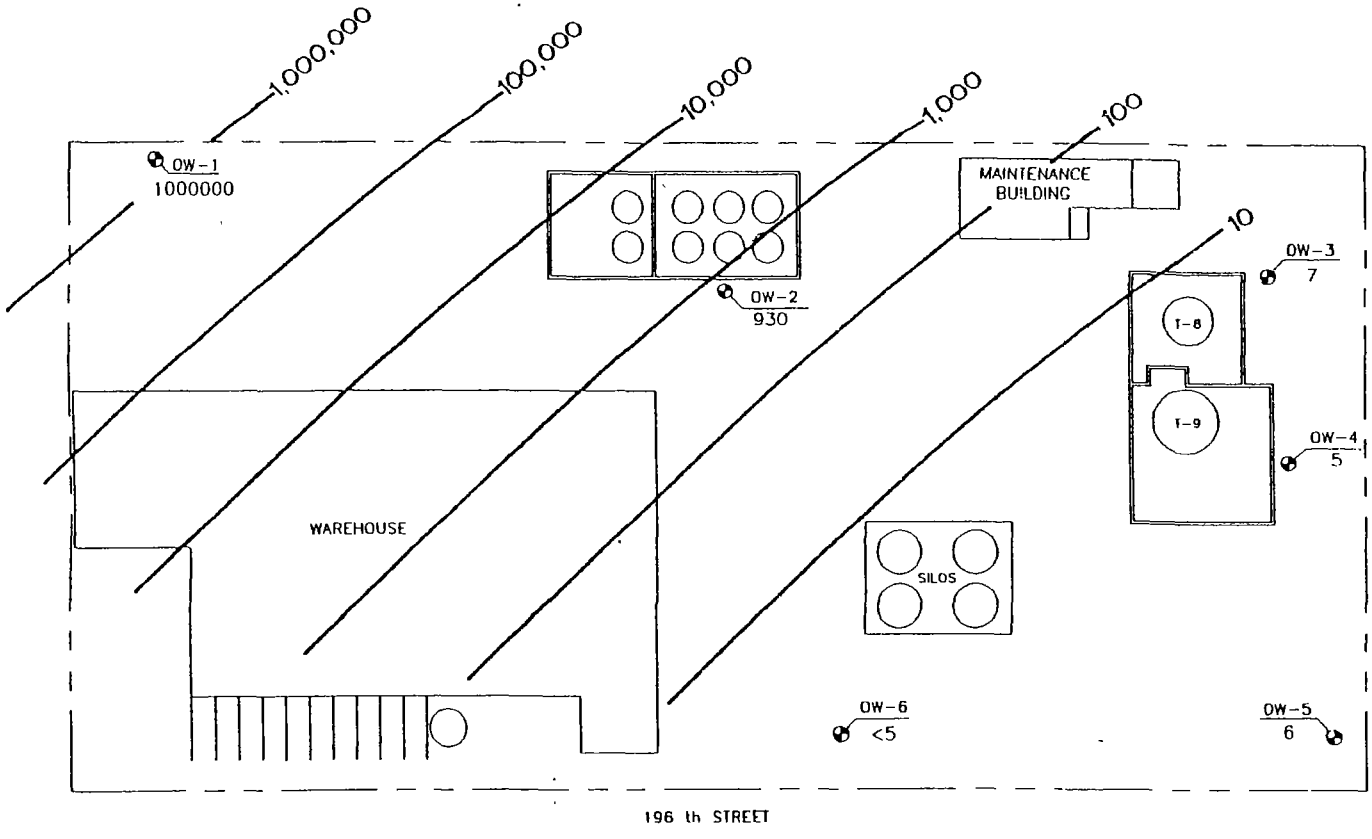
0 60 120

SCALE IN FEET
1" = 60'

CIS – 1,2 DICHLOROETHENE
CONCENTRATION MAP
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

SIMON HYDRO-SEARCH
5882 BOLSA AVENUE
HUNTINGTON BEACH, CALIFORNIA 92649

PROJECT NO	DWG NO	FIGURE
512-345	345001	3
DATE JANUARY, 1992	REV 2/21/92	



EXPLANATION

OW-3 — MONITORING WELL NUMBER
7 — METHYLENE CHLORIDE CONCENTRATION (ug/l)

10 — METHYLENE CHLORIDE CONTOUR (Dashed where inferred)

NOTE 1 Data collected Jan 16, 1992
2 <5 = not detected above limit shown

N

0 60 120

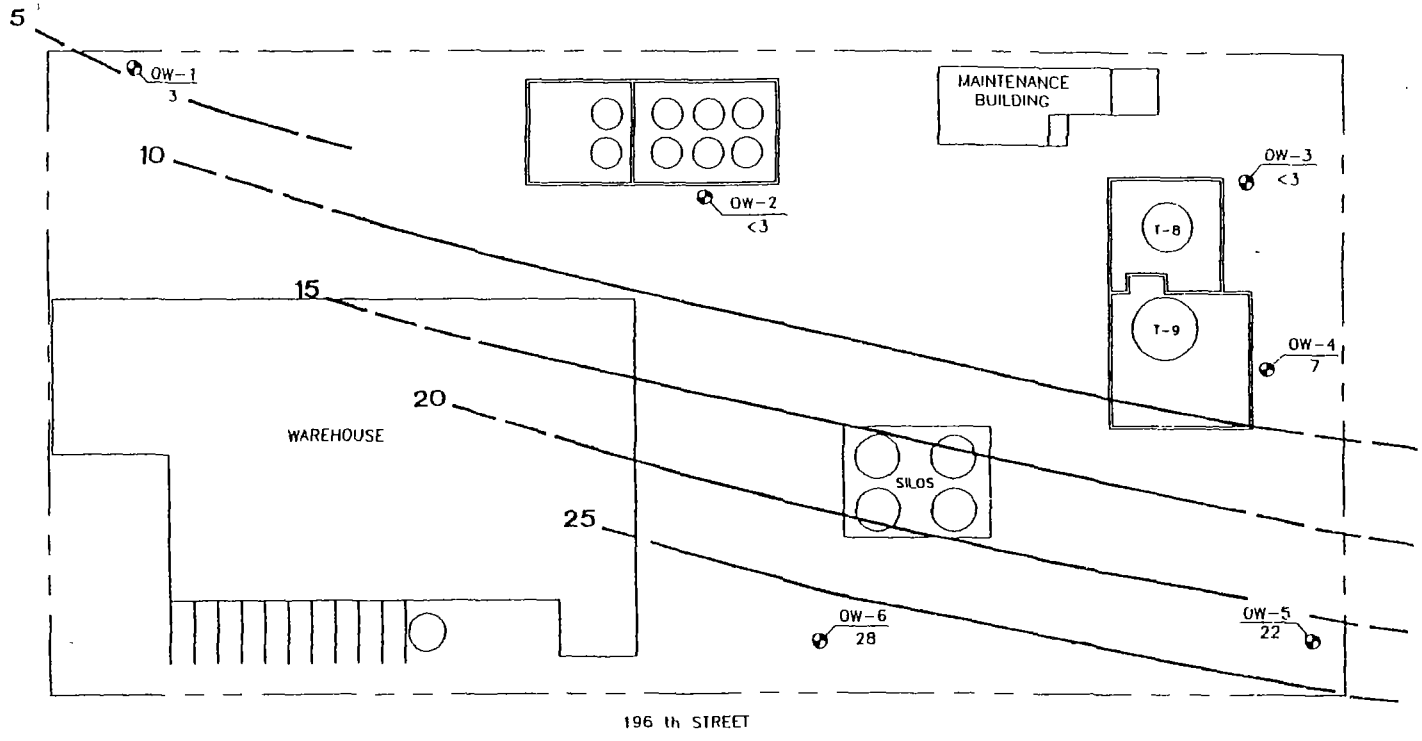
SCALE IN FEET
1" = 60'

BPT00342

METHYLENE CHLORIDE CONCENTRATION MAP
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

SIMON HYDRO-SEARCH
5882 BOLSA AVENUE
HUNTINGTON BEACH, CALIFORNIA 92649

PROJECT NO	DWG NO	FIGURE
512-345	345001	6
DATE JANUARY, 1992	REV 2/21/92	



EXPLANATION

OW-3 MONITORING WELL NUMBER
BENZENE CONCENTRATION (ug/l)

5 BENZENE CONTOUR
(Dashed where inferred)

NOTE 1 Data collected Jan 16, 1992

2 Contour interval = 5 ug/l

3 < 3 = not detected above limit shown

N

0 60 120

SCALE IN FEET
1" = 60'

BPT00343

BENZENE CONCENTRATION MAP
AMOCO CHEMICAL COMPANY
TORRANCE, CALIFORNIA

SIMON HYDRO-SEARCH
5882 BOLSA AVENUE
HUNTINGTON BEACH, CALIFORNIA 92649

PROJECT NO	DWG NO	FIGURE
512-345	345001	7
DATE JANUARY, 1992	REV 2/21/92	

ENGINEERING
ENTERPRISES, INC.

WATER RESOURCES SPECIALISTS

6695 E. Pacific Coast Highway Long Beach, CA 90803 213-430-6500

May 29, 1990

Amoco Chemical Company
1225 West 196th Street
Torrance, California 90502

Attention: Mr. Jeff Campbell
Process Engineer

Subject: Report of Additional Subsurface Assessment and Groundwater Sampling
Amoco Chemical Facility
1225 West 196th Street
Torrance, California
Project No. 512-345

Dear Mr. Campbell:

Presented herewith is the report of subsurface assessment and groundwater sampling performed by Engineering Enterprises, Inc. (EEI). This assessment was performed at the request of Amoco, Inc. to evaluate the presence of styrene, ethylbenzene and associated chemicals in two boreholes and six groundwater monitoring wells at the subject site.

We trust this report meets your current requirements. Should you have questions regarding the results contained herein, or require further clarification, please contact us. We appreciate the opportunity to be of continued service to Amoco.

Respectfully,

William E. Halbert
Project Hydrogeologist

WEH:weh

BPT00126

REPORT OF ADDITIONAL SUBSURFACE ASSESSMENT AND GROUNDWATER SAMPLING

AMOCO CHEMICAL FACILITY

1225 WEST 196TH STREET

TORRANCE, CALIFORNIA

Prepared for:

Amoco Chemical Company
1225 West 196th Street
Torrance, California 90502

Submitted by:

Engineering Enterprises, Inc.
6695 East Pacific Coast Highway
Long Beach, California 90803
213/430-6500

William E. Halbert
Project Hydrogeologist

Robert T. Bean
Registered Geologist #1339
CEG #483

BPT00127

ENGINEERING ENTERPRISES, INC.

respectively. Methylene chloride was reported only in the water sample collected from well OW-1 at a concentration of 10,000 ug/L. Presented in Table 2 are the reported concentrations for detected compounds. Appendix C, Part 2, contains the laboratory reports from the first groundwater analytical event. A relative groundwater elevation contour map for this sampling event is presented in Figure 3. Concentration maps for PCE, TCE and 1,2-dichloroethene are presented in Figures 4, 5 and 6, respectively.

TABLE 2

LABORATORY RESULTS - GROUNDWATER SAMPLING
DATE 2-1-90(a)

Compound	Monitoring Well No.						
	OW-1	OW-2	OW-22 (Duplicate of OW-2)	OW-3	OW-4	OW-5	OW-6
1,1-DCE(b)	ND80(c)	ND4	ND5	ND15	17	63	21
1,2 DCE (Total)	ND80	ND4	ND5	54	64	200	21
Methylene Chloride	10000	ND20	ND25	ND75	ND50	ND200	ND75
TCE(d)	1000	500	625	1700	1400	5800	1900
PCE(e)	ND80	50	68	240	310	1600	780

(a) Concentrations in micrograms per liter.
(b) DCE = Dichloroethene.
(c) ND = Not detected above concentration shown.
(d) TCE = Trichloroethene.
(e) PCE = Tetrachloroethene.

Groundwater samples were collected during a second sampling event (2-21-90) to confirm detections reported in the first event (2-1-90). In general, reported concentrations from the second sampling and analytical event were at least twice the concentrations reported from the first event. Compounds detected in the second sampling event but not the first include chlorobenzene and total xylenes at 2,800 ug/L and 210 ug/L respectively in the sample from well OW-6. Reported concentrations from the second sampling event are presented in Table 3, below. A relative groundwater elevation contour map for the second sampling event is presented in Figure 7. Concentration maps for PCE, TCE and 1,2-dichloroethene are presented in Figures 8, 9 and 10, respectively. Laboratory reports are contained in Appendix C, Part 3.

TABLE 3

LABORATORY RESULTS - GROUNDWATER SAMPLING
DATE 2-21-90(a)

Compound	Monitoring Well No.						
	OW-1	OW-2	OW-3	OW-4	OW-5	OW-22 (Duplicate of OW-5)	OW-6
Methylene Chloride	190000	ND25(b)	ND100	ND75	ND400	ND500	ND200
1,1-DCE(c)	ND1500	ND5	35	ND15	130	100	56
1,2-DCE (Total)	ND1500	6	150	87	380	380	59
TCE(d)	2200	1100	3800	3400	15000	16000	7800
PCE(e)	ND1500	160	1100	400	5900	5100	3300
Chlorobenzene	ND1500	ND5	ND20	ND15	ND80	ND100	2800
Xylenes	ND1500	ND5	ND20	ND15	ND80	ND100	210

(a) Concentrations reported in micrograms per liter.
(b) ND = Not detected above concentration shown.
(c) DCE = Dichloroethene.
(d) TCE = Trichloroethene.
(e) PCE = Tetrachloroethene.

BPT00145

EEI ENGINEERING ENTERPRISES, INC.

ATTACHMENT D

Historical Boring Logs

American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
SECOR Project No. 37BP.XB010.03

SUMMARY OF SUBSURFACE CONDITIONS

Boring Number	Depth (feet)	Field Vapor Reading (ppm)	Soil Description
B-1	0-1	110	SILTY SAND: dark grey; very fine some silt; trace clay; slightly moist
	1-2	40	
	2-3	42	
	3-4	4.5	greenish brown; little silt
	4-5	4.2	
B-2	0-1	16	SILTY SAND: dark grey; very fine to fine; little silt; dry
	1-2	0.8	
	2-3	0.8	
B-3	0-1	300	SILTY SAND: reddish brown; very fine to fine; some silt; trace clay; slightly moist
	1-2	310	
	2-3	20	green to greenish grey; little silt
	3-4	18	
	4-5	11	
B-4	0-1	360	SILTY SAND: dark grey; very fine to fine; some silt; trace clay; slightly moist
	1-2	620	
	2-3	240	greenish grey; little silt; dry
	3-4	120	
	4-5	30	
B-5	0-1	400	SILTY SAND: dark grey; very fine to fine; some silt; trace clay; slightly moist
	1-2	200	
	2-3	40	greenish grey; little silt; dry
	3-4	36	
	4-5	20	

BORING: EEI-1	FILE NAME: EEI1
PROJECT NAME: AMOCO	PROJECT NO. 512-345
LOCATION/COORDINATES: East of Tank No. T-8	RIG TYPE: Soil Master
SCHEDULE	WATER LEVEL
INITIATED: 2-15-90	DEPTH: NA
COMPLETED: 2-15-90	DATE: NA
BACKFILLED: 2-15-90	TIME: NA
GROUND ELEVATION: --	BORING DEPTH: 40'
SAMPLING METHOD: SS	
DRILLING CO: West Hazmat Drilling Corp.	
DRILLED BY: M.Smith	
LOGGED BY: B.Charest	
SHEET 1 OF 2	

DEPTH IN FEET	SAMPLE NUMBER	DEPTH	TYPE	BLOWS	PID ppm	OVA ppm	USCS	SYMBOL	SOIL DESCRIPTION	REMARKS
0					180	110			Cemented gravel to 1" diameter	
							CL		SILTY CLAY: Dark brown (10YR-2/2); slightly moist	
5					40	28			yellowish brown (10YR-5/6); slightly moist	
10					60	33				
15					64	44				
					0	0	SP		SAND: Light olive brown (2.5Y-5/4); fine little silt; trace coarse; slightly moist	
20	S-1-20		SS	33	13	5.8	CL		SILTY CLAY: Light olive brown (2.5YR-5/4) slightly moist	BPT00156

Denotes Laboratory Sample

EEI ENGINEERING ENTERPRISES, INC.

BORING: EEI-1 Cont. FILE NAME: EEI1-2

DEPTH IN FEET	SAMPLE NUMBER	DEPTH	TYPE	BLOWS	PID ppm	OVA ppm	USCS	SYMBOL	SOIL DESCRIPTION	REMARKS
25	S-1-25		SS	29	20	50	SM		SILTY SAND: Light olive brown (2.5YR-5/4); poorly sorted; slightly moist; trace mica	
30	S-1-30		SS	35	14	5.4	SP		SAND: Light olive brown (2.5YR-5/4); fine to coarse; poorly sorted; slightly moist; micaceous	
35	S-1-35		SS	47	5	1.6	ML		SILT: Light olive brown (2.5YR-5/4); clayey very fine sandy; low moisture; micaceous	
40	S-1-40		SS	47	3.5	2.6	SP		SAND: Pale yellow (5Y-7/3); silty very fine to fine; poorly sorted; slightly moist; trace mica	
45										
50										

BPT00159

Denotes Laboratory Sample

EEI ENGINEERING ENTERPRISES, INC.

BORING: B-2	FILE NAME: B2
PROJECT NAME: AMOCO TORRANCE	PROJECT NO. 512-350
LOCATION/COORDINATES:	RIG TYPE: Soil Master
SCHEDULE	WATER LEVEL
INITIATED: 2-15-90	DEPTH: NA
COMPLETED: 2-15-90	DATE: NA
BACKFILLED: 2-15-90	TIME: NA
GROUND ELEVATION: NA	BORING DEPTH: 40'

SAMPLING METHOD: SH
DRILLING CO: West Hazmat
DRILLED BY: M.Smith
LOGGED BY: T.Danaher
SHEET 1 OF 2

DEPTH IN FEET	SAMPLE NUMBER	DEPTH	TYPE	BLOWS	PID ppm		USCS	SYMBOL	SOIL DESCRIPTION	REMARKS
0										
5	GS1-1-5		GS	NA	5		CL		CLAY: Dark greyish brown (10YR-4/2); little silt; trace fine sand; moist; medium stiff	
10	GS1-2-10		GS	NA	5				dark greyish brown (10YR-5/3); stiff	
15	GS1-3-15		GS	NA	3				dark yellowish brown (10YR-4/3); trace coarse sand	
							-- SM		SILTY SAND: Very dark greyish brown; graded; fine; little silt; little clay; moist; medium dense (est.)	
20	1-1-20		SS	29	0		-- SP		SAND: Light yellowish brown (2.5Y-6/4); poorly graded; fine; trace silt; moist; medium dense	BPT00158

EEI ENGINEERING ENTERPRISES, INC.

BORING: B-2 Cont. FILE NAME: B2-2

DEPTH IN FEET	SAMPLE NUMBER	DEPTH	TYPE	BLOWS	PID ppm	USCS	SYMBOL	SOIL DESCRIPTION	REMARKS
25	1-2-25		SH	28	3	ML		CLAYEY SILT: Light olive brown (2.5Y-5/4); some clay; slightly moist; very stiff	
30	1-3-30		SH	58	8	SP		SAND: Light olive brown (2.5Y-5/4); poorly graded; fine to medium; micaceous; trace silt; moist; very dense	
35	1-4-35		SH	24	4	ML		CLAYEY SILT: Light yellowish brown (2.5Y-6/4); little clay; trace fine sand; slightly moist; very stiff	
40	1-5-40		SH	44	2	SM		SILTY SAND: Light yellowish brown (2.5Y-5/4); poorly graded; fine; little silt; moist; hard	
45									
50									

BPT00157

EEI ENGINEERING ENTERPRISES, INC.

ATTACHMENT E

Standard Operating Procedures for Soil and Groundwater Sampling

American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
SECOR Project No. 37BP.XB010.03

STANDARD OPERATING PROCEDURES

SOP #1 LOCATING UNDERGROUND UTILITIES

Prior to the commencement of work on-site, SECOR will research the locations of known underground utilities with the assistance of Underground Service Alert (USA - Southern California toll free phone number 1-800-422-4133). USA will contact the owners of the various utilities in the vicinity of the site so that utility owners can mark the locations of their subsurface equipment and/or meet with a SECOR representative on site. An independent geophysical contractor will confirm the USA locations with a basic metal detector or geophysical survey. Prior to drilling, each boring will be advanced manually using a hand auger and/or post-hole digger to a minimum depth of five-feet to avoid contact with any and other unmarked subsurface structures or utilities. Whenever possible, the hand dug boring will equal the outer diameter of the rod used by the drilling rig.

SOP #2 SOIL VAPOR SURVEY INVESTIGAION

The following section describes *Soil Vapor Analysis* Investigation procedures to be utilized by SECOR personnel in the performance of the field sampling and testing tasks at the Gardena Sumps site in Gardena, CA. All field activities are to be performed under the direction of a SECOR California Registered Engineer or Geologist.

Probe Construction and Insertion (Manually-Driven Probes): Manually driven soil vapor probes are typically constructed of 0.625 inch outside diameter steel and are equipped with a hardened steel tip. The probes are nominally 5 feet long and can be threaded together to reach a depth of ten-feet below ground surface. An inert 1/8 inch nylaflow tube will be threaded down the center of the probe and connected to a sampling port just above the tip. This internal sample tubing design will eliminate any contact between the sample port and the gas sample. The probe will be driven into the ground by an electric rotary hammer. Once inserted to the desired depth, the probe will be rotated approximately three turns to open the tip and expose the vapor sampling ports. This design will prevent clogging of the sampling ports and cross-contamination from soils during insertion.

Hydraulically-Driven Probes: Hydraulically-driven soil vapor probes are typically constructed of either 1.25 or 1.5 inch outside diameter steel and equipped with a hardened drop-off steel tip. The probes are nominally four feet long and threaded together to reach multiple depths. The probe will be driven into the subsurface with a hydraulic ram (Geoprobe) direct-push system. Once inserted to the desired depth, the probe will be retracted slightly to expose the vapor sampling port. Small diameter inert tubing will be inserted through the center of the rod and threaded into a gas tight fitting just above the tip. After a sample is obtained the tubing will be removed and the probe rod will then be advanced to the next sampling depth or removed. This design will prevent clogging of the sampling port and cross-contamination from soils during insertion.

Surface Seals: The probe rod will be sealed at the surface with granular and hydrated bentonite for a minimum of 20 minutes before sampling.

Soil Gas Sampling: Soil vapor will be withdrawn from the end of the inert nylaflow tubing that runs from the sampling tip to the surface using a 20 to 60 cubic centimeter (cc) syringe or gas tight canister (Summa) connected via an on-off valve. The probe tip and sampling tubing will be nominally purged of three to five internal dead volumes, or based upon a pre-determined purge volume established by a purge volume test described below. A sample of in-situ soil vapor will then be withdrawn and immediately transferred to the mobile lab for analysis within minutes of collection. The use of small calibrated syringes allows for careful monitoring of purge and sample volumes. This procedure will ensure adequate sample flow is obtained without excessive pumping of air or introduction of surface air into the sample.

Purge Volume Test: If required, a Site specific purge volume test will be conducted at the beginning of the soil gas survey to purge ambient air from the sampling system. Three different volumes will be sampled (nominally one, three, and seven purge volumes) and analyzed immediately to determine the volume amount with the highest concentration. Therefore, the optimum purge volume will be achieved and used during the entire Site investigation.

Use of Tracer Compound to Ensure Probe Seal Integrity: A tracer compound, typically difluoroethane, iso-propanol, or butane, will be used to test for leaks around the probe barrel at the ground surface and in the sampling system. The tracer will be placed around the base of the probe barrel and at the top of the probe barrel during sample collection. If the tracer is detected per CA-EPA advisory specifications, another sample will be collected.

Sample Flow Rate: Sample collection will be timed so that the flow rate does not exceed 200 ml/per minute. This will be accomplished by withdrawing the plunger on the 60 cc syringe at a constant rate for 20 seconds. The collector will note the collection time on a logsheet, and also record any resistance to sample flow that is felt on the syringe during collection.

Summa Canister: Summa canisters will be connected to the end of the nylaflow tubing to the same three way valve used with the syringe. A choke will be placed on the canister to ensure that the flow rate is no more than 200 ml/ per minute into the summa canister.

Field Records: The field technician will maintain a logsheet summarizing:

- Sample identification
- Probe location
- Date and time of sample collection
- Sampling depth
- Identity of samplers
- Weather conditions
- Sampling methods and devices
- Soil gas purge volumes

- Volume of soil gas extracted
- Observation of soil or subsurface characteristics (any condition that affects sample integrity)
- Apparent moisture content (dry, moist or saturated etc.) of the sampling zone
- Chain-of-custody protocols and records used to track samples from sampling point to analysis

SOP #3 SOIL BORING INSTALLATION

The following section describes *Soil Boring Installation* procedures to be utilized by SECOR personnel in the performance of the field sampling and testing tasks. All field activities are to be performed under the direction of a SECOR California Registered Professional Engineer or Geologist.

Hollow-Stem Auger

Drilling and soil sampling will be conducted using a truck-mounted drill rig equipped with hollow-stem augers. All down-hole drilling equipment will be steam-cleaned prior to use and between each boring to reduce the chances of cross contamination. The split-barrel sampler will be washed in soap solution and double rinsed with tap and purified water between each sampling event to reduce the potential for cross contamination between samples. Hand augers will be washed in soap solution and double rinsed with tap and purified water between each sampling event to reduce the potential for cross contamination between samples during hand auger sampling.

Soil sampling will be performed in accordance with American Society for Testing and Materials Method 1586-84. Using this procedure a California-type sampler is driven into the soil every 5 vertical feet by a 140-pound weight falling 30 inches. Three 6-inch brass liners will be placed in the sampler for sample collection. The number of blow counts required to advance the sampler 18 inches will be recorded at each sample interval onto soil boring logs. An EPA Method 5035 approved sampling device (EnCore) will be utilized in collecting soil samples from the end of the lower-most intact brass ring. Each sample will then be labeled, identified on the chain of custody, and stored in an ice-filled cooler for transport to the laboratory. Remaining soil in the sampler will be used for later screening with a photo-ionization detector (PID) or equivalent equipment. The soil will be field screened by placing the soil in resealable plastic bags and allowed to reach ambient temperature. Headspace vapors in the bags will be field screened with a calibrated PID. The highest observed stable reading will then be recorded onto the boring log. Another portion of the soil sample will be used for lithologic classification and description by the United Soil Classification System.

Geoprobe

Drilling and soil sampling will be conducted with a direct-push hydraulic ram (Geoprobe) system. The Large Bore Sampler is assembled with a cutting shoe, retractable drive point and piston, drive head and the desired sample sleeves. A drive rod is added to the top of the sampler with an inner rod to insure the drive point and piston remain in place as the

assembly is advanced. The entire assembly is driven into the subsurface using the percussion of the direct push rig. By adding a series of hardened, hollow drive steel rods, the sampler containing either acetate, stainless steel, or brass sampling sleeves is advanced to the desired depth. As each drive rod is added, an inner rod is placed in the center of the drive rod to insure the drive point and piston remain in place. Once the desired depth is achieved, a final drive rod is added without the inner rod. This allows the drive point to retract into the sample tube as the sampler is advanced for one final push and the sample collects in the sleeve. The tool chain is then extracted from the boring and the sample sleeve is removed from the sample tube. An EPA Method 5035 approved sampling device (EnCore) is utilized for collecting soil samples directly from the sample sleeve acetate liner. After equipment decontamination, a new sleeve is placed in the sample tube and the procedure is repeated.

Waste Disposal

All soil cuttings and investigation derived wastes (IDW) generated during drilling activities will typically be placed in labeled, DOT-approved 55-gallon steel drums and stored on-Site pending analytical characterization. All waste will be properly disposed/recycled in accordance with all applicable Federal, State, and local regulations.

SOP #4 GEOLOGIC DATA COLLECTION

The following section describes *Geologic Data Collection* procedures to be utilized by SECOR personnel in the performance of the field sampling and testing tasks. All field activities are to be performed under the direction of a SECOR California Registered Professional Engineer or Geologist. Each geologic boring field log will included a description of the following:

- Earth materials, conditions, and classification of soils by the Unified Soil Classification System (USCS) according to ASTM Method D-2488 (ASTM, 1994);
- Soil structure and composition for paleodepositional analysis and hydrostratigraphic characterization;
- Type of sample, method of sample collection, and sample depths in feet below ground surface;
- Penetration in blows per six-inch drive length (blow counts) and sample recovery (length of recovered sample/actual drive length or percent recovery) for driven samples;
- For continuous cores, penetration in feet of sample recovered per core interval;
- Organic vapor readings using OVA field headspace screening methods (Field headspace screening will be conducted by placing a representative soil sample in a plastic bag and inserting the tip of the OVA into the bag to minimize potential loss of vapors during the measurement);
- Volume of de-ionized water added during drilling to help stabilize the borehole walls and minimize sloughing; and
- Well construction or boring abandonment details and materials.

Completed boring logs will be reviewed and signed by a State of California Registered Geologist. Additional field documentation may include but is not limited to a/an daily log of progress and events, tailgate safety meeting record, sample collection log, instrument calibration log, ambient air monitoring log, and Chain-of-Custody documents.

SOP #5 SOIL SAMPLE COLLECTION USING THE ENCORE™ SAMPLER

The EnCore™ is a single-use sampling system designed for collection and storage of soil samples. The system consists of a single-use EnCore™ Sampler and cap, both composed of non-reactive materials, and a re-usable stainless steel T-Handle. The top portion of the EnCore™ Sampler will be loaded into the T-Handle, plunger-end first, and secured with locking pins. Each sampler will be checked prior to use to ensure that the pins are locked and the sampler ready for use. The sampler will be pushed into the soil retained in stainless or brass sleeves or in acetate core-barrel liners using the T-Handle, until the inner "O"-ring is visible through the viewing hole in the side of the T-Handle. The cap will then be placed over the bottom end of the coring body and twisted until locked in place. The full, sealed sampler is then removed from the T-Handle by releasing the locking lever and placed in the appropriate zipper bag. This procedure will be repeated until a sample set consisting of six (6) identically labeled EnCore™ samplers are collected at each sample interval. The entire set will be placed in a re-sealable plastic bag and chilled in an ice cooled chest maintained at approximately 4◦C and the appropriate information will be recorded on the Chain-of-Custody documents. Following collection of soil samples, the re-usable stainless steel T-Handle will be decontaminated by washing with a solution of low-phosphate soap and tap water, a tap water rinse, and de-ionized water rinse.

To maintain efficient Site operations and minimize collection time, internal and exterior sample labels will be prepared to the extent possible and applied to the coring body and zipper bag, respectively, several days prior to use. After labeling, individual EnCore™ Samplers will be returned to their respective zipper bags, and each set of six samplers will be placed in sealed plastic bags. Bags containing the sampler sets will be stored in clean containers with custody seals affixed across the opening until use. Temporal information such as date, sampler I.D., and time of collection will be added to the exterior label immediately prior to, or after, sample collection.

SOP #6 WELL INSTALLATION

The following section describes *Well Installation* procedures to be utilized by SECOR personnel in the performance of the field sampling and testing tasks. The procedure provides guidelines for the installation of monitoring wells that can be utilized for monitoring of chemical conditions in groundwater, groundwater elevations, evaluating the properties of water-bearing strata, or remediation by extraction of vapor or fluids. Permits from the appropriate oversight Agencies must be obtained, as applicable, prior to installing groundwater wells. All field activities are to be performed under the direction of a SECOR California Registered Professional Engineer or Geologist.

Hollow-Stem Auger Drill Rig

The following section describes the standard field procedures used for the installation of wells using a continuous-flight, hollow-stem drilling rig. Drilling and soil sampling will be conducted in accordance with the SOPs for Clearance of Underground Utilities and Soil Boring Installation.

The well construction specifications are determined prior to the installation activities. These specifications include borehole diameter, casing diameter, screen diameter, screen length, filter pack size, sealing materials, and completion methods. The specifications are chosen based on the intended purpose of the well, compatibility with subsurface chemical and physical conditions, hydrogeologic characteristics, drilling methods, and compatibility with common surface activities.

Initially, a soil boring is advanced to target depth of the well. At the target depth, the well casing is placed within the augers and the filter pack is added as the augers are retracted from the borehole. Wells installed at depths significantly greater than 60 feet may require the use of centralizers to maintain plumbness to ensure proper installation of annular materials

Annular materials should be provided in factory packaging with certifications denoting the materials are free of contaminants. All annular materials are tremmied into place to ensure proper placement and to maintain the stability of the borehole wall. The filter pack consists of non-reactive, smooth, rounded, granular material, typically sand or gravel, of uniform size. As appropriate, sand is poured into the annular space to a minimum of 1 foot above the screened interval. Following placement of the well pack, each well is surged with a vented, non-reactive surge tool to ensure uniformity within the filter pack. Additional sand material may be added after surging to allow the sand pack to reach the targeted depth.

A sanitary or transition seal consisting of bentonite or other approved material hydrated with potable water is placed above the filter pack to maintain the integrity of the filter pack during the emplacement of the annular seal. A 1 to 2 hour waiting period is typically used to allow the bentonite to seal the annular space appropriately. The remainder of the annular space is backfilled with bentonite grout or a Portland cement/ bentonite grout mixture in compliance with State of California Guidelines. The well is completed in a manner that protects it from normal activities that occur in the immediate

vicinity. Protective measures may include placement of a traffic-rated vault or placement in a steel casing with protective steel posts.

The top of the well casing will be notched and permanently marked with the survey point upon which subsequent water measurements will be obtained. A licensed surveyor will obtain longitude and latitude measurements with a Global Positioning Satellite (GPS) instrument in accordance with Assembly Bill 2886.

All soil cuttings and investigation derived wastes (IDW) generated by the installation process are typically stored on site in properly labeled D.O.T. approved containers pending analytical characterization and are managed according to all local, state, and federal regulations. Manifests and disposal tracking documentation are generated for the transportation and disposal of IDW.

Waste Disposal

All soil cuttings and investigation derived wastes (IDW) generated during drilling activities will typically be placed in labeled, DOT-approved 55-gallon steel drums and stored on-Site pending analytical characterization. All waste will be properly disposed/recycled in accordance with all applicable Federal, State, and local regulations.

SOP #7 WELL DEVELOPMENT

The following section describes *Well Development* procedures to be utilized by SECOR personnel in the performance of the field sampling and testing tasks. All field activities are to be performed under the direction of a SECOR California Registered Professional Engineer or Geologist.

Upon installation of a groundwater monitoring well, the drilling contractor will develop the well (with the exceptions noted below). Development of the well will involve both surging and bailing. Prior to and between uses, SECOR personnel will assure that the drilling contractor is decontaminating any equipment entering the well. The drilling contractor will typically use a high-pressure washer during the decontamination process.

At regular intervals, the dissolved oxygen, redox potential, turbidity, temperature, pH, and specific conductivity of the purge water will be measured using a meter or meters. Stabilization parameters will be recorded on a SECOR Well Development Data Sheet.

SECOR personnel will continue to develop the well until one of the two following conditions are met:

- Three to five well-casing volumes of purge water are removed and dissolved oxygen, redox potential, turbidity, temperature, pH, and specific conductivity are stabilized, or
- Recharge of the well is not sufficient to sustain the purging process.

A well plug and lock will be installed on the well, and the well box lid will be secured. Purge and decontamination water will be contained in Department of Transportation

(DOT) approved 55-gallon drums. The drums will be temporarily stored on site pending disposal.

The list of field equipment and supplies for development is provided below.

- Meter(s) (capable of measuring dissolved oxygen, redox potential, turbidity, temperature, pH, and specific conductivity);
- Surge block (provided by drilling contractor);
- Purge bailer (provided by drilling contractor);
- 55-gallon drums (DOT approved); and
- Tools required to remove well box cover (typically a standard socket set). Also appropriate key to unlock well plugs.

ATTACHMENT F

Site Specific Health and Safety Plan

American Polystyrene Corporation Facility
1225 West 196th Street
Torrance, California
SECOR Project No. 37BP.XB010.03

Site-Specific
Health & Safety Plan for
Site Assessment Activities

American Polystyrene Corporation
1225 West 196th Street
Torrance, CA 90502

Prepared for:

Atlantic Richfield Company

Prepared by:

SECOR

290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, California 91360

August 28, 2006

SECOR
HEALTH AND SAFETY PLAN
REVIEW AND APPROVAL

CLIENT: Atlantic Richfield Company

SITE NAME: American Polystyrene Corp

PROJECT NAME: American Polystyrene Corp

PROJECT NUMBER: *37BP.XB101.03*

START DATE: October 1, 2006

END DATE: April 1, 2007

PLAN REVIEW DATE: April 1, 2007
(Last day of expected fieldwork or no longer than 6 months).

Philip Kinney
Project Manager
Signature: _____ Date: 8-30-06

StephAnnie Roberts
SECOR Office Health and Safety Coordinator
Signature: _____ Date: 08-30-06

Randy Couture
Site Health and Safety Officer
Signature: _____ Date: 08/30/06

John Bollier
Business Unit Leader
Signature: _____ Date: 8/30/06

StephAnnie Roberts
Peer Reviewer
Signature: _____ Date: 08-30-06

This Health and Safety Plan has been written for the use of SECOR and its employees. It may also be used as a guidance document by properly trained and experienced SECOR subcontractors and clients.

Our work can be hazardous, and it is imperative that we never forget that! It is the intent of this document to address our risks. The health and safety guidelines in this Plan were prepared specifically for this site, its conditions, purposes, dates and personnel and must be amended if conditions change. This Plan must not be used on any other site without prior research by trained health and safety specialists.

SECOR claims no responsibility for its use by others for purposes unrelated to this project. This Plan will provide useful information to subcontractors and will assist them in developing their own HASP. Subcontractors should sign this plan (See **Attachment 7**) as an acknowledgement of hazard information and notice that they must ensure that the risks posed by work on this site are addressed. SECOR is readily available to assist subcontractors in identifying and addressing their employees' risks.

TABLE OF CONTENTS

1.0 LOCAL EMERGENCY CONTACT NAMES, PHONE NUMBERS, AND DIRECTIONS TO THE HOSPITAL 1
2.0 OBJECTIVES AND GOALS OF THIS HASP 3
3.0 SCOPE OF WORK 3
4.0 EMERGENCY RESPONSE 4
5.0 CONTRACTOR EMERGENCY ACTION PLAN 7
6.0 BACKGROUND INFORMATION ON THE PROJECT SITE 8
7.0 CLIENT SAFETY PROCEDURES 9
8.0 SITE PLAN 9
9.0 GOVERNMENT AND LINE LOCATOR CONTACT NAMES AND PHONE NUMBERS 9
10.0 PROJECT PERSONNEL AND RELEVANT INFORMATION 10
11.0 MAXIMUM CONCENTRATIONS OF CONTAMINANTS IDENTIFIED ONSITE/ 11
12.0 POTENTIAL AIRBORNE CONCERNS 12
13.0 DETAILED PROJECT STEPS WITH HAZARD ASSESSMENTS AND PRECAUTIONS 19
14.0 WASTE CHARACTERISTICS 20

ATTACHMENTS

ATTACHMENT 1	CLIENT'S SAFETY PROCEDURES
ATTACHMENT 2	SITE PLAN(S)
ATTACHMENT 3	INCIDENT INVESTIGATION FORM & ROOT CAUSE ANALYSIS FLOW CHART
ATTACHMENT 4	UTILITY CLEARANCE LOGS
ATTACHMENT 5a	EQUIPMENT CALIBRATION/CHECK LOG
ATTACHMENT 5b	MONITORING LOG
ATTACHMENT 6	DAILY PRODUCTION HEALTH & SAFETY BRIEFING
ATTACHMENT 7	ACKNOWLEDGEMENT & AGREEMENT FORM
ATTACHMENT 8	PRECAUTIONARY PROCEDURES AND GUIDELINES DOCUMENT FOR DRILLING, SUBSURFACE INVESTIGATIONS AND REMEDIAL CONSTRUCTION ACTIVITIES FOR GEM MARKETING OPERATIONS
ATTACHMENT 9	PRE-DRILLING SUBSURFACE CHECKLIST FOR INTRUSIVE FIELDWORK
ATTACHMENT 10	EMPLOYEE CERTIFICATION INFORMATION
ATTACHMENT 11	BP EMERGENCY RESPONSE INFORMATION
ATTACHMENT 12	SUBCONTRACTOR'S HEALTH AND SAFETY PLAN
ATTACHMENT 13	MATERIAL SAFETY DATA SHEETS

1.0 LOCAL EMERGENCY CONTACT NAMES, PHONE NUMBERS, AND DIRECTIONS TO THE HOSPITAL

The location of the nearest telephone is **facility phone or field staff cell phone**

	NAME	TELEPHONE NO.
Hospital	**Memorial Hospital of Gardena 1145 W. Redondo Beach Blvd. Gardena, CA 90247**	**911 or 310-538-6629**
Ambulance	**McCormick Ambulance**	**911 or 310-219-0611**
Police/Sheriff	**Gardena Police**	**911 or 310-217-9601**
Fire	**Gardena Fire Dept (station 51)**	**911 or 310-217-7066**
BP/ARCO Incident Response Center **(to be contacted in case of an emergency)**	Naperville Incident Response Center	(800) 321-8642

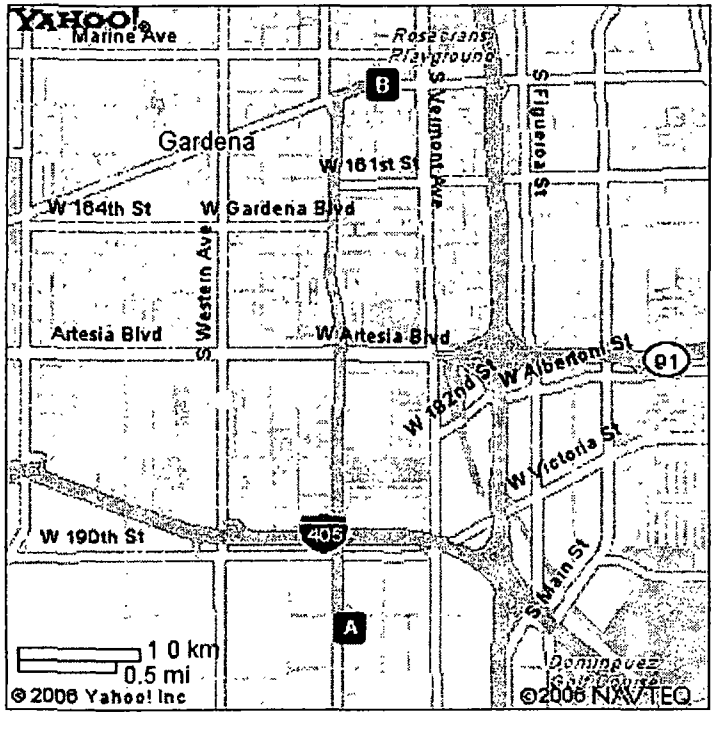
DIRECTIONS AND MAP TO THE HOSPITAL – SEE NEXT PAGE

START 1225 W 196th Street, Torrance, CA 90502-1102 US

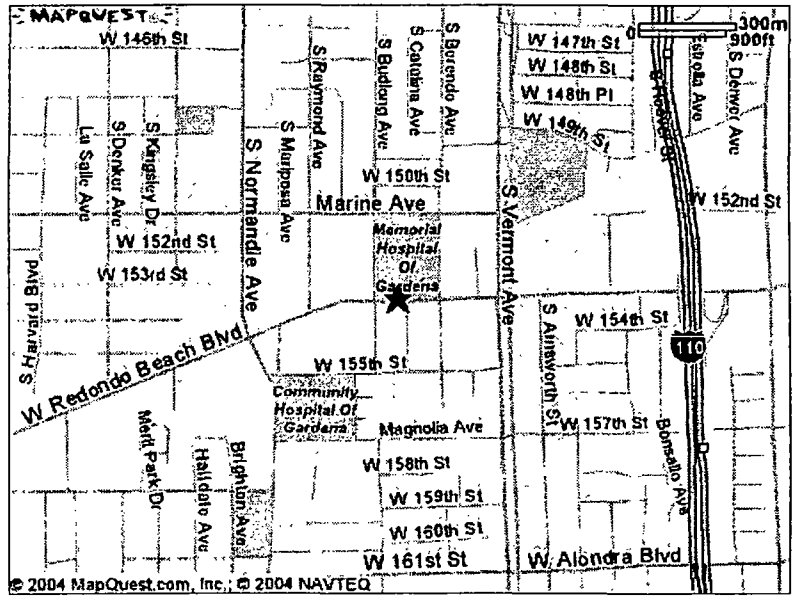
END 1145 W Redondo Beach Blvd, Gardena, CA 90247-3528 US

Maneuvers	Distance
1: Start at **1225 W 196TH ST, TORRANCE** - go **0.1** mi.	0.1 miles
2: Turn R on **NORMANDIE AVE** - go **2.5** mi	2.5 miles
3: Continue on **NORMANDIE WAY** - go **0.1** mi	0.1 miles
4: Turn R on **W REDONDO BEACH BLVD** - go **0.2** mi	0.2 miles
5: Arrive at **1145 W REDONDO BEACH BLVD, GARDENA,** on the L	

Total Est. Time: 6 minutes **Total Est. Distance:** 3.0 miles



Driving Directions



Close up of Hospital

2.0 OBJECTIVES AND GOALS OF THIS HASP

Let's be clear about our objectives in this HASP. The purpose of this HASP is to:

- Document a proactive, scientific exposure assessment, which identifies and helps us understand our risks.
- Document proactive precautions we are going to take to avoid the risks.

Let's be clear about our goal in this HASP. Our goal is to:

- Complete our work on this site without incidents of all types; no injuries, no illnesses, no impacts to the environment or to property and equipment. In order to achieve this goal, the project team must work together to perform an effective hazard assessment. The team will then establish appropriate precautions and communicate these daily among project staff. Staff will be responsible for communicating changing field conditions to the project management so these conditions and appropriate precautions may be reevaluated as needed. We expect all subcontractors and project personnel to share this goal.

3.0 SCOPE OF WORK

The purpose of this project is to:

Complete assessment of the site including the following sub project phases:

- Geophysical Survey;
- Complete drilling and collection of samples as necessary for evaluation of the composition & properties of the soil by GeoProbe;
- Installation of additional monitoring well, on-Site; and
- Well development activities of newly installed well.

This HASP was prepared for the use of SECOR personnel while performing the following tasks:

Task 1: Pre-drilling Site Inspection/Geophysical Survey.

Task 2: Drilling and sample collection using Geoprobe.

Task 3: Installation of one additional groundwater monitoring well, on-Site.

Task 4: Well development activities of newly installed well.

4.0 EMERGENCY RESPONSE

- *Remember this must be specific to the site and discussed with the client/facility manager.*
- *This must be coordinated with other contractors working on the site. This can be done at the initial site meeting, but do not forget to do it.*
- *In addition to injuries and illnesses noted here, this section should also address how the client wants us to respond to: the public or the press, fires, bomb threats, etc.*
- *You must discuss emergency response at the pre-startup meeting with the contractor to make sure that you can act on the response plan in the event of an emergency.*
- *All SECOR staff on site must have completed CPR and First Aid training.*
- *In the event of an injury or illness, notification of the family of the individual involved shall be made as promptly as possible following the office's emergency action plan.*
- *You must have an eyewash bottle with you on site in case you get something in your eyes.*

The **Site Health & Safety Officer (SHSO)** must be familiar with the directions to the hospital given in **Section 1.**

Injury or Illness

If an injury or illness occurs, take the following action:

- Determine if emergency response **(fire/ambulance)** staff are necessary. If so, dial **911 (fire: 310-217-7066 / ambulance: 310-219-0611)** on cell phone or closest available phone. *(Indicate location of closest phone in the plan.)* Provide the location of the injured person and other details as requested. If it makes sense to take an individual to the hospital, follow the directions in **Section 1.**

- Get First Aid for the person immediately. Utilize first aid kit in vehicle. Also utilize the bloodborne pathogens kit.

- Notify the **SHSO** immediately. The **SHSO** is responsible for preparing and submitting the Incident/Near Miss Investigation Report to Mary Harris in SECOR's Human Resources within 24 hours of the incident, as well as notifying the employee's supervisor and Business Unit Manger. Use the Incident/Near Miss Investigation Report and Root Cause Analysis Flowchart in **Attachment 3**. Ms. Harris' phone is (619) 718-9429. ***(Note: All incidents must be reported to Human Resources within 24 hours, but the actual investigation need not be completed within 24 hours.)***

- The **SHSO** will assume responsibility during a medical emergency until more qualified emergency response personnel arrive at the site.

First Aid Procedures for Minor Cuts, Scratches, Bruises, etc.

- Each occupational illness or injury shall be reported immediately by employees to the **SHSO**. The **SHSO** will complete the Incident/Near Miss Investigation Report in **Attachment 3** and report the incident to Human Resources.

Medical Cases Not Requiring Ambulance Service

- Medical cases normally not requiring ambulance services are injuries such as minor lacerations, minor sprains, etc.
- The **SHSO** will ensure prompt transportation of the injured person to a physician or hospital following the directions in **Section 1**.
- A representative of SECOR/sub-contractor should always drive the injured employee to the medical facility and remain at the facility until the employee is ready to return.
- If the driver of the vehicle is not familiar with directions to the hospital, a second person shall accompany the driver and the injured employee to the hospital
- If it is necessary for the **SHSO** to accompany the injured employee, provisions must be made to have another employee, properly trained and certified in first aid, to act as the temporary **SHSO**.
- If the injured employee is able to return to the jobsite the same day, he/she should bring with him/her a statement from the doctor containing such information as:

  - Date
  - Employee's name
  - Diagnosis
  - Date he/she is able to return to work, regular or light duty
  - Date he/she is to return to doctor for follow-up appointment, if necessary
  - Signature and address of doctor

  If the injured employee is unable to return to the jobsite the same day, the employee who transported him should bring this information back to the jobsite and report it to Mary Harris in Human Resources at (619) 718-9429 and the Director of Industrial Hygiene and Health & Safety, Philip Platcow at (617) 232-7355.

Emergency Cases Requiring Ambulance Services

- Medical cases requiring ambulance services would be such cases as severe head injuries, amputations, heart attacks, etc.
- Should ambulance service be necessary, the following procedures should be taken immediately.

  - Contact necessary **ambulance** service and company emergency services by dialing **911 (ambulance: 310-219-0611)** and notify the **SHSO** for the site.

- Administer first aid until ambulance service arrives.

- While the injured employee is being transported, the **SHSO** should contact the medical facility to be utilized.

- One designated representative should accompany the injured employee to the medical facility and remain at the facility until final diagnosis and other relevant information is obtained.

Death of an Individual or Hospitalization of Three or More Employees

The procedure as outlined in "First Aid and Medical Cases", above, should be followed. If the injured person dies, then SECOR Human Resources Department, local officials and coroner must be notified ***immediately***. SECOR Human Resources will notify the **local OSHA office within 8 hours of the incident or fatality** in the event of fatality or hospitalization of three or more employees.

Response to Spills or Cut Lines

Prevent problems by documenting the location of underground lines (e.g., product, sewer, telephone, fiber optic) before starting site work. If a line or tank is drilled through, or another leak occurs, document the event as soon as possible using the Incident Investigation Report in **Attachment 3. Notification of the event must be made to SECOR Human Resources within 24 hours**. Include dates, times, actions taken, agreements reached, and names of people involved. Use additional pieces of paper to document the event completely. The **SHSO**, PM and client must be notified immediately. The PM will notify the regulatory authority or utility as necessary.

In the event of a spill/release, follow this plan:

1. Stay upwind of the spill/release.
2. Wear appropriate PPE.
3. Turn off equipment and other sources of ignition.
4. Turn off pumps and shut valves to stop the flow/leak.
5. Plug the leak or collect drippings, when possible.
6. Use sorbent pads to collect product and impede its flow, if possible.
7. Call Fire Department immediately if fire or emergency develops.
8. Inform SECOR Project Manager about the situation.
9. Determine if the client wants SECOR to repair the damage or if the client will use an emergency repair contractor.
10. Based on agreements, contact emergency spill contractor for containment of free product. The contact for this project will be **ARCO Maintenance** at **(800) 272-6349.**
11. Advise the client of spill discharge notification requirements and determine who will complete and submit forms. *(Do not submit or report to agencies without the client's consent.)* Document each interaction with the client and regulators and note, in writing; name, title, authorizations, refusals, decisions, and commitments to any action.
12. Do not transport or approve transportation of contaminated soils or product until proper manifests have been completed and approved. Be aware that soils / product may meet criteria for hazardous waste.

13. Do not sign manifests as generator of wastes; contact PM or Waste Compliance Manager to discuss waste transportation.

Notifications – a spill/release requires completion of an Incident Investigation (II) as per SECOR's ALLY program. **The PM must involve the client/generator in the Incident Investigation process. SECOR's incident investigation form must be completed (see Attachment 3) and submitted to Human Resources with 24 hours. The client/generator is under obligation to report to the proper government agencies. If the spill extends into waterways, the Coast Guard and the National Response Center (800) 424-8802 must be notified immediately by the client or with his permission.**

All spills/releases must be reported to **Kyle Christie** at **714-670-5303** (Client) within 24 hours.

5.0 CONTRACTOR EMERGENCY ACTION PLAN

The **SHSO** will ensure that the Subcontractor/Contractor is capable of efficient evacuation/emergency response in the event of an emergency. Subcontractor/Contractor's employees will be trained by their employer in site-specific evacuation/emergency procedures, including alarm systems and evacuation plans and routes.

The Subcontractor/Contractor shall instruct its employees that in the event of an emergency such as a **fire**, release, or accident involving injuries, they are required to dial **911 (fire: 310-217-7066)**. The reporting employee is to state the problem clearly and fully and remain on the line until dismissed by the operator.

SECOR staff and Subcontractor/Contractors working in an area where an emergency exists shall evacuate to a safe location, preferably upwind, away from the area and take attendance. **The gathering location will be determined by the SECOR SHSO upon arrival on site. It is the responsibility of the SHSO to annotate the Site Plan with the gathering location position and to disseminate that info to all site personnel during the Daily Production Safety Meeting and any other appropriate time after that.**

(If the emergency causes the route to a gate surrounding the site to be closed, the SECOR staff and Subcontractor/Contractors shall move to an open area upwind of the hazard area, and remain there until instructed by emergency response personnel (i.e., police, fire, ambulance, paramedics, etc.) to do otherwise.)

Subcontractor/Contractor has the responsibility to account for its own employees and to provide such information immediately to emergency response personnel upon request.

SECOR staff and Subcontractor/Contractor may not reenter the emergency site without specific approval from emergency response personnel.

In the event of fire ignition in close proximity to SECOR staff and Subcontractor/Contractor's employees, those persons shall evacuate the area and notify emergency personnel unless the fire is readily extinguished with portable dry chemical equipment on-hand. **When in doubt, emergency response personnel shall be notified.**

6.0 BACKGROUND INFORMATION ON THE PROJECT SITE

The Site is located east of the intersection of Normandie Avenue and West 196th Street in the City of Torrance at an elevation of approximately 44 feet above mean sea level (amsl). The current APC plant is located on two parcels of approximately 2.1 total acres and consists of offices, a small laboratory, an 18,000 square foot warehouse, up to 30 aboveground storage tanks (ASTs) and silos for the storage of liquids and solid, a batch plant processing area, a railroad spur, aboveground water recycling and cooling tower equipment, and maintenance and storage buildings. There is no history of underground storage tanks (USTs) at the Site and all piping appears to be aboveground except for the sanitary sewer line. A septic tank may have operated on Site prior to 1969.

The production of polystyrene resin from styrene monomer has been the primary activity at the Site since development of the property. Aerial photographs indicate the Site was use for agriculture or was vacant up to at least 1956 (air photo, 1956). The original polystyrene plant was built on the western parcel by Brand Plastics Company in 1962. Amoco Chemical Company (Amoco) acquired the property in 1964 and operated the facility until May 1993, when APC purchase the property and the plant. BP acquired Amoco and subsidiary companies in 199xxx... and has never been actively involved in facility operations. Atlantic Richfield Company is also a subsidiary of BP.

The APC Facility is located in an area with a history of heavy industrial land use since 1940's. The Del Amo superfund site is located directly east and adjacent to the Site. This large facility of originally over 280 acres was built to provide synthetic rubber during World War II and was dismantled in the 1970's. Approximately a third of the Del Amo facility produced polystyrene well before the Brand/Amoco/APC site began production starting in the 1960's. PRP for the Del Amo remediation is Shell Oil Company under the oversight of the USEPA.

A former McDonnell Douglas manufacturing plant was located west of the Site. The plant operated from approximately 194xx to 1988xx

Currently, liquid styrene monomer is brought to the plant in railroad tank cars and transferred to one of two 30,000 gallon ASTs in the eastern secondary containment area. Styrene monomer is produced by xxx of ethylbenzene. Prior to 1972 the styrene monomer was brought in by a pipeline from the former Del Amo facility to the east, which was operated at the time by Shell Oil Company. The former location of this pipeline on the property is not known.

The styrene monomer is mixed with small amounts of other raw materials in batch tanks located in the northern secondary containment area. Additives include mineral oil, zinc stearate, acrawax, and anti-oxidants. The batch is then sent to one of two production lines for the polymerization heating and reaction process. Any overfill or condensate is collected and circulated back to a tank for late reuse.

The polystyrene production process includes the use of cooling water to maintain process temperatures and cool polymer that emerges at the end of the process in a water bath. Documents indicate that from 1962 to 1969 the spent process water flowed through two "interceptors" or clarifiers, then to a 12,000 gallon "unlined sump" for evaporation, and finally excess water exceeding the sumps capacity was disposed of in a 35 foot a "dry well". The interceptors, sump, and dry well were apparently located on the property, but no documents or physical evidence have been found to indicate their locations (EEI, 1986).

In about 1969, the cooling water process was diverted to the sanitary sewer and the dry well was reportedly "filled and blacktopped". In 1973, the County Sanitation District refused further discharge of the "clean water" to the sewer (EEI, 1986). Alternatives for the disposal of excess cooling water included installing a new dry well or injection well or installing a recirculation and cooling tower system. APC selected and installed the closed-loop recirculation system and a second well was not installed.

7.0 CLIENT SAFETY PROCEDURES

BP Passport – Held by each individual
C.A.R.E. Card – See **Attachment 1**
Safety Reinforcement Plan - See **Attachment 1**
Authorization to Work (ATW) – See **Attachment 1**
Permit to Work (PTW) – as necessary

8.0 SITE PLAN

Site Plans are included in **Attachment 2.**

9.0 GOVERNMENT AND LINE LOCATOR CONTACT NAMES AND PHONE NUMBERS

AGENCY or LINE LOCATOR	NAME	TELEPHONE NO.
Office of Emergency Services		(800) 852-7550
National Response Center		(800) 424-8802
U.S. EPA (24 Hour Hotline)		(800) 424-9346
County Regulatory Agency		
Utility Locator	USA Dig Alert	(800) 422-4133
Private Utility Locator	Spectrum Geophysics	(818) 565-3590

10.0 PROJECT PERSONNEL AND RELEVANT INFORMATION

Questions about this project posed by neighbors, the press, or other interested parties should be directed to:

Phil Kinney Company: **SECOR International Inc.** Phone: **805-230-1266 ext. 224**

Site personnel shall be trained and certified in hazardous waste operations, and shall have had a physical examination consistent with 29 Code of Federal Regulations (CFR) 1910.120 (and 8 California Code of Regulations (CCR) 5192, if applicable.)

Subcontractors shall review and sign the form in **Attachment 7 ACKNOWLEDGMENT & AGREEMENT FORM**

PROJECT JOB TITLE	NAME	TELEPHONE NO.	GENERAL PROJECT RESPONSIBILITIES	TRAINING DATES			MEDICAL SURVEIL-LANCE DATE
				40 Hr HAZWOPER	8 Hr Refresher	CPR/First Aid	
Site Health and Safety Officer	Randy Couture	805-427-4863 cell	Implementing this HASP. Has authority to stop work Perform air quality tasks. Take charge of all incidents. Review subcontractor's HASP	05/00	08/06	06/05	11/05
Project Manager	Phil Kinney	805-427-4856 cell	Overall financial and logistics. Contact client and subs to understand all hazards. Discuss with SHSO. Follow-up all incidents upon notice.	09/90	02/06	06/03	03/06
Project Staff	StephAnnie Roberts Gareth Roberts Mark Mason	805-427-4873 cell 805-427-4853 cell 805-341-1492 cell	Conduct work in accordance with JSA and this HASP. Report all incidents and near misses immediately to Project Manager.	11/98 05/96 09/01	08/06 08/06 08/06	06/05 06/05 05/06	04/06 04/06 09/06
Subcontractor-Project Manager			Oversee work of own staff. Ensures that their own HASP is site-specific				
Subcontractor-			Conduct all drilling/soil borings & monitoring well installs. Exact drillers to be on site are not known at this time.	NA	NA	NA	NA
SECOR Business Unit Leader	John Bollier	805-230-1266 x 241 805-427-4852 cell	Provide immediate support at notice of all incidents	12/87	02/06	06/05	12/06
Client Contact	Kyle Christie	714-670-5303 714-815-8971 cell	Provide all known analytical data performed by others and notice of hazards. Provide access to site and available emergency response capabilities.	NA	NA	NA	NA
SECOR Director of Industrial Hygiene	Philip Platcow, CIH	(617) 232-7355 Office (617) 899-5403 Cell (617) 739-1224 Home	Respond with corporate resources to all incidents as appropriate. Assist in HASP review. Assist in incident investigation.	01/13/95	01/21/05	01/20/05	02/17/05
SECOR Human Resources Director	Marguerite Shuffelton	(619) 718-9430 (619) 925-8365 Cell (760) 749-9603 Home	Assist with incident review, recordkeeping.	N/A	N/A	N/A	N/A

11.0 MAXIMUM CONCENTRATIONS OF CONTAMINANTS IDENTIFIED ONSITE/

Listed below are the maximum concentrations of contaminants in the soil/groundwater that are expected to be encountered at the site.

Substance	Date of Sample	Media	Sample Concentration
GRO	01/26/04	Water	µg/L
Benzene	01/26/04	Water	94 µg/L
Toluene	01/26/04	Water	1.1 µg/L
Ethylbenzene	01/26/04	Water	9.7 µg/L
Total Xylenes	01/26/04	Water	3.3 µg/L
PCE	1991	Water	11,000 µg/L
TCE	1991	Water	27,000 µg/L

2.0 POTENTIAL AIRBORNE CONCERNS

POTENTIAL AIRBORNE CHEMICALS ONSITE IN THIS PROJECT REVIEW THIS TABLE AND CONTACT SHSO WITH QUESTIONS						
CHEMICAL (OR CLASS)	OSHA PEL ACGIH TLV	OTHER PERTINENT LIMITS	WARNING PROPERTIES	ROUTES OF EXPOSURE OR IRRITATION	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS/ TARGET ORGANS
Benzene (1910.1028)	Cal/FedOSHA PEL 1.0 ppm TLV 0.5.0 ppm (skin)	CalOSHA & FedOSHA STEL 5.0 ppm NIOSH REL 0.1 ppm IDLH 500 ppm	Characteristic benzene odor	Inhalation, Dermal, ingestion, eyes	Skin (dermatitis), eye, respiratory tract irritant, headache, dizziness, nausea.	Carcinogen, CNS, eye damage, bone marrow, blood, skin, leukemia.
Toluene	CalOSHA PEL 50 ppm FedOSHA PEL 200 ppm TLV 50 ppm	NIOSH REL 100 ppm TWA; 150 ppm STEL ILDH 500 ppm CalOSHA C 500 ppm CalOSHA STEL 150 ppm	Sweet, pungent, benzene-like odor	Inhalation, dermal, ingestion, eyes	Skin (dermatitis) eye, respiratory tract irritant, headache, dizziness, weakness, and fatigue.	CNS, liver, kidneys, skin.
Ethylbenzene	Cal/FedOSHA PEL 100 ppm TLV 100 ppm	PEL-STEL 125 ppm TLV STEL 125 ppm NIOSH REL 100 ppm; REL-STEL 125 ppm IDLH 800 ppm CalOSHA STEL 125 ppm	Pungent aromatic odor	Inhalation, dermal, ingestion, eyes	Skin/eye/mucous membrane irritant, headache, dizziness, drowsiness	Eyes, respiratory tract, skin, CNS, blood, kidneys, liver.
Xylenes	Cal/FedOSHA PEL 100 ppm TLV 100 ppm	TLV STEL 500 ppm NIOSH REL 100 ppm REL STEL 100 ppm IDLH 900 ppm CalOSHA C 300 ppm CalOSHA STEL 150 ppm	Aromatic odor	Inhalation, dermal, ingestion, eyes	Throat and skin irritant (dermatitis), headache, nausea, drowsiness, fatigue	CNS, liver, kidneys, skin, gastrointestinal damage, eye damage
Carbon Tetrachloride	CalOSHA PEL 2.0 ppm FedOSHA 10 ppm TLV 5 ppm	CalOSHA STEL 10 ppm NIOSH STEL 2 ppm FedOSHA C 25 ppm	Colorless liquid with a characteristic ether like odor	Inhalation, absorption through the skin or eye, ingestion	Headache, tachypnea, nausea, dizziness, confusion, hallucinations, cyanosis	CNS, eyes, lungs, liver, kidneys, skin

Chlorobenzene	CalOSHA PEL 10 ppm FedOSHA PEL 75 ppm TLV 10 ppm	IDLH 1000 ppm,	Colorless liquid with an almond like odor	Inhalation, ingestion, dermal, eyes	Irritated eyes, skin, nose, drowsiness, increased CNS depression in animals	Liver, lung, kidney injury. Skin, eyes, respiratory system, CNS, liver.
Chloroform	CalOSHA PEL 2.0 ppm TLV 10 ppm	FedOSHA C 50 ppm NIOSH STEL 2.0 ppm IDLH 500 ppm	Colorless liquid with pleasant, sweet odor	Inhalation, dermal, ingestion	Dizziness, mental dullness, nausea, disorientation, headaches, eye and skin irritation	Liver, kidney, heart, eyes, skin and potential human carcinogen
Chromium	CALOSHA PEL 0 5mg/m3 PEL 1mg/m3 TLV 0.5mg/m3	NIOSH REL 0.5mg/m3 IDLH 250 mg/m3	Blue-white to steel gray, lustrous, brittle, hard, odorless solid.	Inhalation, ingestion, dermal, eyes.	Irritated eyes, skin and lungs	Eyes, skin and respiratory system.
Copper	Cal/FedOSHA PEL 1 mg/m^3 TLV 1 mg/m^3	NIOSH REL 1 mg/m^3	Reddish, lustrous, malleable, odorless solid	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, nose, pharynx, nasal perforation, metallic taste, dermatitis	In animals, lung, liver, and kidney damage, anemia, carcinogen. Skin, lung, kidney, and bladder cancer
1,2 Dichlorobenzene	NIOSH/FedOSHA PEL 50 ppm TLV 1.0 ppm	IDLH 200 ppm	Colorless to pale yellow liquid with a pleasant aromatic , herbicide-like odor	Inhalation, dermal, ingestion, and eye contact.	Eye and nose irritant, skin blisters	Eyes, skin, liver, kidney, lungs, CNS.
1,4 Dichlorobenzene	Fed OSHA PEL 75 ppm TLV 10 ppm	FedOSHA Potential occupational carcinogen at150 ppm	Colorless to white crystals with a strong odor	Inhalation, ingestion	Eye, skin, respiratory irritant; Blood and CNS system may lead to impaired functions	Liver, kidneys, blood; potential carcinogen.
1,1-Dichloroethane	Cal/Fed OSHA PEL 100 ppm TLV 100 ppm	NIOSH REL 100 ppm IDLH 1000 ppm	Colorless oily liquid with a chloroform-like odor	Inhalation, ingestion, absorption skin	Irritated skin, CNS depression	Skin, liver, lung, kidney, lungs, CNS depression

1,2-Dichloroethane (Ethylene Dichloride, DCE)	FedOSHA PEL 50ppm Cal OSHA PEL 1 ppm TLV 10ppm (TLV for 1,1-dichloroehtane is 100ppm)	NIOSH recommends that this compound be treated as a carcinogen and exposure limited as much as possible.	Clear, colorless, oily liquid. Can darken with age. Can have a pleasant odor	Inhalation, absorption skin or eyes, ingestion.	Irritation to eyes, skin, respiratory tract, mucous membranes. Headache, nausea, vomiting, Irritability, CNS depression.	Eyes, liver, kidney, skin, CNS.
1,1-Dichloroethene (Vinylidene Chloride) (1,1 DCE)	CalOSHA PEL 1.0 ppm FedOSHA PEL None established TLV – 5.0 ppm	NIOSH considers this compound a carcinogen	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor	Inhalation, skin absorption, ingestion, and/or eye contact	Irritation to eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty)	Liver, kidney dysfunction; pneumonitis; Potential occupational liver and kidney carcinogen **Target Organs** Eyes, skin, respiratory system, central nervous system, liver, kidneys
1,2-Dichloroethene (Dichloroethylene)	Cal/FedOSHA PEL 200 ppm TLV - TWA 200 ppm	IDLH 1000 ppm	Solvent odor	Inhalation, skin absorption, ingestion, and/or eye contact	Typical solvent symptoms	Likely liver, kidney, and CNS symptoms
Cis-1,2-Dichloroethene Cis-1,2-DCE	PEL – None established TLV None established	REL None established	Colorless liquid	Inhalation, absorption skin or eyes, ingestion.	Irritation to eyes, skin, respiratory tract, mucous membranes. Liver damage. Narcotic.	Eyes, respiratory tract, skin,
Trans-1,2-Dichloroethene Trans-1,2-DCE	Cal/FedOSHA PEL 200 ppm TLV 200 ppm	REL None established	Colorless liquid with fruity, pleasant odor.	Inhalation, absorption skin or eyes, ingestion.	Irritation to eyes, skin, respiratory tract, mucous membranes. Irritability, CNS depression.	Eyes, respiratory tract, skin, CNS.
Freon 11 (Fluorotrichloromethane)	Cal/FED OSHA PEL 1000 ppm TLV None established	IDLH 2000 ppm NIOSH Ceiling 1000 ppm TLV Ceiling 1000 ppm	Colorless to water-white, nearly odorless liquid or gas (above 75° F)	Inhalation, ingestion, absorption skin or eye.	In-coordination, tremors, dermatitis, cardiac arrhythmia, cardiac arrest, frostbite:liquid	Skin, respiratory system, CVS.

Freon 113 (1, 1, 2 –Trichloro-1, 2, 2 – Trifluoroethane)	Cal/FedOSHA PEL 1000 ppm TLV = 1000 ppm	CalOSHA C 2000 ppm Cal/FedOSHA STEL 1250 ppm	Colorless, nearly odorless, volatile liquid	Inhalation, dermal, ingestion	Throat irritation, drowsiness, dermatitis, narcosis	Skin and heart
Lead (1910.1025)	Cal/FedOSHA PEL 0.05 mg/m^3 TLV 0.05 mg/m^3	NIOSH REL 0.1 mg/m^3 IDLH 100 mg/m^3	A heavy, flexible, soft, gray solid	Inhalation, dermal, ingestion, eyes	Weakness, lassitude (weakness, exhaustion); abdominal pain; gingival lead line; tremor; irritation eyes; hypertension	Insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, colic; anemia; paralysis wrist, ankles; encephalopathy; kidney disease; Potential for damage to eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue
Mercury	CalOSHA PEL 0.01 mg/m^3 FedOSHA Ceiling Limit: 0.1 mg/m^3 TLV 0.01 - 0.1 mg/m^3 depending on the form.	NIOSH REL 0.05 mg/m^3 (skin) CalOSHA C 0.04 mg/m^3 CalOSHA STEL 0.03 mg/m^3 IDLH 10 mg/m^3	Silver-white, heavy, odorless liquid.	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation to eyes, skin; cough, chest pain, dyspnea (breathing difficulty), headache, fatigue, weakness;	Bronchitis pneumonitis; tremor, insomnia, irritability, indecision, stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria **Target Organs** Eyes, skin, respiratory system, central nervous system, kidneys
Styrene	CalOSHA PEL 50 ppm FedOSHA PEL 100 ppm TLV 20 ppm	FedOSHA C 200 ppm CalOSHA C 500 ppm CalOSHA STEL 100 ppm TLV STEL 40 ppm NIOSH REL 50 ppm NIOSH STEL 100 ppm	Colorless to yellow, oily liquid with a sweet, floral odor.	Inhalation, dermal, ingestion, eyes	Irritation to eyes, nose, respiratory system; headache, fatigue, dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, weakness, unsteady gait; narcosis.	Defatting dermatitis; possible liver injury; reproductive effects.
Tetrachloroethene (Perchloroethylene) (PCE)	CalOSHA PEL 25 ppm FedOSHA PEL 100 ppm TLV 25 ppm	FedOSHA Ceiling 200 ppm TLV STEL 100 ppm IDLH 150 ppm CalOSHA C 300 ppm CalOSHA STEL 100 ppm NIOSH considers this compound a carcinogen	Colorless liquid with a mild, chloroform-like odor	Inhalation, skin absorption, ingestion, and/or eye contact	Irritation to eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; vertigo (an illusion of movement), dizziness, in coordination; headache, skin erythema (skin redness)	Somnolence (sleepiness, unnatural drowsiness); liver damage; Potential occupational liver carcinogen **Target Organs** Eyes, skin, respiratory system, liver, kidneys, central nervous system

Trichloroethene (Trichloroethylene) (TCE)	CalOSHA PEL 25 ppm Fed OSHAPEL 100 ppm TLV 50 ppm	Fed OSHA Ceiling 200 ppm CalOSHA STEL 100 ppm NIOSH considers trichloroethylene a carcinogen.	Colorless liquid (unless dyed blue) with a chloroform-like odor.	Inhalation, dermal, ingestion, eyes	Irritation to eyes, skin; headache, vertigo (an illusion of movement); visual disturbance, fatigue, giddiness, tremor, somnolence (sleepiness, unnatural drowsiness), nausea, vomiting; dermatitis;	Cardiac arrhythmias, paresthesia; liver injury; Potential occupational carcinogen of liver and kidney

:xplanation of Abbreviations

EL = Permissible Exposure Limit;
EL = Recommended exposure limit set by NIOSH;
= Ceiling limit;
TEL = Short Term Exposure Limit;
LH = Immediately Dangerous to Life or Health;
LV = Threshold Limit Value set by the ACGIH (American Conference of Governmental Industrial Hygienists);
IHA WEEL = Workplace Environmental Exposure Limits set by the AIHA (American Industrial Hygiene Association);
KIN = Skin absorption;
IOSH = National Institute for Occupation Safety and Health;
NS = Central Nervous System;
VS = Cardiovascular system

Action Level Table for Air Quality Monitoring
(Monitoring Equipment needed is unknown at this time)

- *The level for respirator use indicated below is that concentration at which a respirator must be put on. It does not require the job to stop. The respirator is a tool to be used while determining why the exposure has reached that concentration. Take action to reduce the concentration by engineering controls such as water mist, spray foam, plastic cover, etc.*
- *The level for work stoppage indicated below is that concentration at which work on the job must stop. Determine why exposures have reached that concentration and how they can be reduced. Site evacuation is not necessary at this level. It does not mean that stopping operations should reduce the likelihood that the concentration will continue to rise. Implement engineering controls to reduce the concentration, then resume work.*
- ***These values can be modified with particular knowledge of contaminants and site conditions. Contact Director of Industrial Hygiene & Health and Safety, Philip Platcow to discuss (617) 232-7355.***
- ***On Sites impacted with chemicals other Petroleum products, contact Phil Platcow, Director of IH/H & s, at (617) 232-7355 office/(617)899-5403 cell or Pat Wilson, CIH, at (817) 640-9621X34 office/(817) 296-3165 cell, for guidance on the air monitoring requirements***

CHEMICAL (OR CLASS)	MONITORING EQUIPMENT	TASK	MONITORING FREQUENCY/ LOCATION	LEVEL FOR RESPIRATOR USE	LEVEL FOR WORK STOPPAGE
Volatile Organic Vapors	FID/PID as appropriate for chemicals of concern. Read manual to determine. Draeger Tube for vinyl chloride (model 1/a part number 67 28031). Draeger Tube for benzene (model 0.5/a).	From start of mobilization to completion and demobilization	Sampling should be continuous during the project while disturbing potentially contaminated soil or uncovering/removing tanks and piping, or during drilling. At least every 15 minutes in the breathing zone Sample at the exclusion zone boundaries every 30 minutes. Continuously sample during each soil and groundwater sampling interval. If 5 ppm in breathing zone, collect a Draeger tube for benzene and/or vinyl chloride (depending upon contaminants of concern).	Respirator to be used will be full-face piece respirator with organic vapor/P 100 combination cartridges. 20 ppm sustained in breathing zone for 2 minutes, and no benzene and/or vinyl chloride tube discoloration. If a color change appears on tube for benzene or vinyl chloride at < 20ppm on PID/FID, don respirator. If no Draeger Tubes are available, the level for respirator use will be 5ppm on the PID/FID. At donning respirator level, determine cause of exposure and implement engineering controls to reduce concentrations.	50 ppm in breathing zone and no vinyl chloride or benzene tube discoloration. Stop work if tube indicates > 1ppm for benzene or vinyl chloride. If no Draeger Tube available, stop work at 25 ppm on the PID/FID. Continuously attempt to determine cause of exposure and usage of engineering controls to attempt to never reach the stop work level
Oxygen/LEL	Combustible Gas Meter	Disruption of soil. Disconnecting and removal of piping. Removal of the tank. Removal of contaminated soil.	From start of disruption of potentially contaminated soil through removal of any contaminated soil.	< 19.5% use supplied air.	> 10% LEL

CHEMICAL (OR CLASS)	MONITORING EQUIPMENT	TASK	MONITORING FREQUENCY/ LOCATION	LEVEL FOR RESPIRATOR USE	LEVEL FOR WORK STOPPAGE
Oxygen/LEL/ H_2S/CO	Four gas meter	Disruption of soil., (including drilling) Removal of contaminated soil.	From start of disruption of potentially contaminated soil through removal of any contaminated soil. Drillers must have personal H_2S monitors on at all times once the ground is broken while in the vicinity of the borehole. The SHSO will provide O/LEL/ H_2S/CO monitoring at least every 15 minutes in the breathing zone and at the exclusion zone boundaries every 30 minutes.	< 19.5% Oxygen use supplied air.	> 23.5% Oxygen < 19.5% Oxygen without the use of supplied air respirators > 10% LEL > 10 ppm H_2S > 25% CO

13.0 DETAILED PROJECT STEPS WITH HAZARD ASSESSMENTS AND PRECAUTIONS

Traffic Guidance and Control Plan:

Incidents on sites have shown the need for a well-thought out traffic guidance and control plan. This plan must consider:

- **On-site well delineation will utilize safety delineators, orange fencing *(Mod to High Hazard Level)* and yellow caution tape *(None to Low Hazard Level)*. An appropriate exclusion zone with at least a ten foot barrier from all dispenser islands, and four-feet tall will be used to designate a safe working area for all equipment and personnel working on site.**

- **Off-site well delineation will be provided by a licensed professional traffic control service. Location specific plans will be provided for each well.**

- **It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Guidance and Control configuration if a "formally developed" Traffic Guidance and Control Plan is not available. It is also the responsibility of the SHSO to disseminate the Traffic Guidance and Control information to all site personnel during the Daily Production Safety Meeting and any other time as necessary.**

Work on this project will be conducted during the hours: **0600 – 1800, Monday - Friday.**

Shutoff valves/switches for utilities and products: **It is the responsibility of the SHSO to annotate the Site Plan with the location of all shutoff valves and switches and to disseminate that information to all site personnel during the Daily Production Safety Meeting and any other time as necessary**

Personal Safety Concerns and Precautions: **There are no other safety concerns associated with this site other than those normally encountered on a hazardous waste site.**

Jewelry safety: **Jewelry can be dangerous. Large ear rings, long necklaces, loose-fitting bracelets, rings, watches, etc. can become entangled in machinery and cause removal of limbs, as well as be conductive of electricity. Use caution and avoid unnecessary hazards!**

Task: 1 through 4 Pre-drilling site Inspections, site access set-up, staging area, and equipment access planning to the site.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.) A tailgate safety meeting must be performed and documented at the beginning of each workday Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
General			
Keep SPSA card on you at all times. Use it frequently. *What can happen? What is the worst thing that can happen? Plan for it and carry out your plan*			
Typical Site Assessment work, determination of site access routes, staging Area. Minor grading if necessary.	Steel toed and shank shoes, hardhat, safety glasses with side shields, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. If you suspect that chemical exposure is possible, wear chemical resistant gloves, aprons, etc. Use disposable shoe covers similar (boots worn over steel toe boots) to prevent contact of the tar-like material with shoes	Weather related incidents: slips, trips and falls due to wet weather, unstable slopes after prolonged wet weather periods ankle sprains, other muscle strains due to uneven and inconsistent terrain.	• Check weather reports daily. Project visits will not be performed during inclement weather. Sampling may be performed during light rain mist. Wear raincoats. Hot weather may change the surface conditions, making the surface susceptible to sinking. • Watch for surface slipping hazards due to wet, muddy surfaces. • Do not drive vehicles to the site until access paths are in place and the safe driving surfaces and paths are established. Watch for steep gradients and unsafe slopes. Always use a spotter to ensure the vehicles remains on drivable surfaces.
Typical work.		Cold Stress.	• For temperatures below 40^{0}F, adequate insulating clothing must be worn. If the temperature is below 20 ^{0}F, workers will be allowed to enter a heated shelter at regular intervals. Warm, sweet drinks should be available. Coffee intake should be limited. • No one should begin work or return to work from a heated shelter with wet clothes. Workers should be aware of signs of cold stress, such as heavy shivering, pain in fingers or toes, drowsiness or irritability. Onset of any of these signs are indications for immediate return to a heated shelter. • Refer to ACGIH TLV Booklet for section on Cold Stress.
Typical work.		Heat Stress	• Discuss health effects and symptoms during daily production meetings. • Drink water regularly, i.e., at least one cup every 20-30 minutes depending upon level of effort and PPE worn. • Refer to ACGIH TLV booklet for heat stress guidance, especially regarding PPE, type of work and frequency of breaks. • Breaks should be taken in an area cooler than the work area.
No eating, drinking, or smoking on-site. No contact lenses on-site. No facial hair that would interfere with respirator		Ingestion of contaminants.	• Use proper personal hygiene practices. • Use proper decontamination practices. • Exit Exclusion Zone and wash hands face & neck before eating, drinking or smoking. • Utilize appropriate spectacle kit with the respirator in use.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
fit.			• Shave each morning before using respirator. Ensure that no facial hair interferes with respirator seal area.
A safety meeting shall be held each day, even if there is only one person working on the project on any given day.			• Topics will always include the work scheduled for the day and restatement of the hazards and means to avoid them. Other topics may extricated from the list included in the HASP. • Use **Attachment 6** for logging the topics discussed.

Task: 1 Surveying

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Mobilize with the proper equipment for surveying.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves.	Vehicle accident. Lifting hazards. Delay or improper performance of work due to improper equipment onsite. Automotive equipment failure, unfamiliar company vehicle, or unsafe weather conditions.	• Start project with Production Safety Meeting. Review Site Specific Safety and Health Plan (SSSHP) especially chemical and site hazards, JSAs and work activities, and emergency ingress/egress, safe refuge, emergency signals and hospital/emergency care specific to the site. Advise other contractors on site, if any, of planned work activity, and determine their operations. Identify and locate the safety equipment specified for the activity. - SECOR • Follow safe driving procedures. Practice defensive driving methods - adhere to posted speed limits and travel slower than speed limits if necessary. Keep a safe distance from the vehicle in front of you to allow for stopping distance. Avoid cellular phone use except when parked in a safe location. Perform a check of vehicle/trailer prior to driving, check security of load, take ample time to orient self with unfamiliar vehicle, take more time to get to site if weather conditions are unsafe, or stop and wait if weather conditions call for it. - SECOR • Employ safe lifting procedures. - SECOR • Make sure sub-contractors are aware of their responsibilities for labor, equipment and supplies. - SECOR • Review permit conditions. - SECOR
SPSA/PPE - Safe Performance Self Assessment or Plan Prevent Execute-ASSESS/PLAN the site and planned work activities for unforeseen or site specific safety concerns or new/changing conditions.	If there is no potential for chemical exposure then Level D may be worn; hard hat, safety glasses with side shields, steel toed boots, reflective traffic vest, long sleeve shirts and long pants.If there is a potential for chemical contact than all the above apply as well as an Air-Purifying respirator with combination organic vapor/P-100 cartridges.	ANALYZE/PREVENT Vehicle accident. Traffic Hazards.	• ACT/EXECUTE - SECOR • Coordinate with Site Manger (or designee) to minimize potential conflicts - SECOR • Review proposed locations. - SECOR • Develop traffic guidance and control plan with the client and local agencies as applicable. Plan may include use of delineators; barrier tape, jersey barriers, snow fence, etc. - SECOR • It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Guidance and Control configuration if a formally developed Traffic Guidance and Control Plan is not available. - SECOR

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Determine survey locations	If there is no potential for chemical exposure then Level D may be worn; hard hat, safety glasses with side shields, steel toed boots, reflective traffic vest, long sleeve shirts and long pants.If there is a potential for chemical contact than all the above apply as well as an Air-Purifying respirator with combination organic vapor/P-100 cartridges.	Trips and falls, traffic hazards.	• Observe walking surfaces carefully, walk in traversable areas when possible. - SECOR • Make sure you are visible to others on-site by wearing safety vest, stand clear from moving equipment or traffic, and establish eye contact with operator when approaching. - SECOR . - SECOR
Set up necessary traffic guidance and control equipment	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves.	Struck by vehicle during placement. Vehicle accident as a result of improper traffic control equipment placement.	• Use buddy system for placing traffic guidance and control equipment. - SECOR • Implement traffic guidance and control plan such as setting out cones and tape defining safety area. - SECOR • Adhere to approved Traffic Guidance and Control Plans when working in roadways and areas with vehicle traffic. - SECOR • It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Guidance and Control configuration if a formally developed Traffic Guidance and Control Plan is not available. - SECOR
Set up the survey equipment (site glass, laser, or GPS)	If there is no potential for chemical exposure then Level D may be worn; hard hat, safety glasses with side shields, steel toed boots, reflective traffic vest, long sleeve shirts and long pants.If there is a potential for chemical contact than all the above apply as well as an Air-Purifying respirator with combination organic vapor/P-100 cartridges.	Tripod pinch points, lifting hazards of survey equipment, muscle strain, damage to equipment.	• Be knowledgeable of proper equipment set up. - SECOR • Use hand protection and proper lifting techniques (bend knees, keep back straight) and body positioning. Keep loads close to body; avoid twisting torso, and use legs, not back, to lift loads - SECOR • Don't carry more than you can handle, and get help moving heavy or awkward objects. - SECOR • Adhere to approved Traffic Guidance and Control Plans when working in roadways and areas with vehicle traffic. - SECOR

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Survey the site.	If there is no potential for chemical exposure then Level D may be worn; hard hat, safety glasses with side shields, steel toed boots, reflective traffic vest, long sleeve shirts and long pants.If there is a potential for chemical contact than all the above apply as well as an Air-Purifying respirator with combination organic vapor/P-100 cartridges.	Slips, trips and falls, traffic, tripod pinch points, lifting hazards of survey equipment, muscle strain, damage to equipment.	• In traffic area, set up cones to define work area. - SECOR • Watch where you step while moving around survey equipment, maintain good housekeeping, wear a reflective vest to be visible to others in the area. - SECOR • Use proper body position while operating survey equipment. - SECOR
NOTE: WHEN ALL TERRAIN VEHICLE IS USED IN SURVEYING<>ONLY QUALIFIED PERSONNEL MAY OPERATE ATV	If there is no potential for chemical exposure then Level D may be worn; hard hat, safety glasses with side shields, steel toed boots, reflective traffic vest, long sleeve shirts and long pants.If there is a potential for chemical contact than all the above apply as well as an Air-Purifying respirator with combination organic vapor/P-100 cartridges. Wear an approved safety helmet. All riders must be in a seat originally designed into the ATV.	ATV overturning and trapping or being crushed under the ATV, abrasions, collision with other vehicles/landscaping.	• Use only properly trained personnel. - SECOR • Do not allow riders above ATV design capacity. - SECOR • Wear appropriate PPE (helmet, leg protection if heavy underbrush and deadfall trees. - SECOR • Operate at safe speeds and accelerate/ decelerate slowly, ascend/descend perpendicular to slope. - SECOR
Supervisor/SHSO must confirm all monuments are closed	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves.	Possible injuries and damage to property due to stepping into or driving over the well.	•Visually inspect each and every monument. - SECOR

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Clean site/demobilize.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary.	Traffic. Safety hazard left on site. Lifting hazard.	• Use buddy system as necessary to remove traffic guidance and control equipment - SECOR • Leave site clean of refuse and debris - SECOR • Notify station personnel of departure - SECOR • Use proper lifting techniques or use mechanical assistance. - SECOR

Task 2 The following table addresses the concerns of GeoProbe sampling.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
Clear drilling locations.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary. Use disposable shoe covers similar (boots worn over steel toe boots) to prevent contact of the tar-like material with shoes.	Traffic hazards, overhead and underground installations, product releases, property damage, dealer inconvenience.	• Reference Utility Clearance Review form (**Attachment 4**). • Coordinate with Site Manger (or designee) to minimize potential conflicts. • Review proposed locations against available construction drawings and known utilities, tanks, product lines, etc. • Mark out the proposed borehole locations. • Call underground utility locating service for public line location clearance and get list of utilities being contacted. If necessary, coordinate private line locator for private property. • Develop a traffic control plan with the client and local agencies as applicable. Plan may include use of cones, barrier tape, jersey barriers, etc • **It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Control configuration if an Approved Traffic Control Plan is not available.**
Obtain sub-contractor equipment maintenance records prior to commencing work.		Improper equipment maintenance, which can cause equipment failure and possible personal injury.	• Verify maintenance records in possession are for equipment on site. • Verify maintenance is current.
Mobilize with proper equipment/supplies for drilling.	Gather necessary PPE. Reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, ear plugs/muffs, and leather gloves for the non-chemical aspects of work as necessary; Wear an appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges, and other PPE as needed. (*Use a North 7600 series full face respirator or its equivalent. Best brand nitrile gloves or their equivalent. Howard Leight Max foam earplugs with an NRR of 33or their equivalent Tyvek, poly coated chemical resistant suit or it's equivalent).*	Vehicle accident. Lifting hazards. Delay or improper performance of work due to improper equipment onsite.	• Start project with Production Safety Meeting (**Attachment 6**). • Follow safe driving procedures. • Employ safe lifting procedures. • Make sure sub-contractors are aware of their responsibilities for labor, equipment and supplies. • Review permit conditions.
Visually clear proposed drilling locations.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Underground and overhead installations.	• Complete Pre-Mobilization section of Utility Clearance Review form (**Attachment 4**) and adjust drilling locations as necessary.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
Set up necessary traffic control.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Struck by vehicle during placement. Vehicle accident as a result of improper traffic control equipment placement.	• Use buddy system for placing traffic control. Implement traffic control plan such as setting out cones and tape defining safety area. • It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Control configuration if a separate diagram is not available. • Adhere to approved Traffic Control Plans when working in roadways. • **It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Control configuration if an Approved Traffic Control Plan is not available.**
Assist with set up of rig.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Vehicle accident during rig movement. Damage caused by rig while accessing set-up location. Contact with overhead installations. Soft terrain. Rig movement.	• All staff should know where the kill switch is for the drilling rig (incorporate into Production Safety Meeting (See **Attachment 6**)). • Verify clear pathway to drilling location and clearance for raising mast. • Provide as-needed hand signals and guidance to driver to place rig. • Visually inspect rig (fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition?). • If necessary, use wooden blocks under jacks to spread load. Chock wheels.
Set up exclusion zone(s) and workstations (Hydropunch/Geoprobe and logging/sample collection).	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Struck by vehicle during set up. Slip/fall hazards.	• Implement exclusion zone set up. • **It is the responsibility of the SHSO to annotate the Site Plan with the exclusion zone configuration.** • Set up workstations with clear walking paths to and from rig. Use safety tape and cones.
Clear upper five feet of Hydropunch/Geoprobe location using post-hole digger or hand auger.	Don required PPE as appropriate for this step: steel toed and shank shoes, hard hat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary Wear chemical resistant gloves during handling of soil. Wear an air-purifying respirator with combination organic vapor/HEPA P-100 cartridges if necessary. (*Use a North 7600 series full face respirator or its equivalent. Best brand nitrile gloves or their equivalent. Howard Leight Max foam earplugs with an NRR of 33 or their equivalent. Tyvek poly coated chemical*	Back strain, exposure to chemical hazards, hitting an underground utility, repetitive motion.	• Stand upwind to avoid exposure whenever possible. • Initiate air quality monitoring in accordance with **Section 12** • Use the organic vapor monitor aggressively to track the airborne concentration of contaminants close to potential sources such as the core as it is being raised from the hole, the core is opened, etc. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available. • Evaluate any soil samples inside a Ziploc bag at arm's length. DO NOT EVALUATE THE SAMPLE WITH THE BAG OPEN. THIS WILL AVOID UNNECESSARY EXPOSURE. • Use proper lifting techniques and tools.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
	resistant suit or it's equivalent)		• Complete the Pre-Drilling section of the Borehole Clearance Review form. • Avoid twisting back during the operation; Decontaminate equipment after use. Decontamination will be accomplished as indicated in the RI/FS Workplan. Transfer waste generated to 55-gallon drums or poly tank and stage drums in the staging area.
Commence Geoprobe/Hydropunch operation.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges if needed.	Cross-contamination from previous hole. Back strain, heat or cold, eye injury, noise, exposure to chemical hazards, hitting an underground utility, trip and fall, equipment failure	• Decontaminate sampling equipment after collecting a sample. Decontaminate equipment after use. Decontamination will be accomplished by an Alconox wash (or equivalent) with tap water rinse followed by a second tap water rinse, and a final rinse with distilled or de-ionized water. • Decontaminate Geoprobe/Hydropunch equipment after each evolution. (Subcontractor will decon equipment according to the RI/FS). • Use proper lifting techniques. • Monitor air quality in accordance with **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available. • Monitor Geoprobe/Hydropunch progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of Geoprobe/Hydropunch rig.
Collect samples in accordance with sampling plan.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Cross-contamination. Back strain, inhalation or dermal exposure to chemical hazards, slip and fall. Improper labeling or storage, injury from broken sample bottle (cuts or acid burn).	• Perform air monitoring in accordance with **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available. • Decontaminate sampling equipment between each well and/(unless disposable). If the equipment is reusable, then wash in an Alconox wash (or equivalent) with tap water rinse followed by a second tap water rinse, and a final rinse with distilled or de-ionized water. Decontamination water will be transferred to 55-gallon drums or poly tanks and staged in the storage area. • Use proper lifting techniques. • Label samples in accordance with sampling plan. • Keep samples stored in proper containers, at correct temperature, and away from work area. Handle bottles carefully.
Cuttings will be picked up by shovel and placed directly in 55-gallon drums.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical	Exposure to public. Traffic hazard or obstruction/inconvenience to station operation Improper	• Have proper storage containment and labeling available onsite. • Place materials in isolated location away from traffic and other site functions. *(See next section for Waste Description).*

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g site managers, inspectors, clients, subcontractors, etc.) A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
	aspects of work as necessary. If you suspect that equipment is contaminated, wear chemical resistant gloves.	storage or disposal. Back strain.	• Use appropriate drum handling practices. Do not attempt to lift, push or move drums without the proper tools and equipment
Backfill borehole.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary	Improper grouting can lead to future vertical conduit for contaminant migration. Back strain, trip hazards, and eye injury from splashing or release of pressurized grout. Unauthorized backfilling causes extra work.	• Mix grout to specification and completely fill the hole. • Use proper lifting techniques. • Keep work area clear of tripping hazards.
Dispose or store purge water (if any) onsite.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Back strain. Exposure to contaminants. If disposing through onsite treatment system, damage or injury from improper use of equipment. Improper storage or disposal.	• Use appropriate drum handling practices. • Use proper equipment to transport water (pumps, drum dollies, etc.). • Monitor air quality in accordance with **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA cartridges within 3-5 feet of working location, readily available. • Label storage containers properly, and locate in isolated area away from traffic and other site functions. • Coordinate offsite disposal (where applicable). • Do not attempt to lift, push or move drums without the proper tools or equipment.
Supervisor/HSC must confirm all boreholes are closed, filled in and/or capped.		Possible injuries and damage to property due to stepping into or driving over the well.	• Visually inspect each and every borehole.
Clean site/demobilize.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary.	Traffic. Safety hazard left on site. Lifting hazards.	• Use buddy system as necessary to remove traffic control. • Leave site clean of refuse and debris. • Clearly mark/barricade any borings that need later topping off or curing. • Notify site personnel of departure, final well locations and any cuttings/purge water left onsite. • Use proper lifting techniques
Package and deliver samples to lab		Bottle breakage, back strain.	• Handle and pack bottle carefully (bubble wrap bags are helpful). Use proper lifting techniques.

Task 3 The following table addresses the concerns of soil and groundwater sampling. This also includes installation of wells.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
Clear drilling locations.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Traffic hazards, overhead and underground installations, product releases, property damage, dealer inconvenience.	• Reference Utility Clearance Review form (**Attachment 4**). • Coordinate with Site Manger (or designee) to minimize potential conflicts. • Review proposed locations against available construction drawings and known utilities, tanks, product lines, etc. • Mark out the proposed borehole locations. • Call underground utility locating service for public line location clearance and get list of utilities being contacted. If necessary, coordinate private line locator for private property. • Develop a traffic control plan with the client and local agencies as applicable. Plan may include use of cones, delineators, barrier tape, jersey barriers, etc • **It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Control configuration if a formally developed Traffic Control Plan is not available.**
Obtain sub-contractor equipment maintenance records prior to commencing work.		Improper equipment maintenance, which can cause equipment failure and possible personal injury.	• Verify records in possession are for equipment on site. • Verify maintenance is current.
Mobilize with proper equipment/supplies for drilling.	Gather necessary PPE. Reflective vest for traffic, steel toed and shank shoes, hard hat, safety glasses with side shields, ear plugs/muffs, leather gloves for the non-chemical aspects of work as necessary; Wear an air purifying respirator with combination organic vapor/HEPA P-100 cartridges, and other PPE as needed. (*Use a North 7600 series full face respirator or its equivalent Best brand nitrile gloves or their equivalent. Howard Leight Max foam earplugs with an NRR of 33 or their equivalent. Tyvek, poly coated chemical resistant suit or it's equivalent)*	Vehicle accident. Lifting hazards. Delay or improper performance of work due to improper equipment onsite.	• Start project with Production Safety Meeting (**Attachment 6**). • Follow safe driving procedures. • Employ safe lifting procedures. • Make sure sub-contractors are aware of their responsibilities for labor, equipment and supplies. • Review permit conditions.
Visually clear proposed drilling	Wear reflective vest for traffic, steel	Underground and overhead	• Complete Pre-Mobilization section of Utility Clearance Review form

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project Weather conditions (heat, cold, rain, lightning) must also be considered

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
locations.	toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	installations.	**(Attachment 4)** and adjust drilling locations as necessary.
Set up necessary traffic control.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Struck by vehicle during placement. Vehicle accident as a result of improper traffic control equipment placement.	• Use buddy system for placing traffic control. Implement traffic control plan such as setting out delineators, snow fence and tape defining safety area. • Adhere to approved Traffic Control Plans when working in roadways. • **It is the responsibility of the SHSO to annotate the Site Plan with the Traffic Control configuration if a formally developed Traffic Control Plan is not available.**
Assist with set up of rig.	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Vehicle accident during rig movement. Damage caused by rig while accessing set-up location. Contact with overhead installations. Soft terrain. Rig movement.	• Rig mast must be down when moving/repositioning rig. • All staff should know where the kill switch is for the drilling rig. • Verify clear pathway to drilling location and clearance for raising mast. • Provide as-needed hand signals and guidance to driver to place rig. • Visually inspect rig (fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition?). • If necessary, use wooden blocks under jacks to spread load. Chock wheels.
Set up exclusion zone(s) and workstations (drilling and logging/sample collection).	Wear reflective vest for traffic, steel toed and shank shoes, hardhat, safety glasses with side shields, and leather gloves as necessary.	Struck by vehicle during set up. Slip, trip and fall hazards.	• Implement exclusion zone set-up. **It is the responsibility of the SHSO to annotate the Site Plan with the Exclusion Zone set up.** • Set up workstations with clear walking paths to and from rig. Use safety tape and delineators. • If utilizing Visqueen, (sheet plastic), for sampling area, completely secure Visqueen to the pavement, dirt, etc. with duct tape, delineators, etc. Do not use objects that are hard to notice or could become a trip hazard themselves.
Clear upper five feet of drilling location using post-hole digger or hand auger.	Don required PPE as appropriate for this step: steel toed and shank shoes, hard hat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. Wear chemical resistant gloves during handling of soil. Wear an air-purifying respirator with combination organic	Back strain, exposure to chemical hazards, hitting an underground utility, repetitive motion.	• Initiate air quality monitoring as outlined in **Section 12.** • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available. • Stand upwind to avoid exposure whenever possible. • Use the organic vapor monitor aggressively to track the airborne concentration of contaminants close to potential sources such as the core as it is being raised from the hole, the core is opened, etc. • Evaluate any soil samples inside a Ziploc bag at arm's length DO NOT

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
	vapor/HEPA P-100 cartridges if necessary. (*Use a North 7600 series full face respirator or its equivalent. Best brand nitrile gloves or their equivalent. Howard Leight Max foam earplugs with an NRR of 33 or their equivalent. Tyvek poly coated suit or it's equivalent)*		EVALUATE THE SAMPLE WITH THE BAG OPEN. THIS WILL AVOID UNNECESSARY EXPOSURE. • Use proper lifting techniques and tools. • Complete the Pre-Drilling section of the Borehole Clearance Review form. • Avoid twisting back during the operation; Decontaminate equipment after use. Decontamination will be accomplished as given in the RI/FS. Collect rinse water in 5 gallon buckets and transfer to 55-gallon drums or poly tank and stage in the storage area.
Commence drilling operation.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges if needed. Wear chemical resistant gloves if needed.	Cross-contamination from previous hole. Back strain, heat or cold, eye injury, noise, exposure to chemical hazards, hitting an underground utility, slips, trips and falls, equipment failure.	• Decontaminate sampling after collecting a sample and decontaminate drilling equipment after each borehole. • Use proper lifting techniques. • Conduct air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.
Collect samples in accordance with sampling plan.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges if needed.	Cross-contamination, improper labeling or storage, exposure to site contaminants.	• Evaluate any soil samples inside a Ziploc bag at arm's length. DO NOT EVALUATE THE SAMPLE WITH THE BAG OPEN. THIS WILL AVOID UNNECESSARY EXPOSURE. • Decontaminate sampling equipment between each sampling run. Label samples in accordance with sampling plan. • Keep samples stored in proper containers, at correct temperature, and away from work area. • Conduct air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available.
Cuttings will be picked up by shovel and placed directly in 55-gallon drums.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. If you suspect that equipment is	Exposure to public. Traffic hazard or obstruction/inconvenience to station operation. Improper storage or disposal. Back strain.	• Have proper storage containment and labeling available onsite. Place materials in isolated location away from traffic and other site functions. *(See next section for Waste Description)* • Do not attempt to lift, push or move drums without the proper tools and equipment.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
	contaminated, wear chemical resistant gloves. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.		• Conduct air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available.
Construct well	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary.	Back strain, eye injury, slip, trip and fall hazards. Cross-contamination. Non-approved well construction.	• Use proper lifting techniques. • Keep pathways from well supplies to borehole clear of tripping hazards. • Make sure casing and other materials are clean before going into borehole. • Verify presence or other authorization by any required inspectors for well installation/grouting.
Cut pavement to set well vault.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work. If you suspect that equipment is contaminated, wear chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Moving blade, eye hazards, exhaust from motor, noise, back strain. Particulate inhalation. Traffic hazards.	• Employ proper lifting techniques or mechanical assistance. • Keep work area clear of debris. • Maintain traffic control and face oncoming traffic. • Conduct air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPAP-100 cartridges within 3-5 feet of work area, readily available.
Install well vault and set in concrete.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. If you suspect that equipment is contaminated, wear chemical resistant gloves. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Back strain, eye injury, skin exposure to concrete, particulate inhalation, slip, trip and fall hazards. Traffic hazards.	• Use proper lifting technique and equipment to install well vault and in concrete preparation. • Complete well vault smooth to grade to eliminate trip hazard (if slightly elevated to prevent storm water intrusion, slope concrete skirt gradually). • Maintain traffic control and face oncoming traffic. • Perform air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available.
Develop well by hand bail, surge and bail, or vacuum truck	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. Wear appropriate air purifying	Physical injury from mechanical failure vacuum truck. Trip hazard. Exposure to contaminants. Cross-contamination. Electric shock. Back strain	• Make sure equipment is in good working order and pressurized hoses are whip-checked. • Perform air monitoring as outlined in **Attachment 6**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e g site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
	respirator with combination organic vapor/HEPA P-100 cartridges as needed.		• Keep work area orderly. • Decontaminate all equipment going into well. • Any generators must be equipped with GFCI circuit.
Gauge water levels and product thickness (where applicable) in wells.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed. Wear chemical resistant suit as needed.	Back strain, inhalation or dermal exposure to chemical hazards, repetitive motion.	• Perform air monitoring as outlined in **Attachment 6**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of working location for quick access. • Maintain safe distance from wellhead. • Bend at knees, not at the waist.
Purge well(s) and collect purge water. Purging of the wells can be done by using one of three methods, hand bailer, low flow purge, or vacuum truck. Collected water will be transferred to a 55-gallon drums or poly tanks and staged in the storage area.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work. If you suspect that equipment is contaminated, wear chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed. Wear chemical resistant suit as needed.	Cross-contamination. Back strain, inhalation or dermal exposure to chemical hazards, slip and fall. Spilling contaminated water.	• Decontaminate purging equipment between each sampling location. Two methods of equipment decontamination will be used on this site. If disposable bailers are used, then they will be properly disposed of. If the bailers are reusable, then they will be washed as required in the RI/FS. Decontamination water will be transferred to 55-gallon drums or poly tank and staged in the storage area. • Use proper lifting techniques. • Perform air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of working location , readily available. • Keep work area clear of tripping or slipping hazards. • Store purge water in 55-gallon drums or poly tanks and stage in the storage area.
Collect groundwater samples in accordance with sampling plan.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA cartridges as needed.	Cross-contamination. Back strain, inhalation or dermal exposure to chemical hazards, slip and fall. Improper labeling or storage, injury from broken sample bottle (cuts or acid burn).	• Decontaminate sampling equipment between each well (unless disposable). • Use proper lifting techniques. • Perform air monitoring as outlined in **Section 12.** • Have appropriate respirator with combination organic vapor/HEPA cartridges within 3-5 feet of working location for quick access. • Label samples in accordance with sampling plan. • Keep samples stored in proper containers, at correct temperature, and away from work area. Handle bottles carefully.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
Dispose or store purge water (if any) onsite.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Back strain. Exposure to contaminants. If disposing through onsite treatment system, damage or injury from improper use of equipment. Improper storage or disposal.	• Use proper equipment to transport water (pumps, drum dollies, etc.). • Perform air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of working location for quick access. • Label storage containers properly, and locate in isolated area away from traffic and other site functions. • Coordinate offsite disposal (where applicable). • Do not attempt to lift, push or move drums without the proper tools or equipment.
Supervisor/HSC must confirm all boreholes are closed, filled in and/or capped.		Possible injuries and damage to property due to stepping into or driving over the well.	• Visually inspect each and every borehole.
Clean site/demobilize.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary.	Traffic. Safety hazard left on site. Lifting hazards.	• Use buddy system as necessary to remove traffic control. • Leave site clean of refuse and debris. • Clearly mark/barricade any borings that need later topping off or curing. • Notify site personnel of departure, final well locations and any cuttings/purge water left onsite. • Use proper lifting techniques
Package and deliver samples to lab.		Bottle breakage, back strain.	• Handle and pack bottle carefully (bubble wrap bags are helpful). Use proper lifting techniques.

Task 4: The following table addresses the concerns of well development.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
Develop well by hand bailing, vacuum truck or surge block.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Physical injury from mechanical failure vacuum truck. Trip hazard. Exposure to contaminants. Cross-contamination. Electric shock. Back strain.	• Make sure equipment is in good working order and pressurized hoses are whip-checked. • Perform air monitoring as outlined in **Attachment 6**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of work area, readily available. • Keep work area orderly. • Decontaminate all equipment going into well. • Any generators must be equipped with GFCI circuit.
Gauge water levels and product thickness (where applicable) in wells.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed. Wear chemical resistant suit as needed.	Back strain, inhalation or dermal exposure to chemical hazards, repetitive motion.	• Perform air monitoring as outlined in **Attachment 6**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of working location for quick access. • Maintain safe distance from wellhead. • Bend at knees, not at the waist.
Purge well(s) and collect purge water. Purging of the wells can be done by using one of three methods, by hand bailer, surge block, or vacuum truck. If a hand bailer or surge block is used, collected water will be transferred to a 55-gallon drum.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for the non-chemical aspects of work. If you suspect that equipment is contaminated, wear chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed. Wear chemical resistant suit as needed.	Cross-contamination Back strain, inhalation or dermal exposure to chemical hazards, slip and fall. Spilling contaminated water.	• Decontaminate purging equipment between each sampling location. Two methods of equipment decontamination will be used on this site. If disposable bailers are used, then they will be properly disposed of. If the bailers are reusable, then they will be washed in an Alconox wash, rinsed with tap water, then rinsed with de-ionized or distilled water. Decontamination water will be transferred to 55-gallon drums and staged • Use proper lifting techniques. • Perform air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of working location , readily available. • Keep work area clear of tripping or slipping hazards. • Store purge water in 55-gallon drums and stage
Collect groundwater samples in accordance with sampling plan.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical	Cross-contamination. Back strain, inhalation or dermal exposure to chemical hazards, slip and fall. Improper labeling	• Decontaminate sampling equipment between each well (unless disposable). • Use proper lifting techniques.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered.

❶ Job Steps	❷ Personal Protective Equipment	❸ Potential Hazard	❹ Critical Actions
	resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA cartridges as needed.	or storage, injury from broken sample bottle (cuts or acid burn).	• Perform air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA cartridges within 3-5 feet of working location for quick access. • Label samples in accordance with sampling plan. • Keep samples stored in proper containers, at correct temperature, and away from work area. Handle bottles carefully.
Dispose or store purge water (if any) onsite.	Steel toed and shank shoes, hardhat, safety glasses with side shields, hearing protection, reflective safety vest, and chemical resistant gloves as necessary. Wear appropriate air purifying respirator with combination organic vapor/HEPA P-100 cartridges as needed.	Back strain. Exposure to contaminants. If disposing through onsite treatment system, damage or injury from improper use of equipment. Improper storage or disposal.	• Use proper equipment to transport water (pumps, drum dollies, etc.). • Perform air monitoring as outlined in **Section 12**. • Have appropriate respirator with combination organic vapor/HEPA P-100 cartridges within 3-5 feet of working location for quick access. • Label storage containers properly, and locate in isolated area away from traffic and other site functions. • Coordinate offsite disposal (where applicable). • Do not attempt to lift, push or move drums without the proper tools or equipment.

GENERAL: Driving a motor vehicle

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
PRE-TRIP - Review PPE/SPSA Card.	Window scraper	Consider worst case outcome of vehicle operation (blowout, breakdown, collision, slippery surfaces, injury or death).	• Assess the potential hazards. Analyze how to reduce the risk. Act to ensure safe operation of the vehicle SECOR/Contractor.
Verify Journey Management Plan is complete and current		Unexpected traffic detours	• Assure directions are available and understood prior to commencing travel SECOR/Contractor. • Pull the vehicle into a safe location if additional directions must be confirmed SECOR/Contractor. • Increase following distance to allow extra time to stop if you are in unfamiliar territory SECOR/Contractor.
Verify a Vehicle Collision Kit, a 3-lb type ABC fire extinguisher and other as needed emergency equipment is in the vehicle	Fire Extinguisher	Fire in vehicle, vehicle incident	• Verify prepared field kit is in the vehicle. Inventory of the kit should include first aid kit, blood borne pathogen kit, fire extinguisher, collision kit, flashlight, sampling tools, etc. SECOR/Contractor. • For cold weather areas the inventory should also include a bag of sand, a bag of salt, gloves, wool socks, wool caps, wool blankets, tire chains, small shovel and matches.
Perform perimeter walk around of vehicle for damage or unusual conditions.	Window scraper	Flat tire, blowout, impaired vision, collision, slippery surfaces, injury or death.	• Use SECOR Vehicle Daily Inspection Report SECOR/Contractor. • Assure tires are properly inflated and there is sufficient tread SECOR/Contractor. • Assure there are no cuts or bulges in the sidewalls SECOR/Contractor. • Assure windshield and window glass is clean SECOR/Contractor. • Lift wiper arms and check wiper blades for damage or deterioration SECOR/Contractor. • Check behind vehicle for obstructions SECOR/Contractor. • Check under vehicle engine for evidence of fluid leaks SECOR/Contractor. • Do not touch metal with moist or wet skin SECOR/Contractor. • Scrape windows, front and rear windshields SECOR/Contractor.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Check and adjust seat, mirrors, headlamps, turn signals, washer/wipers	Window scraper	Back or body strain. Blind spots. Inability to signal intentions. Streaking windshield, impaired vision.	• Adjust seat so back is fully supported, upper arms close to body, pedals within easy reach SECOR/Contractor. • Lower steering wheel so hands are below shoulders and shoulders are relaxed SECOR/Contractor. • Check mirror adjustments each time vehicle is re-started SECOR/Contractor. • Test operations of front and rear turn signals SECOR/Contractor SECOR/Contractor. • Locate and test operation of headlamps, wiper and washer switches SECOR/Contractor. • Verify heater and windshield defroster fan operates properly SECOR/Contractor.
Check and verify emergency equipment		Unexpected situations.	• Have within the vehicle, and maintain the integrity of, a first aid and blood borne pathogen kit and an eye wash bottle SECOR/Contractor. • Fire extinguisher SECOR/Contractor.
Site specific emergency equipment		Unexpected situations.	• When applicable, each vehicle is to be outfitted with site specific emergency equipment in the vehicle (i.e. snake bit kit, hypothermia kit) SECOR/Contractor.
Fasten seat belts.		Increased risk of more serious injury or death in collision.	• Assure seat belt is in good condition and fastened SECOR/Contractor • Assure all passenger seat belts are in good condition and fastened SECOR/Contractor.
Lock doors.		Ejection from vehicle in collision. Unwanted intrusion.	• Lock all doors to vehicle SECOR/Contractor.
Cellular Phone Usage		Driver distractions and static electric discharge that could lead to preventable incidents	• Always turn cellular phones to the off position before starting the engine SECOR/Contractor. • Do not use cellular phones when refueling SECOR/Contractor.
Start engine and let vehicle warm up.		Unexpected movement.	• Refer to Manufacturers vehicle manual for warm up times SECOR/Contractor. • Assure that transmission is in 'Park' or neutral if a standard transmission and that parking brake is set SECOR/Contractor.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Check heater, defroster, gauges and warning lights.		Overheated engine or break-down due to lack of critical fluids. Brake failure. Stranding.	• Assure there is sufficient gas, oil and other critical fluids SECOR/Contractor.
Pull out of parking space.		Collision with other vehicles, pedestrians, or stationary objects.	• Check mirrors and over shoulder in all directions prior to pulling out of parking space SECOR/Contractor. • Signal if parallel parked along a street SECOR/Contractor. • If reversing with 2 or more personnel in the vehicle, then at least 1 person must exit the vehicle and act as a spotter. If alone before getting in the car, assess the area looking for approaching pedestrians/vehicles. When clear get in vehicle, do a 360 scan then put in gear. While looking over your shoulder, slowly back out of the parking space being prepared to apply the brakes if needed SECOR/Contractor.
DURING TRIP Scan Move your eyes.		Collision, injury or death to occupants or other parties.	• Move eyes at least every 2 seconds SECOR/Contractor. • Scan major and minor intersections before entry (left-right-left) SECOR/Contractor. • Check mirrors when slowing or stopping vehicle SECOR/Contractor. • Scan mirrors frequently, at least one mirror every 5-8 seconds SECOR/Contractor. • Avoid staring while evaluating road conditions SECOR/Contractor. • Maintain adequate spacing between your vehicle and the vehicle in front of you. (Rule of thumb one second for every 10 miles per hour, minimum of 3 seconds), double the distance during poor road conditions) SECOR/Contractor. • Watch for ice on road, slow down before hitting the ice, keep your foot off the brake SECOR/Contractor.
Elevate elevate your line sight		Collision, injury or death to occupants or other parties.	• Maintain 12 second eye lead time (1 1/2 blocks in city traffic, 1/4 mile in highway traffic). Assess condition of traffic lights (fresh vs. stale) SECOR/Contractor. • Assess information from distant objects SECOR/Contractor. • Adjust eye lead distance to speed SECOR/Contractor. • Watch for ice on road, slow down before hitting the ice, keep your foot off the brake SECOR/Contractor.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Count keep your distance		Collision, injury or death to occupants or other parties.	• Maintain safety cushion around vehicle (front, sides, rear) SECOR/Contractor. • Adjust vehicle space and speed to avoid unsafe intrusion by other drivers SECOR/Contractor. • At signal controlled intersections, stop 10 feet behind crosswalks or behind other vehicles SECOR/Contractor. • When stopped, allow vehicle in front to move for 3 seconds before accelerating SECOR/Contractor. • Observe approaching merge areas and choose lane of least resistance SECOR/Contractor. • Cede right of way and allow for other vehicles to merge, change lanes, make turns, etc SECOR/Contractor. • Watch for ice on road, slow down before hitting the ice, keep your foot off the brake SECOR/Contractor.
Out have a way out		Collision, injury or death to occupants or other parties.	• Avoid being unnecessarily boxed in SECOR/Contractor. • Avoid sudden acceleration and deceleration SECOR/Contractor. • Maintain 1 second for every 10 mph (with 3 second minimum) following distance, adjust speed to traffic conditions, scan immediate and adjacent lanes before merging SECOR/Contractor.
Recognize - make sure others see you.		Collision, injury or death to occupants or other parties.	• Seek eye contact with other drivers SECOR/Contractor. • Cover or use horn when conditions warrant SECOR/Contractor. • Before changing lanes, signal well in advance, check mirrors and over shoulder, and allow adequate space before changing lanes SECOR/Contractor. • Break early to activate brake lights SECOR/Contractor. • Stay out of blind spots. Gently sound horn or flash lights if unsure other driver sees you SECOR/Contractor. • Turn on headlamps in high traffic areas, at dusk, and in inclement weather. Do not over drive your headlights SECOR/Contractor. • Increase the distance between your vehicle and the vehicle in front of you at night SECOR/Contractor.

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting must be performed and documented at the beginning of each workday. Plan, Prevent, Execute (PPE)/Safe Performance Self Assessment (SPSA) procedures must be used throughout the project. Weather conditions (heat, cold, rain, lightning) must also be considered. Each employee is empowered, expected, and has the responsibility to stop the work performed by him/herself or another co-worker if the working conditions or behaviors are considered unsafe. All employees should act proactively to identify and mitigate hazards to the safest extent of their ability.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Backing up.		Collision, injury or death to occupants or other parties.	• Make all backing maneuvers slowly and cautiously SECOR/Contractor. • Check mirrors and over shoulders. When parking, look for pull-through parking to avoid backing SECOR/Contractor. • If reversing with 2 or more personnel in the vehicle, then at least 1 person must exit the vehicle and act as a spotter. If alone before getting in the car, assess the area looking for approaching pedestrians/vehicles. When clear get in vehicle, do a 360 scan then put in gear. Give 2 short honks of the horn, while looking over your shoulder, slowly back out of the parking space being prepared to apply the brakes if needed SECOR/Contractor.
Pay attention to driving at all times		Collision, injury or death to occupants or other parties.	• Always focus on driving. Stop driving if you become distracted SECOR/Contractor. • Refrain from conducting involved or emotional discussions while driving - end the conversation or pull over to the side of the road if it becomes difficult to concentrate on driving while conversing with your passengers SECOR/Contractor.
Parking.		Collision, injury or death to occupants or other parties.	• Park away from other cars SECOR/Contractor. • Back into parking spot when possible and safe SECOR/Contractor. • If reversing with 2 or more personnel in the vehicle, then at least 1 person must exit the vehicle and act as a spotter. If alone before getting in the car, assess the area looking for approaching pedestrians/vehicles. When clear get in vehicle, do a 360 scan then put in gear. Give 2 short honks on the horn, while looking over your shoulder, slowly back out of the parking space being prepared to apply the brakes if needed SECOR/Contractor. • Maintain cushion of safety from fixed objects. Set parking brake SECOR/Contractor.
POST-TRIP - Report maintenance or mechanical problems upon returning vehicle.		Conditions worsen leading to mechanical failure resulting in accident, injury or death.	• Report vehicle problems immediately to company representative or rental car agency SECOR/Contractor.

14.0 WASTE CHARACTERISTICS

A. Waste Generation (Type(s)/Quantities Expected):

Anticipated (YES/NO):____

Types: Liquid __X__ Solid __X__ Sludge _____ Other (describe) _____

Quantity (Expected Volume): _____unknown_____

B. Characteristics (Expected):

Corrosive _____ Flammable/Ignitable _____ Radioactive _____ Toxic __X_____

Reactive _____ Unknown ___

Other (specify) _____

C. Packaging requirements for waste material (Expected):

- DOT-approved drums X_____
- Baker tanks—water (possibly tankers if trucked off site) ___X_____
- Lined waste bins ____
- Excavated soil will be temporarily stockpiled and then trucked for disposal
- 5 gallon buckets _____

D. Disposal and/or Treatment Methods Proposed:

All wastes will be sampled and analyzed. Results of analysis will determine how and where impacted materials may be disposed of. All materials will be disposed of or treated in accordance with federal, state and local regulations as selected and arranged by **BP ARCO** to the appropriate treatment, storage or disposal facility. **ARCO** personnel will be responsible for signing the manifest.

ATTACHMENT 1

CLIENT'S SAFETY PROCEDURES

C.A.R.E. CARD

Corrective Action Risk Elimination

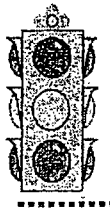
WEST SAFETY REINFORCEMENT PLAN

bp

"no accidents, no harm to people, and no damage to the environment"

Use this card daily to achieve this objective!

Remember to Stop! and Perform the Triple A



TRIPLE A

Before every task, immediately after every incident, and before beginning any unfamiliar process:

Step 1 *ASSESS* the risk

Step 2 *ANALYZE* all potential hazards

Step 3 *ACT* to eliminate the risk before proceeding

Safe Behavior Observations

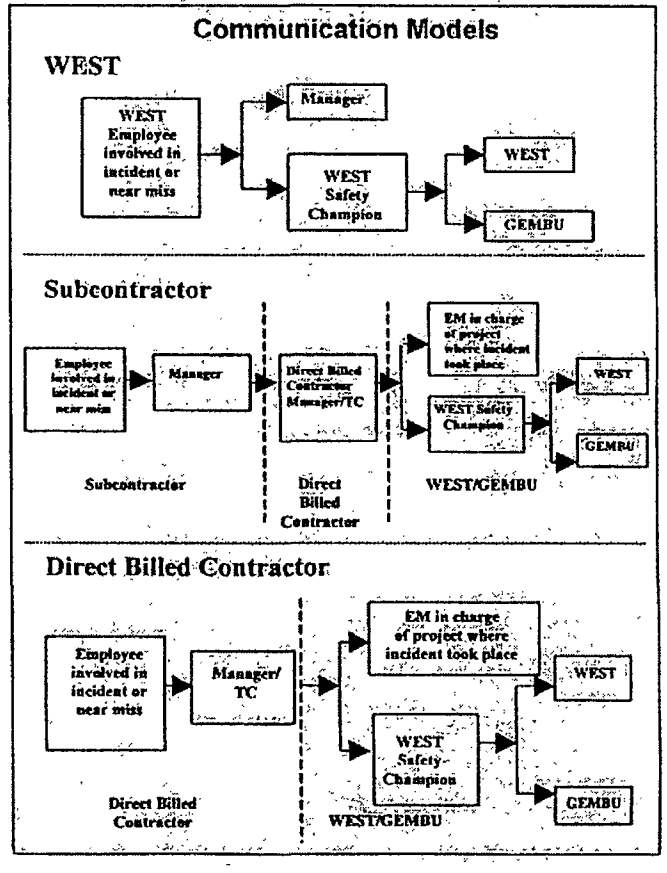
Near Miss Investigations/Shared Learning Process

Incident Investigations/Shared Learning Process

Near Miss/Incident Investigation Instructions

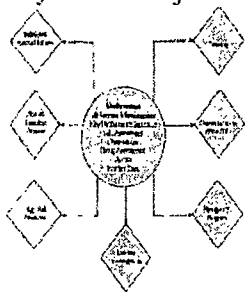
- Notify WEST personnel within 24 hours
- Follow written procedure
- Use Near Miss / Incident Investigation Form
- Follow Root Cause Analysis (see Supervisor Guide) to define appropriate corrective actions
- Publish Shared Learning according to communication models (see other side)

Communication Models



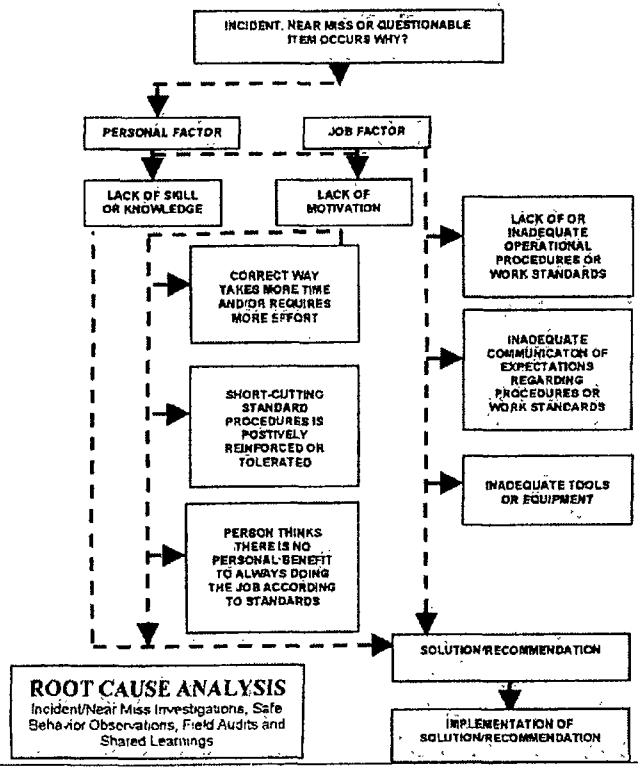
Safety Reinforcement Plan
Supervisor's Guide

Key Elements of SRP



As a supervisor within the GEMBU, this guide will assist you in implementing and sustaining the safe behavior based culture driven by the SRP. The communication models found in the SRP and the root cause analyses below are used to derive and share appropriate safety information with the GEMBU. The Supervisor Feedback Guide on the reverse should be used to conclude all Safe Behavior Observations. As you champion these principles, you improve the safety of all BP employees and our customers!

Root Cause Analysis



Supervisor's Feedback Guide

Review this checklist prior to a safe behavior observation feedback session

Tips for effective feedback
- Conduct the feedback session immediately after the observation is *completed*
- Maintain eye contact
- Use the 4 positives to 1 negative reinforcement rule
- Be specific, give examples

Opening statement: The reason for conducting the observation...
- Identify and correct questionable items
- Reinforce observations as positive

Review positives from the observation and their benefits to the individual and the organization
- Mention specific behaviors that are significantly critical to safe performance
- Emphasize the percentage of tasks observed as performed correctly

Discuss any questionable items from the observation
- All parties agree that a questionable item exists
- Relate questionable activities to potential consequences (i.e. spills, injury, etc.)
- Describe the deviation from the standard

Identify the root causes of questionable items
- All parties agree to the root causes
- Ensure that each questionable item has an identified root cause

Develop a solution and an action plan
- Each root cause must have a solution, owner and due date
- Solutions should be practical and sustainable

Closing statement (60 seconds or less)
- Review reason for conducting observation
- Review positive aspects of observation
- Review consequences of questionable items
- Thank all participants
- Restate root causes and solutions
- Give the observer feedback on the quality of the observation

Remediation Management Authorization to Work (ATW) Instructions

All field work undertaken for Remediation Management will be done under an Authorization to Work (ATW) form. The ATW needs to be completed before the work commences each day and covers the task to be completed in the period covered by the form and stipulates the Control of Work procedures and permits required. Authorization to Work forms can be self-authorized for all work not requiring a permit. When a permit is required, it can only be signed by a person authorized to do so and can not be the person doing the work. An ATW is only valid when all required signed permits are attached to it. Copies of all issued ATW permits are to be kept with the HASP for the project.

Completing the ATW form:

Pre-Task Hazard Review: All of the tasks to be completed under this form are to be listed, the JSA's for those tasks reviewed, and the Equipment to be used for each task listed.
The hazards of the tasks are to be checked of on the sheet (Chemical/Products/Material, Hazardous Energy, and Other Potential Hazards) and discussed with the team. Anyone coming on to the work site needs to have a full understanding of the hazards.
All applicable safety precautions should be checked and discussed with the team (including PPE required). The PPE and other safety precautions need to be in place for anyone coming on site. Any exceptions made to these requirements need to be noted.

Required Procedures: All of the Control of Work Procedures that apply to the tasks being performed are to be checked and the procedures reviewed.
Before any drilling work is undertaken the Drilling Procedure information needs to be reviewed and the Pre-Drilling Checklist completed and attached to the ATW.
Any changes to the scope of work and work outside the JSA conditions needs to undergo an analysis using the MOC procedures.
Any work being done in congested areas, public right of ways, and retail forecourts need to follow the traffic control procedures.
Any work requiring energy isolation needs to follow the LO/TO procedures.
Any work that involved lifting needs to follow the hoisting/lifting procedures.
Workers traveling alone to a remote work site need to complete a Journey Hazard Assessment and attach it to the ATW.

Required Permits: All permits that apply to the tasks being completed need to be checked, and the permits need to be obtained before the work commences. The ATW for work requiring a permit can not be self-authorized. Once completed, all permits required for the work need to be attached to the ATW. Permits are required for all tasks involving Hot Work, Ground Disturbance, Confined Spaces, and Working From Height.

Signatures: An ATW is only valid with an authorization signature. When a permit is required the authorization signature is that of the permit writer otherwise it is either the project manager or person in charge of the work. The ATW should stipulate its effective period and describe the work site location in enough to effectively identify where the work is being done. Work should not be authorized unless a Health and Safety plan, an Emergency Response Plan (could be part of the HASP), and the applicable JSAs are on site. Anyone coming on site needs to review the ATW and sign to attest that they understand the content.

PRINT OUT ATW AND INSERT HERE

ATTACHMENT 2

SITE PLAN(s)

ATTACHMENT 3

NOTE: BLUE areas are filled in for all reports!

Near Miss Type :

15.0 ☐ **NEAR MISS /HSE OPPORTUNITY** ☐ **SECURITY: Select Type**

☐ **Occupational Injury or Illness** ☐ **Compliance / Conformance –Environmental Event**

☐ **Transportation: Select type** ☐ **Material Release**

☐ **Complaints –Public / Third Party** ☐ **Loss or Damage: Select Type**

16.0 LOCATION 1: Select Location **LOCATION 2: Select Location 2**

17.0 LOCATION 3: JOB NUMBER· EBM·

Station Number/Terminal Name: Street Address. City. State: Zip:

18.0 GENERAL INFORMATION:

Date Occurred: Time Occurred: Date Reported: Time Reported:

Reported By: Reported to: Contact Number·
Job Title: Job Title:

Primary Company Involved.

Event Description: (No more than 7 lines, do not include "SECOR" or pronouns i.e. he, she etc.)

Category: Select Category **Operation in Progress: Select Operation**

Immediate Action Taken: (What was the first thing you did to react to the incident)

Ground Conditions: Select Condition **Weather Conditions: Select Condition**

19.0 SEVERE WEATHER CONDITIONS: Select Condition

Lighting: Select Lighting

19.1 **HSE** (See BPs "getting HSE right")

Failed Expectation # 1 Failed Expectation # 2: Failed Expectation # 3:

19.2 ROOT CAUSE ANALYSIS:

#	ROOT CAUSE and CONTRIBUTING FACTORS: Conclusion (Describe in Detail Why Incident/Near Miss Occurred).

ROOT CAUSE(S) ANALYSIS (RCAF):	

1. Lack of skill or knowledge.	5. Current way takes more time and/or requires more effort.
2. Lack of or inadequate operational procedures or work standards.	6. Short cutting standard procedures is positively reinforced or tolerated
3. Inadequate communication of expectations regarding procedures or work standards.	7. Person thinks there is no personal benefit to always doing the job according to standards.
4. Inadequate tools or equipment.	8. Uncontrollable.

#	19.2.1.1 RCA #	Solution(s): How to Prevent Incident/Near Miss from Reoccurring	19.2.1.2 19.2.1.3 Person Responsible	19.2.1.4 Due Date	19.2.1.5 Closure Date

19.2.1.5.1 Investigation Team Members		
19.2.1.5.2 Name	19.2.1.6 Job Title	19.2.1.7 Date

19.2.1.7.1 Results of Solution Verification and Validation

19.2.1.7.2 Reviewed By		
19.2.1.7.3 Name	19.2.1.8 Job Title	19.2.1.9 Date

End of Basic Near Miss Form.
If Media, Emergency Services or Regulatory Agencies were contacted complete "Other Information" section
For an injury or illness complete "Injury / Illness Info" section
For a Material Spill and/or Release complete "Material Spill / Release" section
For an Environmental Event complete "Environmental Event" Section
For a Vehicle Incident complete "Vehicle Incident" section
For 3rd Party Transport Incidents complete "3rd Party Transport Incident" section

Other Information: (Only fill out if Media, Emergency Services or Regulatory Authorities are notified)

Media Involvement: Select Type **Media Comments:**

External Emergency Services Contacted: Select Type

Regulatory Authorities Notified: Select Type

Type of Report: Select Type **Report Number:** **Report Status:** Select

Drug & Alcohol Test Mandatory: ☐ Yes ☐ No

Injury/Illness Info: (Only fill out if there is an injury or illness involved)

Name: Date of Birth: Employee #: Gender: Select Occupation:
Experience: Years

Location Type: Select Type

Continuous Days Worked. Number of Days Away from Work: Number of Days Light Duty/Job Transfer:

Worker Type: Select Type **Classification:** Select Type **Treatment:** Select Type

Type of Contact: Select Type **Body Part(s) Affected:** **Nature of Injury:**

Incident Function: Select Type **Hospital Attended:** ☐ Yes ☐ No

Hospital Address: **Hospital Phone Number:**

19.3

19.4 **Material Spill/Release** (Fill out if there is a material spill / release)

Release Type: Select Type **Secondary Containment Breached:** ☐ Yes ☐ No

Atmospheric Conditions:
Wind Direction: Wind Speed: (MPH) Temp.: (F) Barometric Pressure: (Inches) Humidity:

Material Released: **Quantity Released:** (Gals) **Quantity Recovered:** (Gals)

Released To: Select

Released From: Select

Duration: (Minutes) **Reportable Quantity Exceeded:** ☐ Yes ☐ No

Clean Up Action: **Compliance Breach:** Select Type

Compliance Breach Comment:

Surface Area: ☐ Square Feet ☐ Square Meters

Environmental Impact:

How Release Was Discovered:

Number of Tanks: **Tank Size:** **Are Tanks Cathodically Protected:** ☐ yes ☐ no

Tank Construction: Select Type **Tank Walls:** Select Type **Piping Construction:** Select Type

Piping Wall: Select Type **Leak Detection:** Select Type

Environmental Event: (Fill out if there is and environmental event)

System Involved: Select Type **Equipment Involved:** Select Type

Regulatory Reference (If Known):

Reportable Event: ☐ Yes ☐ No **Reporting Actions and Rationale:**

Vehicle Incident: (Only fill out if there is a vehicle incident)

Vehicle Class: ☐ > 3.5 Tons Unloaded ☐ < 3.5 Tons Unloaded **Vehicle Type:** Select Type

License Plate Number: **Tractor Number:** **Trailer Number:**

Damage Description:

Product Transported: Select Type ☐ On Road ☐ Off Road

Road Type: SelectType **Accident Type:** Select Type **Emergency Response:** ☐ Yes ☐ No

Number of Vehicles Involved: **HAZMAT Being Transported:** ☐ Yes ☐ No

Vehicle 1 Operator: Select Type **Driver 1 Name:** **Total Years Driving:**

Professional Driver: ☐ Yes ☐ No **Driver 1 Statement:**

Vehicle 2 Operator: Select Type **Driver 2 Name:** **Total Years Driving:**

Professional Driver: ☐ Yes ☐ No **Driver 2 Statement:**

Third Party Details:

3rd Party Transport Incident: (Only fill out if there is a 3rd Party Transport Incident)

Complainant Name: **Complainant Phone Number:** **Complainant Address:**

Person Who Received Complaint: **Receivers Phone Number:**

Nature of Complaint: Select Type **Claimed Damage:**

Coincident Activity:

Investigation Team Sent: ☐ Yes ☐ No **Dispatched Date:** **Dispatched Time:**

Report Back Date: **Report Back Time:**

Investigation Team Members:

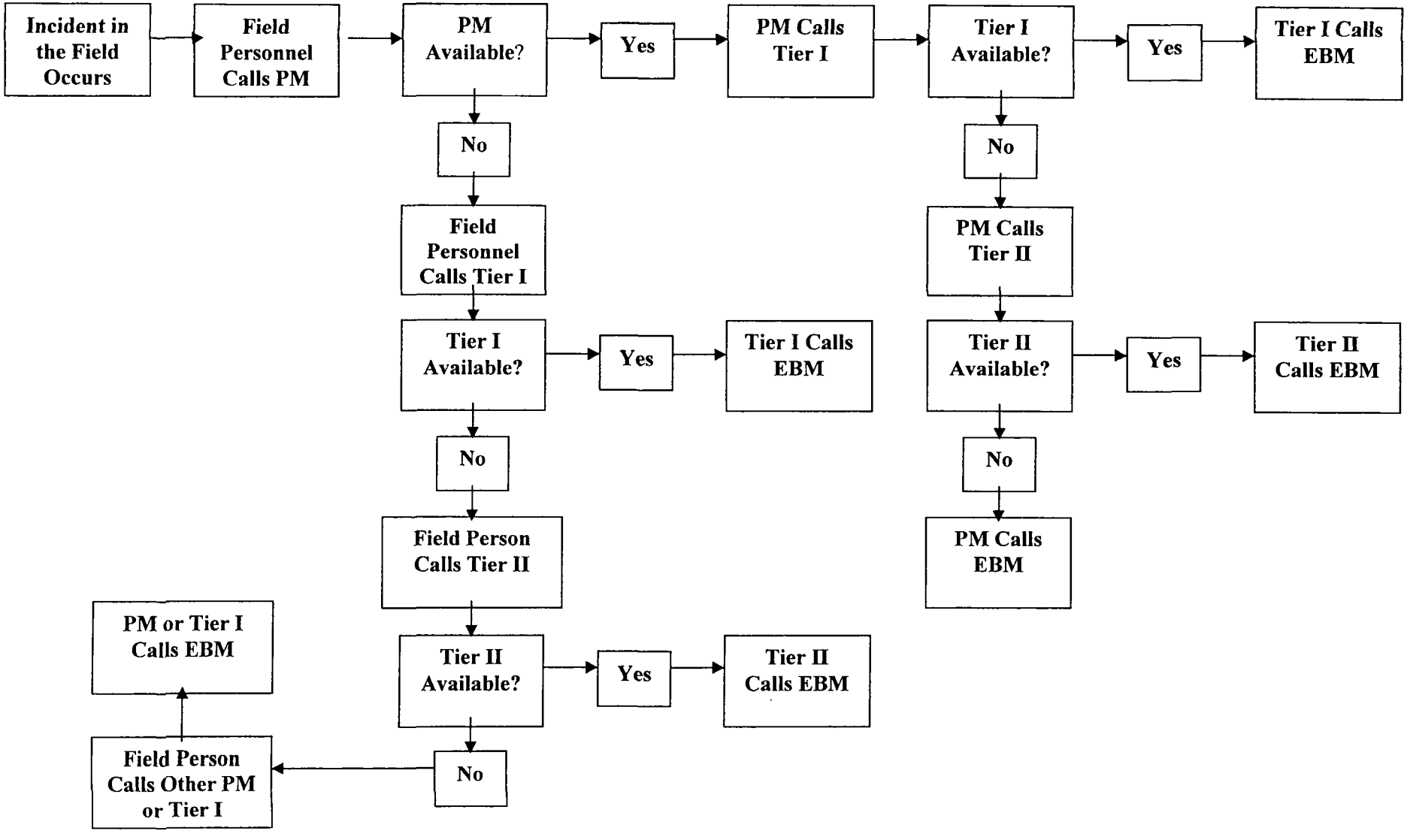
Investigation Team Comments:

Follow-up Contact: Select Type **Contact Name:** **Contact Date:**

Contact Comments:

Attachment 4

BP ARCO II/NMI NOTIFICATION FLOWCHART



RM Environmental Manager: Kyle Christie
Site / Portfolio OBC

Remediation Management Incident Reporting List

All incidents occurring on an RM project or site shall be reported according the HSSE Expectations found on www.gemhse.com
As a minimum, all injuries, spills greater than 1 barrel and all property damage greater than $500 should be reported to RM management **immediately**.
Additionally, Notices of Violation and any incident which could be reported in the media should be reported immediately.
Reporting must be done to a person and not via voice message, email or fax. One must ensure contact is made.
If you unable to contact the first contact on the list, then you should attempt to call the next person on the list.
Please fill out the areas highlighted in yellow and return them to Ray Vose.

Remediation Management Organization Notification					
Position	**Person**	**Office**	**Cell Phone**	**Pager**	**Home**
RM Environmental Manager	Kyle Christie	714-670-5303	714-815-8971	800-901-4668	
Back Up Environmental Manager	Darrell Fah	714-378-5105	714-473-9672	800-910-4906	714-9625165
West Region Manager	Mark Brekhus	714-228-6703	213-952-9215		310-546-1434
West Deputy Region Manager	Chris Winsor	714-670-5125	714-264-3202	800-970-8743	909-593-9321
RM Americas HSSE Manager	John Bennington	630-434-4102	630-660-6699	877-584-3506	630-305-3160
BP Naperville 24 Hour Notification Center		800-321-8642 or 312-856-2200			

Supplier Organization Notification					
Position & Area of Responsibility	**Person**	**Office**	**Cell Phone**	**Pager**	**Home**
Tier II/CA	Bob Wilson	805-546-0455 x22	805-441-6720		805-481-6287
Tier I/Central Portfolio	John Bollier	805-230-1266 x241	805-427-4852		805-527-9625
Principal In Charge	Philip Kinney	805-230-1266 x224	805-427-4856		
Senior Geologist	Gareth Roberts	805-230-1266 x240	805-427-4853		
Senior Engineer	Kushan Kuru	805-230-1266 x222	805-358-8475		
Project Specialist	StephAnnie Roberts	805-230-1266 x232	805-427-4873		
Associate Geologist	Randy Couture	805-230-1266 x280	805-427-4863		
Drafter	Tony Roman	805-230-1266 x235			

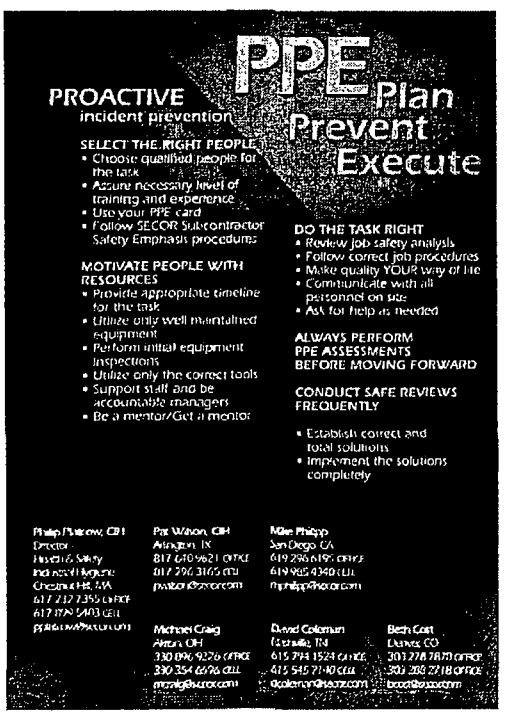
BP Operations Notification*					
Company & Position	Person	Office	Cell Phone	Pager	Home
BP Crime Prevention	"On-Call" Attendant	800-411-4422	N/A	N/A	N/A
BP West Coast Mission Control	"On-Call" Attendant	800-ARCOFIX	N/A	N/A	N/A

*The BP Operations Notification is to be used when GEM is operating on an active BP site such as Whiting Refinery.

Other useful numbers for this portfolio					
Company & Position	Person	Office	Cell Phone	Pager	Home
BP GPA	Daniel M. Cummings	714-228-6719	714-615-4366		
Legal	Asteghik (A.K.) Khajetoorians	714-228-6772	818-807-8114		
Emergency Spill Response Contractor (Ancon)	Pete Esparza	310-548-8351			

SECOR BP ARCO PROJECT MANAGER NOTIFICATION LIST

NAME	PHONE	MOBILE PHONE	EMAIL ADDRESS	POSITION
Bob Wilson	(805) 546-0455	(805) 441-6720	bwilson@secor.com	GEM West Tier II Manager
John Bollier	(805) 230-1266	(805) 427-4852	jbollier@secor.com	GEM West Tier I Manager
Marci Richards	(619) 296-6195	(619) 379-2206	mrichards@secor com	GEM West Tier I Manager
		Central & East Portfolios		
Gareth Roberts	(805) 230-1266	(805) 427-4853	groberts@secor.com	Project Manager
Tony Wong	(805) 546-0455	(805) 748-4411	twong@secor com	Project Manager
Philip Kinney	(805) 230-1266	(805) 427-4856	pkinney@secor.com	Project Manager
Cleve Solomon	(805) 230-1266	(626) 253-4224	gsolomon@secor.com	Project Manager
Andy Modugno	(805) 230-1266	(805) 402-7279	amodugno@secor.com	Project Manager
		San Diego/West LA Portfolio		
Carole Farr	(619) 296-6195	(619) 750-1324	cfarr@secor.com	Project Manager
Kurt Myers	(619) 296-6195	(619) 865-8372	kmyers@secor com	Project Manager
Brad Eisenberg	(619) 296-6195	(619) 459-5914	beisenberg@secor.com	Project Manager
Benjamin Eastman	(619) 296-6195	(619) 347-2827	beastman@secor com	Project Manager
Cathy Sanford	(714) 379-3366	(714) 585-0652	csanford@secor.com	Project Manager
		RCOP California		
Wade Melton	(714) 379-3366	(714) 470-6429	wmelton@secor.com	Project Manager
Marci Richards	(619) 296-6195	(619) 379-2206	mrichards@secor.com	Project Manager



ATTACHMENT 4

PRE-DRILLING/EXCAVATION CHECKLIST AND UTILITY CLEARANCE LOG

PROJECT:			
LOCATION:		**DATE:**	
UTILITY LOCATOR:		**UTILITY LOCATOR PHONE #:**	
DATE OF LOCATOR REQUEST:		**LOCATOR CALL REFERENCE #:**	

Instructions This checklist is to be completed by SECOR personnel prior to initiation of field activities as a safety measure to insure that all underground utility lines, other underground structures and above-ground power lines are clearly marked in the area selected for boring or excavation **DRILLING OR EXCAVATION WORK MAY NOT PROCEED UNTIL [redacted] (fill in the name of the utility service) HAS BEEN CONTACTED AND THIS CHECKLIST HAS BEEN COMPLETED. IF ANY OF THE QUESTIONS ANSWERED BELOW ARE ANSWERED "NO", THEN PROJECT MANAGER MUST BE CONTACTED AND CONCERNS/ISSUES DISCUSSED.** Document the reason for a "NO" answer on the back of this form.

Type of Utilities and Structures	**Not Present**	**Present**	**How Marked** (Flags, paint on pavement, wooden stakes, etc.)
Petroleum product line			
Septic tank/drain field			
Other			

YES	**NO**	**PRE-MOBILIZATION**
		Is a scaled site plan, map or drawing showing the proposed borehole locations attached to this form?
		Does each borehole location allow for clear entry and exit, adequate workspace, and a clear path for raising the mast and operating the drill rig and all support equipment? Ensure 20 feet of clearance distance between the mast and electrical lines (SECOR H&S Policy and 29 CFR 1926.550). Check with the power utility company.
		Are all of the proposed borehole locations and associated areas of pavement cutting at least 5 feet from any subsurface or above-ground utilities shown on client's building plans? SECOR PM check here ☐ if plans not provided by client (therefore not applicable to this job)
		Are all of the proposed borehole locations and associated areas of pavement cutting at least 5 feet from any subsurface or above-ground utilities shown on public right-of-way street improvement or other public property plan or site map? PM check here ☐ if not applicable to this job.
		Has the Site Representative, familiar with the site, such as a construction manager, indicated no knowledge of any subsurface or above-ground utilities within 10 feet of the proposed borehole locations? Is the Site Representative qualified to make such a determination?
		Are all of the proposed borehole locations and associated areas of pavement cutting at least 5 feet from any subsurface utilities identified during a geophysical survey? Applicable: Yes / No
		Have all Utility Locating Service providers notified by the public line locator marked out their facilities in the vicinity of the borehole locations or otherwise notified us that they do not have any facilities near the proposed borehole locations?
		Are all proposed borehole locations and associated areas of pavement cutting at least 5 feet from a visual line connecting two similar looking manhole covers?
		Are all proposed borehole locations and associated areas of pavement cutting at least 5 feet from a visual line perpendicular to the street from the water, gas, and electrical meters?
		Are all proposed boring locations and associated areas of pavement cutting clear of pavement joints, curbs, crash posts, or other engineered structures?
		Does the pavement lack signs of previous excavation (e.g. no pavement subsidence, no differences in pavement texture or relief, no pavement patching)? If there are signs, determine the purpose of the previous excavation and act accordingly.
		Before drilling have you hand dug/used a water jet VacTron unit/tile probe/etc., to dig a hole 5 feet below grade if possible, and is the diameter of the hole greater than the outer diameter of the drilling auger?
		Does the soil you encountered in the hand-dug hole appear to be native material (i.e. free of clean gravel, clean sand, aggregate base [gravelly sand with ~10% fines], or other non-native looking material)?
		Have you made sure that you have identified all the expected utilities or have made sure that you can explain any missing utilities?

Have the above concerns been discussed with the SECOR Project Manager? Yes / No

Have the above concerns been discussed with the client? Yes / No

Have you made a reasonable effort to resolve the above issues? Yes / No

Approval to proceed provided by. Client Representative Name _____ Title and Date: _____

Approval to proceed provided by: SECOR Representative Name _____ Title and Date _____

SECOR Field Technician Name _____ Title and Date: _____

ATTACHMENT 5a

EQUIPMENT CALIBRATION/CHECK LOG

DATE	INSTRUMENT/ MODEL NO.	SERIAL NO.	BATTERY CHECK OK?	ZERO ADJUST OK?	CALIBRATION GAS (PPM)	READING (PPM)	LEAK CHECK	PERFORMED BY	COMMENTS

* Submit copies of logs to Director of Industrial Hygiene & Health and Safety, Philip A. Platcow, CIH within 24 hours, if a PEL is exceeded, or personal protective equipment level is upgraded at (617) 232-7355 or via email at pplatcow@secor.com

ATTACHMENT 5b

MONITORING LOG

Instrument(s) Used: Make: _____ Model: _____

DATE	TIME	LOCATION/SOURCE (Personal/Area Sampling)	WORK ACTIVITY DURING SAMPLING (Be specific)	Measurement (Units)	WHAT DID YOU DO BECAUSE OF THE RESULT? (PPE Change/Activity Change/Nothing Needed)	SAMPLED BY

* Submit copies of logs to Director of Industrial Hygiene & Health and Safety, Philip A. Platcow, CIH within 24 hours, if a PEL is exceeded, or personal protective equipment level is upgraded at (617) 232-7355 or via email at pplatcow@secor.com

ATTACHMENT 5b

MONITORING LOG

Instrument(s) Used: Make: _____ Model: _____

DATE	TIME	LOCATION/SOURCE (Personal/Area Sampling)	WORK ACTIVITY DURING SAMPLING (Be specific)	Measurement (Units)	WHAT DID YOU DO BECAUSE OF THE RESULT? (PPE Change/Activity Change/Nothing Needed)	SAMPLED BY

* Submit copies of logs to Director of Industrial Hygiene & Health and Safety, Philip A. Platcow, CIH within 24 hours, if a PEL is exceeded, or personal protective equipment level is upgraded at (617) 232-7355 or via email at pplatcow@secor.com

ATTACHMENT 6

DAILY PRODUCTION HEALTH AND SAFETY BRIEFING LOG

Date:	
Start Time:	
Issues Discussed:	
1.	**6.**
2.	**7.**
3.	**8.**
4.	**9.**
5.	**10.**
Attendees	
Print Name and Company	**Signature**
Meeting Conducted by:	**Signature:**
Name (Site Health and Safety Coordinator):	**Signature:**

ATTACHMENT 6

DAILY PRODUCTION HEALTH AND SAFETY BRIEFING LOG

Date:	
Start Time:	
Issues Discussed:	
1.	**6.**
2.	**7.**
3.	**8.**
4.	**9.**
5.	**10.**
Attendees	
Print Name and Company	**Signature**
Meeting Conducted by:	**Signature:**
Name (Site Health and Safety Coordinator):	**Signature:**

DISCUSSION IDEAS FOR THE DAILY PRODUCTION H&S MEETING

- ☐ Emergency response plan, emergency vehicle (full of fuel) and muster point
- ☐ Route to medical aid (hospital or other facility)
- ☐ Work hours, is night work planned?
- ☐ Hand signals around heavy equipment
- ☐ Traffic control
- ☐ Pertinent Legislation and Regulations
- ☐ Above and below ground utilities (energized or de-energized)
- ☐ Material Safety Data Sheets (MSDS)
- ☐ To who, what, why, and when to report an incident
- ☐ Fire extinguisher and first aid kit locations
- ☐ Excavations, trenching sloping and shoring
- ☐ Personal protective equipment (PPE) and training
- ☐ Safety equipment and training
- ☐ Emergency telephone and telephone numbers (may not be 911)
- ☐ Eye wash stations and washroom locations
- ☐ Energy lock-out/tag-out procedures. Location of "kill Switches" etc.
- ☐ Weather restrictions
- ☐ Site security. Site hazards. Is special waste present.
- ☐ Traffic and people movements
- ☐ Working around machinery (both static and mobile)
- ☐ Sources of ignition, static electricity etc.
- ☐ Stings, bites, large animals and other naturally related injuries
- ☐ Working above grade
- ☐ Working at isolated sites
- ☐ Decontamination procedures (both personnel and equipment)
- ☐ Falls, trips, sprains and lifting injuries (how to prevent)
- ☐ Right to refuse unsafe work
- ☐ Adjacent property issues (residence, business, school, day care center)

ATTACHMENT 7

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM

(All SECOR and subcontractor personnel must sign.)

"GOAL: Zero Incidents of ANY Kind. Work Together to Assess Hazards and Ensure A SAFE and High Quality Project"

This Health and Safety Plan has been developed for the purpose of informing SECOR employees of the hazards they are likely to encounter on the project site, and the precautions they should take to avoid those hazards. Sub-contractors and other contractors at the site must develop their own Health and Safety Plan to address the hazards faced by their own employees. SECOR has provided a copy of this Plan to contractors in the interest of full disclosure of hazards of which we may be aware, and to satisfy SECOR's responsibilities under the Occupational Safety and Health Administration (OSHA) Hazard Communication standard. Similarly, contractors are required to inform SECOR of any hazards of which they are aware or that the contractor's work on site might possibly pose to SECOR employees, including (but not limited to) the Material Safety Data Sheets for chemicals the contractor may bring on-site. This plan should NOT be understood by contractors to provide information on all of the hazards to which a contractor's employees may be exposed as a result of their work.

I further certify that I have received training and medical surveillance according to the Health and Safety Plan and the OSHA Standard on Hazardous Waste Operations and Emergency Response (29 CFR 1910.120):

All parties conducting site activities are required to coordinate their activities and practices with the project Site Health and Safety Officer. Your signature below confirms that you have read and understand the hazards discussed in this Plan, and understand that sub-contractors and contractors must develop their own Health and Safety Plan for their employees. You also understand you could be prohibited by the Site Health and Safety Officer or other SECOR personnel from working on this project for not complying with any aspect of this Health and Safety Plan.

Name	Title	Signature	Company	Date

Name	Title	Signature	Company	Date

Group Environmental Management Company

Attachment 8

PRECAUTIONARY PROCEDURES AND GUIDELINES DOCUMENT FOR DRILLING, SUBSURFACE INVESTIGATIONS AND REMEDIAL CONSTRUCTION ACTIVITIES FOR GEM MARKETING OPERATIONS

1.0 Objective

The objective of this document is to provide standard practices and procedures to avoid and/or eliminate the potential of encountering, puncturing, compromising or disrupting service to buried on-site utility service lines, municipal or third party owned off-site utility services, UST system components and other subsurface property service lines or systems (e.g., septic leach fields, etc.) during intrusive activities performed on behalf of GEM Marketing. These standard practices and procedures are precautionary measures *recommended* for all drilling and subsurface investigation work including soil sampling, geoprobe sampling, ground water sampling, well installation and any other intrusive or construction activities performed for environmental work conducted at BP, BP–divested and third party properties where BP may have an interest (e.g., acquisition properties). Where applicable, the governing regulatory agency requirements shall supersede.

Although presented as recommendations, it is fully expected that the Primary Contractor is responsible for implementation of these guidelines and procedures at all GEM Marketing investigation sites. Deviations from these guidelines and procedures on a site-specific basis will require communication and agreement between the BP Environmental Business Manager (EBM) and the Primary Contractor Project Manager during the pre-investigation planning period. Should regional conditions exist that warrant alternative precautionary procedures, alternative methods shall be clearly communicated between the BP EBM and the Primary Contractor; however, the implementation of the alternative methodologies will require approval from the Regional Area Manager. Additionally, a written description of the alternative procedure shall be included as an addendum to the drilling and procedures guidelines and submitted to the GEM Prevention Team for posting in the Prevention Toolbox as a best practice and to capture shared learning's.

2.0 Pre- Investigation Planning

Prior to the advancement of any intrusive data collection or excavation activities, the Primary Contractor is responsible for non-intrusive investigative and property inspection activities to determine the location(s) for intrusive data collection, taking into consideration potential for encountering underground utilities, UST system components and other underground human-made structures as well as meeting regulatory compliance sampling requirements. The Primary Contractor shall also have regional subsurface knowledge of general soil conditions that may be encountered in the area to distinguish between native soils and fill materials that may be indicative of utility trenches, UST system trenches and backfill materials, etc.

2.1 Facility and Third Party Work Notification

The Primary Contractor is responsible for contacting the appropriate facility personnel in advance prior to the startup of the work. For third party or divested properties, the Primary Contractor is responsible for making all appropriate site notifications in accordance with the terms and conditions of the access agreement (s) entered into between BP and the third party. The Primary Contractor MUST also notify the BP Environmental Business Manager prior to beginning any field activities. The Primary Contractor shall be responsible for meeting all regulatory and utility locating notification requirements.

2.1.1 Third Party Investigations

The Primary Contractor is responsible for providing oversight during all 3rd Party intrusive investigations. The 3rd Party shall submit for review and approval all boring locations and agree to implement BP's precautionary drilling techniques. No soil boring or investigation point shall be installed within 10 feet of any UST system component.

2.2 Soil Boring, Well Placement and Subsurface Excavation Considerations

The BP Environmental Business Manager and the Primary Contractor project manager, prior to the commencement of drilling, must agree on *High Risk (e.g., near UST system Components, off-site utility corridors, etc.)* locations of soil borings, wells, sampling points, and other excavation or construction activities, unless otherwise specified in the site-specific project scope. Traffic control devices must be utilized to secure work area when performing intrusive work or investigations. No soil boring or investigation point shall be installed within 10 feet of any UST system component. The Primary Contractor is responsible for having a contingency plan in effect when drilling or excavating in a *High Risk* area that will include prior station notification and planning, dispenser shutdown, etc.

Note: It is highly desirable that off-site delineation soil borings/monitoring wells NOT be installed in public right-of-ways, streets, and highways or near municipal or third party owned utility corridors. It is the Primary Contractor's responsibility to evaluate all alternative off-site drilling locations and risks associated with these off-site locations including regulatory requirements. The Primary Contractor must receive authorization and soil boring/monitoring well location approval from the BP EBM prior to installing any off-site soil boring/monitoring well at these locations. BP recognizes that in some circumstances it will be necessary to investigate these areas, such as public streets, utility corridors and right of ways along public and private property boundaries.

2.3 Property, Utility Clearance and Pre-Investigation Checklist

The Primary Contractor is responsible for all property, utility clearances and confirming all necessary access agreements have been secured prior to the start of work. Additionally, the Primary Contractor is responsible for identifying and obtaining all local government and governing regulatory agency permits, right-of-way and all underground line and utility clearances. The following property and utility clearance procedures and attached Pre-Investigation Checklist will be completed by the Primary Contractor prior to the start of work:

- The Primary Contractor project manager is responsible for notifying of all applicable persons of the work and the proposed schedule (e.g., property owner and/or tenant, BP facility manager and/or maintenance supervisors).
- The Primary Contractor is responsible for obtaining and reviewing all available sources for site plans. These may include BP as-built plans; historical and current typical UST system layouts, contractor files, and county and city files (e.g. utility drawings). Additionally, construction diagrams and plans will be requested from owners, tenants and developers of former BP properties.
- Public utility mark-outs will be performed and the Pre-Investigation Preliminary Checklist (attached) will be completed for all Intrusive Fieldwork and retained in the project file. A copy of the Pre-Investigation Preliminary Checklist will be attached to the site-specific Health and Safety Plan and accompany field personnel during site investigation activities. The State-specific Utility Notification services will be contacted to request utility mark-outs. A comprehensive list of state-specific Utility Notification services is attached; however, the list is intended for reference only and the supplier is responsible for verifying the appropriate service for each work location. Additionally, all utility companies not participating in the state-specific Utility Notification service will be contacted for utility information. BP recommends the Primary Contractor utilizes a private on-site utility locating company or equivalent at all properties. BP encourages and prefers each Primary Contractor to obtain equipment and training to perform the on-site utility mark-outs in house by properly trained technicians familiar with intrusive investigations at retail facilities (Regional preference may be adopted). Additionally, Primary Contractors will identify and actively participate in any proactive partnerships, groups or counsels designed to prevent damage to utilities (e.g., "The Utilities Council of Northern Ohio").

- **Pre Investigation Site Walk Over (Operating Service Station Facilities):** A Predrilling site walkover will be performed by an experienced Primary Contractor personnel with a maintenance representative and/or BP station employee who has inherent knowledge of the site when possible, taking into account all physical features of the site, including utility mark-outs and proposed boring locations. Prior to the Predrilling site walkover, Primary Contractor will request that a station representative familiar with the UST

system and historical upgrades be available. Primary Contractor will visually locate all utility service line(s) entry points to the station building and evaluate potential utility trench locations with respect to municipal mains and services. Primary Contractor will review location of all emergency UST system shutoff switches w/station representatives. On-site utility service line data will be hand sketched on a site diagram, retained by the Primary Contractor and made available upon request.

- **Pre Investigation Site Walk Over (Divested/Redeveloped Service Station Facilities):** A Predrilling site walkover will be performed by an experience Primary Contractor personnel with a property owner/tenant representative who has historical knowledge of the site when possible, taking into account all physical features of the site, including utility mark-outs and proposed boring locations. Prior to the Predrilling site walkover, Primary Contractor will request that a property owner/tenant representative familiar with any post sale development activities be available for the walkover. Primary Contractor will be responsible for visually locating all utility service lines entry points to the station building and evaluate potential utility trench locations with respect to municipal mains and services. On-site utility service line data will be hand sketched on a site diagram, retained by the supplier and made available upon request.

- If it is determined during the site walkover that the proposed work may be in close proximity to a subsurface utility or other hazard(s), the Primary Contractor will re-evaluate the necessity of the boring. The Primary Contractor will communicate liability versus necessity of data collection whenever potential exists for a possible drilling incident to occur. If revised sampling or excavation locations are required, the Primary Contractor will review the modified locations with the BP EBM.

- Any contact with a subsurface utility will be immediately communicated to BP EBM (and BP station personnel as conditions warrant) and all appropriate incident reporting procedures shall be initiated. If contact with a utility results in a release and/or hazardous or unsafe conditions, appropriate emergency authorities will be contacted. Refer to site Health & Plan for appropriate HSE and emergency response communications and procedures. Additionally, all applicable BP HSE and Emergency Response communications and responses shall be initiated.

3.0 Drilling/Sampling Technology and Considerations

The following Drilling and Sampling Technology Considerations will be adhered to all Sites:

All drilling is recommended to occur a minimum of 10 feet from any known or suspected location of an underground structure or utility to ensure the integrity of these structures are not compromised. Unless required for corrective action (e.g. recovery of free product; for regulatory compliance and/or as otherwise necessary to maintain operational integrity e.g. investigation of a suspected release).

Special operating procedures must be followed when drilling within the recommended 10 feet exclusion zone. Such procedures include specific approval of the BP EBM and could include: having a Retail Maintenance technician on-site; shut down of product pumps and/or power; and use of specialized clearance or drilling techniques (e.g. vacuum drilling).

All boreholes and sampling points will be advanced utilizing a precautionary drilling technique (e.g. a hand auger, posthole digger, air knife, pressurized water knife and/or high vacuum extraction, etc.) through the initial five-(5) feet of the subsurface to minimize impacts to unknown or abandoned buried utilities. The selected drilling technique must account for exploring all subsurface soils through the initial five feet of advancement at a minimum diameter greater than the maximum **operating diameter** of the auger flights, well casing or sampling points that will be required to complete the sampling point. The Primary Contractor shall utilize best professional judgment and select the best available technology to minimize the risk of encountering underground utilities based on site soil conditions, regulatory sampling requirements, cost effectiveness and scope of work. Additionally, the Primary Contractor will recognize that it may be necessary to extend the five feet precautionary drilling technique based on information (e.g., municipal utility maps depicting utility mains constructed at a depth greater than five feet) collected during the planning phases of the investigation. The Primary Contractor will communicate and advise the BP EBM where such

additional precautions are warranted. Regardless of the precautionary drilling techniques selected, Primary Contractor shall have the responsibility for satisfying state specific regulatory compliance sampling requirements.

As previously indicated, it is highly desirable that off-site delineation soil borings/monitoring wells NOT be installed in public right-of-ways, streets, highways or near municipal or third party owned utility corridors. However, in those circumstances that require installation of borings/wells in these high-risk areas where utility mains may be present, the supplier will request that utility owner representatives be present during installation of the intrusive borings. No soil borings/wells will be installed in these areas without prior approval of the BP Environmental Business Manager.

Primary Contractor field personnel will immediately notify the Primary Contractor project manager when unexpected soil or fill conditions (e.g., pea gravel) are encountered that may indicate the presence of buried utility or product lines. The Primary Contractor project manager will evaluate the field conditions with the field personnel and determine an appropriate course of action (e.g., terminate and offset, proceed, etc.). The Primary Contractor Project Manager is encouraged to consult with the BP Environmental Business Manager, when field conditions are uncertain. If the BP Environmental Business Manager is unavailable, the Primary Contractor is encouraged to proceed on the side of caution (i.e., stop work or terminate sampling point and select an alternative location that will satisfy the work scope).

4.0 Health and Safety Requirements

The Primary Contractor is responsible for ensuring that a Health and Safety Plan (HASP) is prepared in accordance with all OSHA and other applicable Federal, State and local regulations for each site. The terms of this HASP must be clearly communicated and formally agreed to by all personnel involved in performance of the work. The HASP must remain on site at a clearly identified, easily accessible location until the project is completed. The HASP shall remain in the consultant's permanent project file. BP Terminal, Distribution and Process facilities may have additional health and safety requirements. Additional site-specific requirements must be discussed in advance with the BP EBM, preferably during project scope development. The Primary Contractor is responsible for ensuring all required traffic control is provided and
Strictly adhered to. Note: Predrilling checklist shall be included in the Site Specific Health and Safety Plan.

A BP affiliated company

State utility locating service directory

AL	Alabama Line Location Center	800-292-8525		OR	Douglas Utilities Coordinating Council	503-673-6676	
AK	Locate Call Center of Alaska, Inc	907-278-3121		OR	Josephine Utilities Coordinating		
AZ	Arizona Blue Stake, Inc	602-263-1100	602-279-5342		Council	503-476-6676	503-476-4527
AZ	Arizona Blue Stake Center	800-782-2211	602-263-1100	OR	Rogue Basin Utility Coordinating		
CA	Underground Service Alert North	800-442-4133	510-798-1683	OR	Malheur Utility Coordinating Council	503-889-2468	
CA	Underground Service Alert South	800-442-4133	714-528-3423	OR	Utilities Notification Center	503-246-6699	503-293-0826
CO	Utility Notification Center of Colorado	800-922-1987	303-234-1712	PA	Pennsylvania One Call System, Inc	800-242-1776	412-464-7104
CT	Call Before You Dig	800-922-4455	203-248-6448	RI	Dig Safe - Road Island	800-225-4977	617-273-2811
DE	Miss Utility of Delmarva	800-282-8555		SC	Palmetto Utility Protection Service, Inc	800-922-0983	
FL	Call Sunshine	800-432-4770	305-720-5918	TN	Tennessee One-Call System	800-351-1111	615-366-5021
GA	Utilities Protection Center, Inc	800-282-7411	404-623-4566	TX	Texas One-Call System	800-245-4545	214-323-7170
ID	Palouse Empire Underground			TX	Austin Area Utility Coordinating		
	Coordinating Council	800-822-1974	208-882-2031		Council	512-472-2822	512-499-7329
ID	Utilities Underground Protection Center	800-424-5555	206-451-2385	TX	Texas Excavation Safety System	800-344-8377	214-690-1291
ID	Dig Line	800-342-1585	208-342-8907	TX	Lone Star Notification Center	713-223-4567	713-432-0998
ID	One Call Concepts	800-626-4950	316-687-3753	UT	Blue Stakes Location Center	800-662-4111	801-487-7410
IL	Julie, Inc	800-892-0123	815-741-5958	VT	Dig Safe – Vermont	800-225-4977	617-273-2811
IL	Digger	312-744-7000	312-744-4627	VA	Miss Utility of Virginia	800-552-7001	804-530-2179
IN	Indiana Underground Plant Protection			VA	Miss Utility	800-257-7777	
	Services	800-382-5544	317-849-2176	VA	Miss Utility of Delmarva	800-282-8555	
IA	Underground Plant Protection Service	800-292-8989		WA	Utilities Underground Location Center	800-454-5555	206-451-2385
KS	Kansas One-Call Center	800-DIG-SAFE	316-687-3753	WA	Grays Harbor & Pacific County Utility		
KY	Kentucky Underground Protection, Inc	800-752-6007	502-266-5743		Coordinating Council	206-532-3550	206-533-7659
LA	Louisiana One Call System, Inc	800-272-3020	504-769-9171	WA	Utilities Council of Cowlitz County	206-425-2506	206-636-0073
ME	Dig Safe-Maine	800-225-4977	617-273-2811	WA	Chelan-Douglas Utilities Coordinating		
MD	Miss Utility	800-257-7777			Council	509-663-6111	509-663-1719
MD	Miss Utility of Delmarva	800-282-8555		WA	Upper Yakima County Underground		
MA	Dig Safe-Massachusetts	888-344-7233	781-273-2811		Utilities Council	509-248-0202	
MI	Miss Dig Utility Communication			WA	Inland Empire Utility Coordinating		
	System	800-482-7171	810-332-7523		Council	509-456-8000	509-624-0220
MN	Gopher State One Call	800-252-1166	612-454-0170	WA	Palouse Empire Underground		
MS	Mississippi One Call System, Inc	800-227-6477	601-362-7533		Coordinating Council	800-822-1974	509-883-8487
MO	Missouri One Call System, Inc	800-344-7483	314-635-8402	WA	Utilities Notification Center	206-696-4848	503-293-0826
MT	Utilities Underground Protection Center	800-424-5555	206-451-2385	WV	Miss Utility of West Virginia, Inc	800-245-4848	304-345-3959
NE	Nebraska Underground Hotline, Inc	800-642-8434	402-331-3857	WI	Diggers Hotline, Inc	800-982-0299	414-259-1453
NE	Diggers Hotline	800-331-5666		WY	Wyoming One-Call	800-348-1030	316-687-3753
NV	Underground Service Alert North	800-227-2600	510-798-1683	WY	West Park Utility Coordinating Council	307-587-4800	
NH	Dig Safe - New Hampshire	800-225-4977	617-273-2811	WY	Call-In Dig-In Safe Commission	307-682-9811	307-682-4396
NJ	Garden State Underground Plant			WY	Fremont County Utility Coordinating		
	Location Service	800-272-1000	908-232-1930		Council	307-856-7555	
NM	New Mexico One Call System, Inc	505-260-1990	505-260-0968	WY	Central Wyoming Utilities		
NY	Underground Facilities Protective				Coordinating Council	307-265-5252	
	Organization	800-962-7962	315-437-2621	WY	Sweetwater County One-Call	307-362-8888	
NY	Utility Call Center c o Lilco Facilities	516-661-6000	516-677-4739	WY	Underground Utility Coordinating		
NY	NY City - Long Island One Call Center	800-272-4480	718-631-8395		Council	307-324-6666	
NC	The North Carolina One Call Center	800-632-4949	919-299-1914	WY	Albany County Utility Coordinating		
ND	Utilities Underground Location Center	800-454-5555	206-451-2385		Council	307-742-3615	
OH	Ohio Utilities Protection Service	800-362-2764	216-759-2745	WY	Southeast Wyoming Utilities		
OK	Call Okie	800-522-6543	405-848-9325		Coordinating Council	307-638-6666	
OR	Utilities Underground Location Center	800-454-5555	206-451-2385	WY	Utilities Underground Location Center	800-454-5555	206-451-2385
				DC	Miss Utility	800-257-7777	

ATTACHMENT 9

PRE-DRILLING/SUBSURFACE CHECKLIST FOR INTRUSIVE FIELDWORK

Site Name: _____ Job Number: _____

Site Phone Number: _____ _____

Site Address: _____ County: _____

Phone: _____

BP EBM: _____ By _____

BP Site Mgr Contacted On _____

As-Build: ☐ YES ☐ NO ☐ N/A Historical Drawings: ☐ YES ☐ NO ☐ N/A

As build drawings: ☐ YES ☐ NO

Third Party Construction/Redevelopment Plans: ☐ YES ☐ NO ☐ N/A

****(ATTACH SITE FIGURE WITH PROPOSED BORING/EXCAVATION LOCATION)****

Subcontractors (drillers, concrete, etc) Company Name: _____

Subcontractors Contact Person: _____ Phone: _____

Time: _____

1) Health and Safety Form Completed: ☐ YES ☐ NO Date: _____

2) Mandatory Utility Protection Services Minimum 48 Hrs. Advance Notice (State Specific Notification Period Supercedes)

Called: Date: _____ Time: _____ Initials: _____

Ref #: _____ Proposed Drilling Locations Pre-marked for Service: ☐ YES ☐ N/O

3) Mandatory Private or In-House Utility Locating Service Performed?

Called: Date: _____ Time: _____ Initials: _____

Name of Locating Service: _____

Telephone Number: _____ Contact Name: _____

Supplier Locating Technician: _____

Type of Sensing Equipment Used: _____

Proposed Drilling Locations Pre-marked: ☐ YES ☐ N/O

4) Other Potential Underground Structures

Name of City Engineer/Utility Representative: _____

Date Notified: _____ Maps: ☐ YES ☐ NO Cleared: ☐ YES ☐ NO

5) Completed Site Walkover with Site Manager/Designee or Owner/Tenant Rep. ☐ YES ☐ NO

Name of Site Manager: _____

Name of Property Owner/Tenant Representative: _____

Cleared: ☐ YES ☐ NO Building Utility Service Line Connections Identified: ☐ YES ☐ NO

Utility Service Line Points of Entry to the Property from Utility Mains Identified: ☐ YES ☐ NO

Hand sketch on site map w/proposed boring locations and most likely utility trench locations:

☐ YES ☐ NO

6) Utility Inventory:

Utility	Name	Depth (ft)	Phone	Notified	Date	Marked
Above Ground Services						
Electric				☐ Y ☐		☐ Y ☐
Telephone				☐ Y ☐		☐ Y ☐
Cable				☐ Y ☐		☐ Y ☐
Overhead supports				☐ Y ☐		☐ Y ☐
Traffic Light				☐ Y ☐		☐ Y ☐
Below Ground Services						
Electric				☐ Y ☐ N		☐ Y ☐ N
Telephone				☐ Y ☐ N		☐ Y ☐ N
Cable				☐ Y ☐ N		☐ Y ☐ N
Gas				☐ Y ☐ N		☐ Y ☐ N
Water				☐ Y ☐ N		☐ Y ☐ N
UST System				☐ Y ☐ N		☐ Y ☐ N
Storm Drain				☐ Y ☐ N		☐ Y ☐ N
Sanitary				☐ Y ☐ N		☐ Y ☐ N
Steam				☐ Y ☐ N		☐ Y ☐ N
Pipeline				☐ Y ☐ N		☐ Y ☐ N
Other						
				☐ Y ☐ N		☐ Y ☐ N
				☐ Y ☐ N		☐ Y ☐ N
				☐ Y ☐ N		☐ Y ☐ N

7) Site-Specific Emergency Contingency Plan Incorporated in Health & Safety Plan: ☐ YES ☐ NO

8) Signature of Supplier Project Mgr. (required to begin fieldwork): _____

High Risk Drilling Locations Approved by EBM: ☐ YES ☐ NO Date: _____ Initials: _____

(Predrilling Checklist and supporting information to be included with the site H&S Plan, present on-site during

all intrusive investigations and available on request)

Name of Project Manager (Printed or Typed)	**Signature of Project Manager**
Name of Supplier Field Personnel	**Signature of Supplier Field Personnel**

NOTE: Primary Contractor Signature is verification that Field Personnel have reviewed, adhered to and received the necessary supplier training to implement precautionary drilling standards for performing work at GEM Marketing Retail properties as defined in BP's PRECAUTIONARY PROCEDURES AND GUIDELINES FOR DRILLING, SUBSURFACE INVESTIGATIONS AND REMEDIAL CONSTRUCTION ACTIVITIES. Any questions or concerns should be elevated to the Primary Contractor Project Manager or EBM prior to initiating fieldwork.

ADDITIONAL COMMENTS / NOTES:

ATTACHMENT 10

EMPLOYEE CERTIFICATION INFORMATION

See section 10.0 for personnel working on-site. Any additional personnel will be added as needed

ATTACHMENT 11

I. PURPOSE & SCOPE OF PLAN

The Site Emergency Response Plan provides the on-site user with critical information to be used in the event of an emergency for a RETAIL SITE Type situation. For operating facilities, including active BP retail and terminal facilities, also refer to the Facility Response Plan.

IN AN EMERGENCY (e.g., fire, major injury, crime, major release) CALL 911 FIRST (if Available or the alternate number) and NOTIFY the ON SITE OPERATOR.

II. NOTIFICATION GUIDELINES

EMERGENCY CONTACTS-Keep calling in the order below until you speak to someone LIVE:

		PHONE NUMBER (provide area codes)	
Consultant	**Name or Description**	**Work**	**24-hr. Contact**
Project Manager:	**Philip Kinney**	**805-230-1266 x224**	**805-427-4856**
National Accounts Manager:	**Bob Wilson**	**(805) 546-0455**	**(805) 441-6720**
Director of IH/H & S:	**Philip Platcow, CIH**	**(617) 232-7355**	**(617) 899-5403**
BP Environmental Business Mgr.:	**Kyle Christie**	**714670-5303**	**714-815-8971 cell** **800-901-4668 pgr**
Deputy Regional Manager:	**Chris Winsor**	**(714) 670-5125**	**(714) 264-3202**
Regional Manager:	**Mark Brekhus**	**(714) 228-6703**	**(213) 952-9215**
Americas HSSE Manager:	**John Bennington**	**(630) 836.7103**	**(630) 660-6699**
EMERGENCIES ONLY **BP Notification Center**		**(800) 321-8642**	**(800) 321-8642**

Hospital Route\Area Map: Found on Page 6 of completed Site Health and Safety Plan with highlighted route to nearest hospital.

Traffic Guide\Site Map: Refer to the Site Specific Traffic Guidance and Control Plan (drawing) attached in the back of the HASP in Attachment 2.

III. EXTERNAL CONTACTS / EMERGENCY INFORMATION:

LOCAL EMERGENCY TELEPHONE NUMBERS (provide area code): CALL 911 FIRST if needed!!

Since cellular telephones may not reach a local 911 operator, also supply the following information.

Ambulance	310-219-0611	**Fire Department**	310-217-7066
Hospital ER	310-538-6629	**Police Department**	310-217-9601
Poison Control Center	(800) 876-4766	**HazMat Response Unit**	(800) 272-6349

IV. EMERGENCY ROUTES:

Hospital Name:	Memorial Hospital of Gardena	Phone number:
Hospital Address:	1145 W. Redondo Beach Blvd., Gardena, CA 90247	
Hotel for Operations Center:	Nearest Hotel Name\phone:	

V. EVACUATION PROCEDURES:

EMERGENCY MEETING SITE: Determined by the SHSO and discussed during the Daily Production Safety

	Meeting
EVACUATION ROUTES/PROCEDURES:	When the order/alarm is given/sounded, all personnel will proceed to the designated gathering location where one person will hold a muster to determine if all have safely egresses from the site.

VI. INCIDENT MANAGEMENT TEAM & ORGANIZATIONAL CHART

BP EBM or the Consultant will have a copy of the BP America's Response Guide.

VII. INCIDENT MANAGEMENT TEAM DESCRIPTIONS -- AND HOW TO ACTIVATE THE TEAM

BP EBM or the Consultant will have a copy of the BP America's Response Guide.

VIII. EMERGENCY OPERATIONS CENTER

Locate at local Hotel – See V. Local Resources

IX. LINKED PLANS: BP: BUSINESS SUPPORT PLAN – RM WEBSITE.

http://gem.bpweb.bp.com/gem/default.asp?content=64

For active BP facilities also refer to the site specific Facility Response Plan:

Contact Name: _____, Title: _____
Location of Plan: _____

X. PLAN MAINTENANCE

Schedule --- Updated annually or more frequently as information changes.
Contact name --- Project Manager is responsible for the update of this plan.

ATTACHMENT 12
SUBCONTRACTOR'S HEALTH AND SAFETY PLAN

(Instructions to Project Manager and Subcontractor: Please ensure that all subcontractors provide their own site-specific HASP for their portion of the work. This should be attached behind this page so that it blends smoothly with the SECOR portion of the HASP. The subcontractor's HASP must be site-specific and discuss all of the hazards to which their employees may be exposed, and the appropriate means they will follow to avoid the exposure to the extent possible. SECOR's HASP can be used as a guide for developing the subcontractor's HASP, but cannot be used exclusively since the subcontractor's employees may face exposures and risks not covered by the SECOR HASP.

Subcontractors must understand that our team goal is zero incidents of all types. If the subcontractor has any questions, he/she may contact Philip Platcow, SECOR's Director of Health and Safety at (617) 232-7355 for guidance and direction. Cooperation on this requirement is greatly appreciated.)